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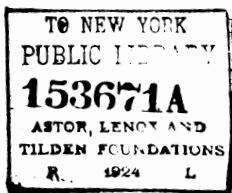
Western.
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SAVE TIME AND FREIGHT



TELEPHONE OUR NEAREST HOUSE

1916 Year Book
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General Offices: 463 West St., New York City
V.R.



FOREWORD

The Western Electric 1915 Year Book with its uniform list price and discount plan was an innovation which met with such general favor by the trade that we follow the same plan in publishing this 1916 Year Book. By its use our customers are able to determine at a glance their approximate costs on any of the thousands of items of merchandise cataloged. We hope that you will find it of value, and that through it we may serve you to our mutual advantage.

In compiling this Year Book we have endeavored to include all standard electrical apparatus and supplies. Information and prices on special material not listed herein, you may secure from our traveling representative or by writing our nearest distributing house.

From time to time descriptive matter is issued covering new electrical material placed on the market. In addition descriptive literature is issued covering

POLES FAN MOTORS MOTORS AND GENERATORS ELECTRIC HOUSEHOLD DEVICES TELEPHONE APPARATUS ETC., ETC.

These may likewise be obtained on request. Most of the material listed in this catalog is carried in stock at our distributing houses, one of which is located within overnight reach of you.

We await an opportunity to serve your needs.



Western Electric Company
INCORPORATED

New York	Atlanta	Chicago	Kansas City	San Francisco	
Buffalo	Richmond	Milwaukee	Omaha	Oakland	
Newark	Savannah	Indianapolis	Oklahoma City	Los Angeles	
Philadelphia	New Orleans	Detroit	Minneapolis	Seattle	
Boston	Houston	Cleveland	St. Paul	Portland	
Pittsburgh	St. Louis	Cincinnati	Dallas	Denver	Salt Lake City

EQUIPMENT FOR EVERY ELECTRICAL NEED



Prices

Prices found in this catalog are revised to agree with the latest costs at the time of issue. It is to be understood that they are subject to change without notice and are therefore not offered by us as a quotation. It is contemplated that all prices are for shipment from our warehouse unless otherwise specified, except such goods as are shipped regularly direct from factories, in which cases prices are for factory delivery unless otherwise specifically agreed upon.

Orders

You will note that we have placed opposite each article, when possible, a list number. When ordering material by mail, kindly order by the list number and give a description of the article required.

You are requested to specify the routing over which you prefer shipments to be made. In the absence of specific instructions, we shall use our best judgment in selecting the route, but we are not responsible for extra drayage expenses at destination.

Terms

Our terms are 30 days net from date of invoice. Cash discount for payment within ten days from date of invoice may be deducted at the rates set forth in the manufacturers' schedules of cash discounts, or such cash discounts may be deducted for payment with order.

Payments may be made by check, bank draft, postal or express money order, drawn to the order of or endorsed to the order of the Western Electric Company.

Payment in currency through the mails is not recommended. Registered mail may be used at the sender's risk. We are not responsible for loss or miscarriage of the mails.

Receipts are not issued for remittances unless requested. Our endorsement on remittance is acknowledgment of the receipt of the funds.

We solicit new accounts on a credit basis, and in order to give prompt service, request that where you are not rated by the Commercial Agencies, references or other information of a credit character be forwarded with the order. These will be immediately acted upon, and the results held in strict confidence for our sole use and, when reasonably satisfactory, shipment will follow with all possible dispatch.

To avoid the delay incidental to communicating with references, etc., it would be mutually convenient, when immediate shipment is desired, to instruct us to ship C. O. D., by express, or parcel post (insured if so instructed) or by freight subject to sight draft through a local bank against bill of lading.

We shall advise you of the terms on future orders promptly after communications from references are received.

Returned Goods

To save you transportation charges, and to facilitate the handling of goods upon receipt, you are requested not to return goods without having obtained shipping instructions from us.

Shipments

As experienced packers are employed, and as reasonable care is used in packing, we cannot be held responsible for breakage in packages which are delivered in "good order" by the carrier.

Shipments of glassware are made at your risk.

Goods ordered to be shipped by parcel post will be sent only at the purchaser's risk of loss or damage.

RAILWAY SUPPLY SUPPLEMENT



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LINE MATERIAL

General

Sherardizing

Sherardizing is now generally recognized as the standard finish and protection for all iron and steel including the threaded portions used in the manufacture of line material devices. Marked improvement in the process of manufacture has been made over that used in the early stages of the art, which insures customers a uniform product of highly efficient protective qualities regardless of shape or dimension and part so treated. In this process zinc is deposited by baking upon the surface to be protected, the zinc entering the pores of the metal forming a very close union with the metal, the coating is then built up to desired thickness. There is no tendency to crack or scale off as in hot or electrolytic galvanizing; the zinc is deposited into and on the surface to be protected adhering to it as one.

Sherardizing withstands readily the Preece test of successive immersions in copper sulphate frequently used by large users of galvanized materials, but this test does not indicate the actual resisting qualities of the zinc coating to the atmospheric condition in which it is used. A comparative test of sherardized and galvanized materials having the same weight of zinc deposited per square inch, and withstanding about the same number of immersions in copper sulphate, will show when subjected to a life test under service conditions that the sherardized coating will last more than twice the length of time of the galvanized coating, a fact not shown by the Preece test. A test in which the sample is entirely apart from corrosive material and subjected continuously to the action of salt water atomized by an air jet will effectually determine the true value of the protective qualities of the coatings. The sherardizing withstands indefinitely the salt spray test, which actually represents many times the severest conditions encountered in service.

Sherardizing has the additional advantage of furnishing efficient protection of threaded and other exposed surfaces without materially altering their dimensions, whereas, in hot galvanizing, screw threads are apt to be recut and the steel surface is, therefore, liable to partial exposure. It is also free from the weakening effect caused by hot galvanizing on malleable iron in certain forms, which has to some extent limited the employment of galvanizing in line material manufacture, and has often seriously impaired the integrity of the surfaces of irregular sections.

Japanning

In mines where acids are found in the mine water sufficient in strength to cause a rapid deterioration of the coating, it is generally recommended that material having japanned finish be used, and that a coat of asphaltum paint be applied from time to time. The japanned devices have a coat of good standard air drying japan carefully applied.

Dimensions

In this catalog descriptions of the overhead line devices contain detail dimensions which, it is believed, will assist intending purchasers. It must be understood, however, that the dimensions given are averages and are therefore subject to reasonable variation in manufacture.

TROLLEY WIRE SUPPORTS

General

The trolley wires in and about mining and industrial properties are generally supported directly from the mine roof or roof timbers except where the height or unevenness of the roof makes it necessary to attach the suspension to a length of pipe fastened either in the roof or side wall. Outside of the mines and in yards various forms of rigid overhead supports are used to hold the trolley wire within the comparatively short reach of the trolley poles used on mining locomotives.

Application

When installing the trolley supports directly in the "top," care should be taken to drill the holes as near vertical as possible and reasonably accurate in diameter. The proper alignment of the support will materially increase the life of the trolley wire and improve the operation of the trolley wheels. The modern designs of suspensions are provided with large circular bearing surfaces in a plane above the boss which when tightened against the mine roof resist all side and longitudinal strains and maintain the suspension in a vertical position.

The elimination of the boss above the bearing surface makes the recovery of the expansion bolt possible.

The flat top suspension, combination pipe clamp and mechanical clamping ear are readily adapted to all forms of rigid overhead constructions ordinarily used on the surface about the mines.

The low combination suspension and mechanical clamping ear fastened directly into the roof with an expansion bolt gives a clearance of 4 inches between the trolley wire and roof and is especially recommended for use in mines having limited head-room.

POLE BRACKETS, FLEXIBLE

The following pole brackets represent the various forms called for in modern railway line construction and include the three styles of tube, the use of which has been approved in the best practice. The wrought iron pipe referred to in the table is standard welded gas and water pipe, and the structural tubing is a special high carbon steel tube with butt joint, which, because of the great stiffness of the material, does not require a welded seam. All diameters given are the nominal inside diameters of standard wrought iron pipe. All parts of these brackets are finished in black Japan.

The following table gives dimensions and weights of the various tubes employed.

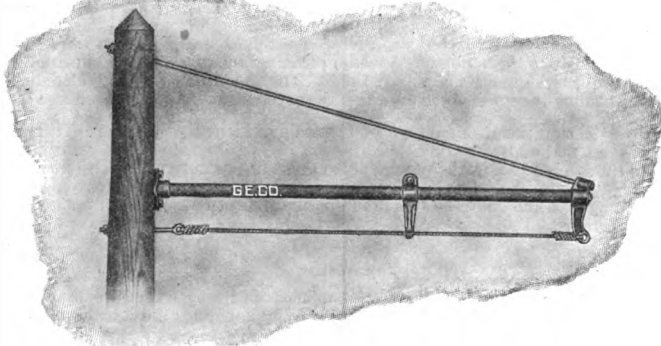
Material	Nominal Inside Diam. in Ins.	Actual Outside Diam. in Ins.	Thickness of Wall in Ins.	Wt. in Lbs. per Ft.
Wrought iron pipe.....	$\left\{ \begin{array}{l} 1\frac{1}{4} \\ 1\frac{1}{2} \\ 2 \end{array} \right.$	$\left\{ \begin{array}{l} 1.66 \\ 1.90 \\ 2.375 \end{array} \right.$	$\left\{ \begin{array}{l} 0.140 \\ 0.145 \\ 0.154 \end{array} \right.$	$\left\{ \begin{array}{l} 2.2 \\ 2.6 \\ 3.6 \end{array} \right.$
"A" tubing.....	$\left\{ \begin{array}{l} 1\frac{1}{4} \\ 1\frac{1}{2} \\ 2 \end{array} \right.$	$\left\{ \begin{array}{l} 1.66 \\ 1.90 \\ 2.375 \end{array} \right.$	$\left\{ \begin{array}{l} 0.065 \\ 0.107 \\ 0.140 \end{array} \right.$	$\left\{ \begin{array}{l} 1.5 \\ 1.87 \\ 2.5 \end{array} \right.$
"C" tubing.....	$\left\{ \begin{array}{l} 1\frac{1}{4} \\ 1\frac{1}{2} \\ 2 \end{array} \right.$	$\left\{ \begin{array}{l} 1.66 \\ 1.90 \\ 2.375 \end{array} \right.$	$\left\{ \begin{array}{l} 0.140 \\ 0.145 \\ 0.154 \end{array} \right.$	$\left\{ \begin{array}{l} 2.2 \\ 2.5 \\ 3.5 \end{array} \right.$

Iron poles, such as are used in line construction, have actual outside diameters somewhat larger than their nominal listed diameters.

4 in. standard pipe pole, actual outside diam. 4 $\frac{1}{4}$ ins. 6 in. standard pipe pole, actual outside diam. 6 $\frac{1}{4}$ ins.
5 in. standard pipe pole, actual outside diam. 5 $\frac{1}{4}$ ins. 7 in. standard pipe pole, actual outside diam. 7 $\frac{1}{4}$ ins.

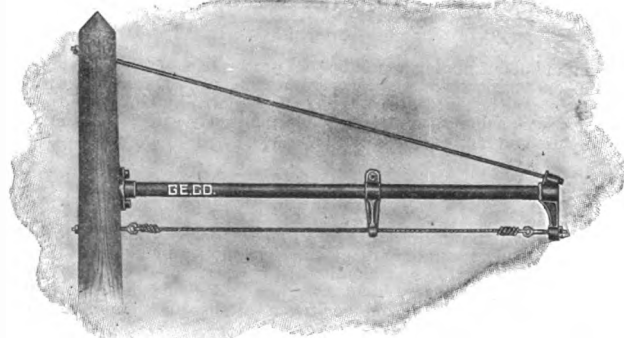
The brackets listed are furnished complete including tube, guy rod, set of castings, cable, eyebolts and lag screws for wood poles or pole clamps for iron pole construction.

Brackets with cable, eyebolts and lag screws omitted may be furnished when desired.



Form A1 Bracket
FORM A1 BRACKETS FOR WOOD POLES

List No.	Description	Length	Approx. Net Wt. per 100	List Price per 100	List No.	Description	Length	Approx. Net Wt. per 100	List Price per 100
40009	1 $\frac{1}{2}$ in. "A" tubing.....	9 ft.	3250 lbs.	\$272.00	136673	1 $\frac{1}{2}$ in. "A" tubing.....	10 ft.	2650 lbs.	\$232.00
40010	1 $\frac{1}{2}$ in. "C" tubing.....	9 ft.	3850 lbs.	286.00	136674	1 $\frac{1}{2}$ in. "C" tubing.....	10 ft.	3200 lbs.	245.00
40011	1 $\frac{1}{2}$ in. wrought iron pipe.....	9 ft.	3900 lbs.	286.00	136675	1 $\frac{1}{2}$ in. wrought iron pipe.....	10 ft.	3300 lbs.	245.00
40012	2 in. "A" tubing.....	9 ft.	3450 lbs.	336.00	136676	2 in. "A" tubing.....	10 ft.	2850 lbs.	296.00
40013	2 in. "C" tubing.....	9 ft.	4000 lbs.	360.00	136677	2 in. "C" tubing.....	10 ft.	3400 lbs.	320.00
40014	2 in. wrought iron pipe.....	9 ft.	4100 lbs.	360.00	136678	2 in. wrought iron pipe.....	10 ft.	3500 lbs.	320.00



Form A2 Bracket
FORM A2 BRACKETS FOR WOOD POLES

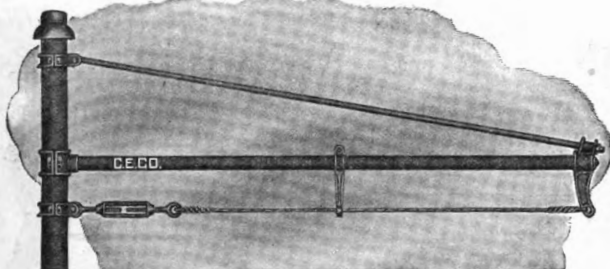
This bracket differs from the Form A1 only in that it has additional adjustment for tension of span wire.

List No.	Description	Length	Approx. Net Wt. per 100	List Price per 100	List No.	Description	Length	Approx. Net Wt. per 100	List Price per 100
40015	1 $\frac{1}{2}$ in. "A" tubing.....	9 ft.	3300 lbs.	\$285.00	136679	1 $\frac{1}{2}$ in. "A" tubing.....	10 ft.	2650 lbs.	\$234.00
40016	1 $\frac{1}{2}$ in. "C" tubing.....	9 ft.	3850 lbs.	299.00	136680	1 $\frac{1}{2}$ in. "C" tubing.....	10 ft.	3200 lbs.	248.00
40017	1 $\frac{1}{2}$ in. wrought iron pipe.....	9 ft.	3950 lbs.	290.00	136681	1 $\frac{1}{2}$ in. wrought iron pipe.....	10 ft.	3300 lbs.	248.00
40018	2 in. "A" tubing.....	9 ft.	3500 lbs.	345.00	136682	2 in. "A" tubing.....	10 ft.	2850 lbs.	289.00
40019	2 in. "C" tubing.....	9 ft.	4050 lbs.	369.00	136683	2 in. "C" tubing.....	10 ft.	3400 lbs.	313.00
40020	2 in. wrought iron pipe.....	9 ft.	4150 lbs.	369.00	136684	2 in. wrought iron pipe.....	10 ft.	3500 lbs.	313.00

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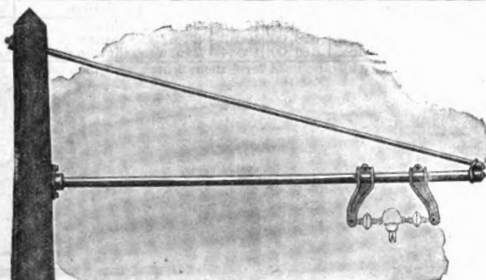
Railway Material

POLE BRACKETS, FLEXIBLE



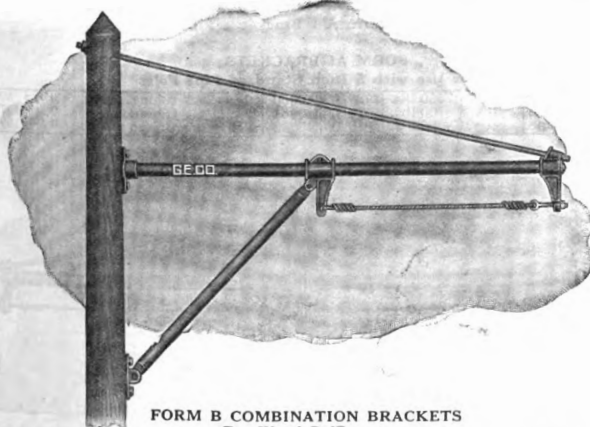
FORM A1 BRACKETS
For Use with 5 Inch Standard Pipe Poles

List No.	Description	Length Ft.	Approx. Wt. per 100	List Price per 100	List No.	Description	Length Ft.	Approx. Wt. per 100	List Price per 100
40033	1½ in. "A" tubing.....	9	4100 lbs.	\$646.00	40036	2 in. "A" tubing.....	9	4950 lbs.	\$703.00
40034	1½ in. "C" tubing.....	9	4700 lbs.	660.00	40037	2 in. "C" tubing.....	9	5800 lbs.	727.00
40035	1½ in. wrought iron pipe.	9	4800 lbs.	660.00	40038	2 in. wrought iron pipe..	9	5900 lbs.	727.00



FORM A3 BRACKETS

100120	1½ in. "A" tubing.....	9	4500 lbs.	\$313.00	100133	2 in. "A" tubing.....	9	4700 lbs.	\$389.00
100131	1½ in. "C" tubing.....	9	5000 lbs.	327.00	100134	2 in. "C" tubing.....	9	5200 lbs.	414.00
100132	1½ in. wrought iron pipe.	9	5150 lbs.	327.00	100135	2 in. wrought iron pipe..	9	5350 lbs.	414.00

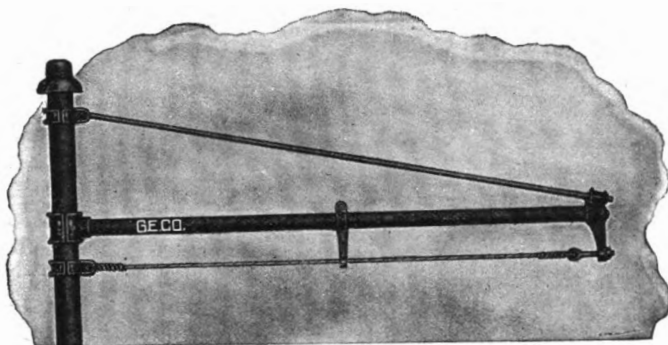


FORM B COMBINATION BRACKETS
For Wood Poles

9 Ft. Long With Guy Rod, Eyebolt, etc.					9 Ft. Long With ½ In. Guy Rod without Steel Cable				
40021	"A" tubing, arm 1½ ins., strut 1¼ ins.	4150	\$423.00	136685	"A" tubing, arm 1½ ins., strut 1¼ ins.	3750	\$387.00		
40022	"C" tubing, arm 1½ ins., strut 1¼ ins.	5000	436.00	136686	"C" tubing, arm 1½ ins., strut 1¼ ins.	4600	400.00		
40023	Wrt. iron pipe, arm 1½ ins., strut 1¼ ins.	5100	436.00	136687	Wrt. iron pipe, arm 1½ ins., strut 1¼ ins.	4700	400.00		
40024	"A" tubing, arm 2 ins., strut 1½ ins.	5050	510.00	136688	"A" tubing, arm 2 ins., strut 1½ ins.	4650	474.00		
40025	"C" tubing, arm 2 ins., strut 1½ ins.	6250	534.00	136689	"C" tubing, arm 2 ins., strut 1½ ins.	5850	498.00		
40026	Wrt. iron pipe, arm 2 ins., strut 1½ ins.	6400	534.00	136690	Wrt. iron pipe, arm 2 ins., strut 1½ ins.	6000	498.00		

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POLE BRACKETS, FLEXIBLE

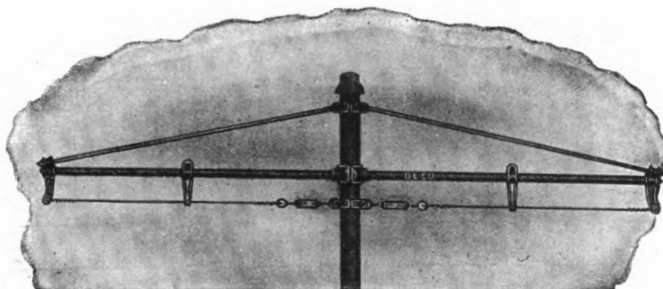


Form A2 Bracket

FORM A2 BRACKETS

List No.	Description	Length Ft.	Approx. Wt. per 100	List Price per 100	List No.	Description	Length Ft.	Approx. Wt. per 100	List Price per 100
40039	1½ in. "A" tubing.....	9	3900 lbs.	\$803.00	40042	2 in. "A" tubing.....	9	4700 lbs.	\$855.00
40040	1½ in. "C" tubing.....	9	4500 lbs.	616.00	40043	2 in. "C" tubing.....	9	5600 lbs.	879.00
40041	1½ in. wrought iron pipe..	9	4600 lbs.	616.00	40044	2 in. wrought iron pipe....	9	5700 lbs.	879.00

By changing pole clamps these brackets may also be used for 4 inch, 6 inch, or 7 inch poles.

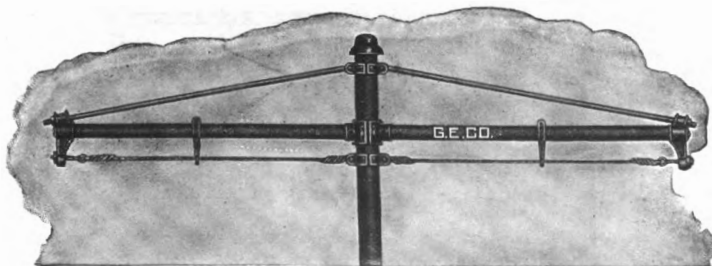


Form A-1 Bracket

FORM A1 BRACKETS

For Use with 5 Inch Standard Pipe Poles

40057	1½ in. "A" tubing.....	9	7550 lbs.	\$983.00	40060	2 in. "A" tubing.....	9	8900 lbs.	\$1097.00
40058	1½ in. "C" tubing.....	9	8700 lbs.	1010.00	40061	2 in. "C" tubing.....	9	10700 lbs.	1145.00
40059	1½ in. wrought iron pipe..	9	8900 lbs.	1010.00	40062	2 in. wrought iron pipe..	9	10900 lbs.	1145.00



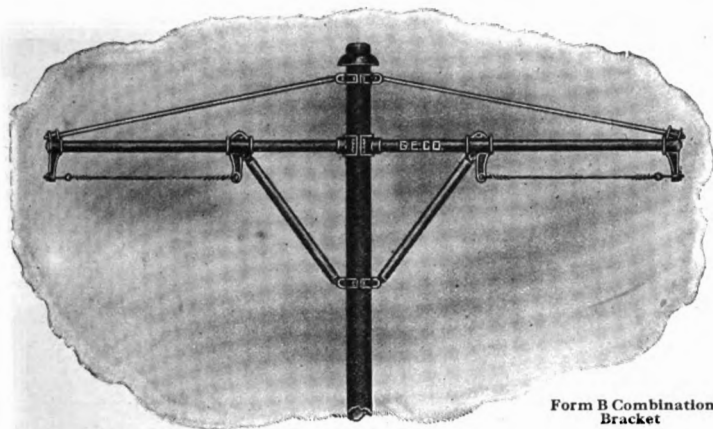
Form A-2 Bracket

FORM A2 BRACKETS

40063	1½ in. "A" tubing.....	9	7150 lbs.	\$895.00	40066	2 in. "A" tubing.....	9	8500 lbs.	\$1000.00
40064	1½ in. "C" tubing.....	9	8300 lbs.	922.00	40067	2 in. "C" tubing.....	9	10300 lbs.	1048.00
40065	1½ in. wrought iron pipe..	9	8500 lbs.	922.00	40068	2 in. wrought iron pipe..	9	10500 lbs.	1048.00

By changing pole clamps these brackets may also be used for 4 inch, 6 inch, or 7 inch poles.
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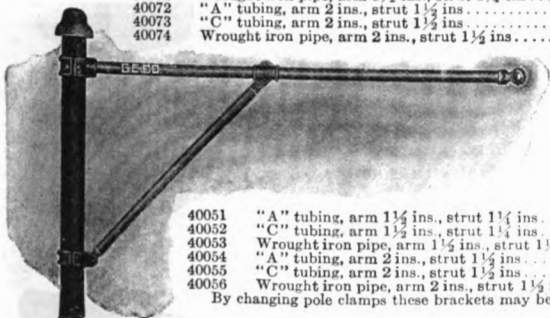
POLE BRACKETS, FLEXIBLE



Form B Combination
Bracket

FORM B COMBINATION BRACKETS For Use with 5 Inch Standard Pipe Poles

List No.	Description	Length, Ft.	Approx. Wt. in Lbs. per 100	List Price per 100
40069	"A" tubing, arm 1½ ins., strut 1¼ ins.	9	9650	\$1124.00
40070	"C" tubing, arm 1½ ins., strut 1¼ ins.	9	10800	1151.00
40071	Wrought iron pipe, arm 1½ ins., strut 1¼ ins.	9	11000	1151.00
40072	"A" tubing, arm 2 ins., strut 1½ ins.	9	11000	1260.00
40073	"C" tubing, arm 2 ins., strut 1½ ins.	9	12800	1310.00
40074	Wrought iron pipe, arm 2 ins., strut 1½ ins.	9	13000	1310.00

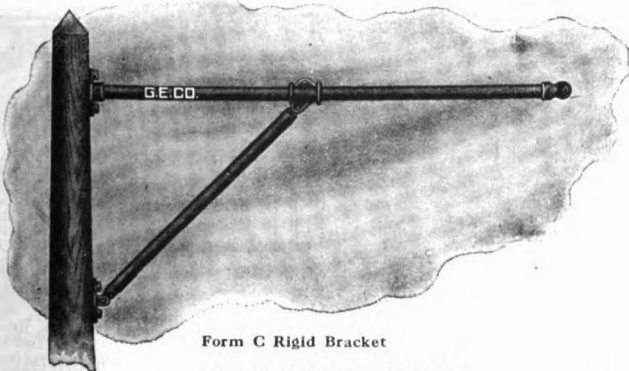


Form C
Bracket

FORM C BRACKETS For Use With 5 Inch Standard Pipe Poles

List No.	Description	Length, Ft.	Approx. Wt. in Lbs. per 100	List Price per 100
40051	"A" tubing, arm 1½ ins., strut 1¼ ins.	9	3750	\$531.00
40052	"C" tubing, arm 1½ ins., strut 1¼ ins.	9	4650	545.00
40053	Wrought iron pipe, arm 1½ ins., strut 1¼ ins.	9	4900	545.00
40054	"A" tubing, arm 2 ins., strut 1½ ins.	9	4700	616.00
40055	"C" tubing, arm 2 ins., strut 1½ ins.	9	5800	640.00
40056	Wrought iron pipe, arm 2 ins., strut 1½ ins.	9	6000	640.00

By changing pole clamps these brackets may be also used for 4 inch, 6 inch or 7 inch poles.



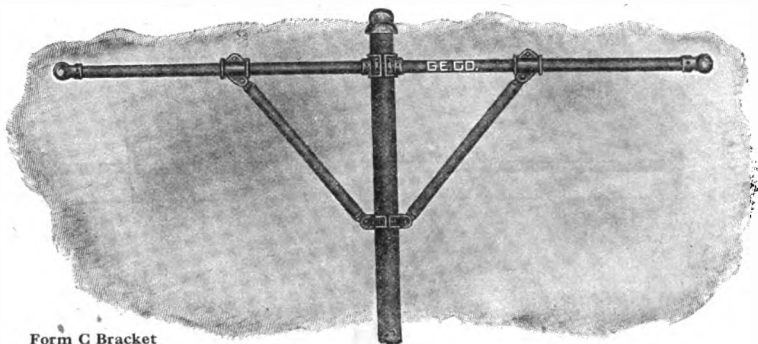
Form C Rigid Bracket

RIGID FORM C BRACKETS

List No.	Description	Length, Ft.	Approx. Wt. in Lbs. per 100	List Price per 100
40027	"A" tubing, arm 1½ ins., strut 1¼ ins.	9	2850	\$343.00
40028	"C" tubing, arm 1½ ins., strut 1¼ ins.	9	3700	357.00
40029	Wrought iron pipe, arm 1½ ins., strut 1¼ ins.	9	3800	357.00
40030	"A" tubing, arm 2 ins., strut 1½ ins.	9	3800	435.00
40031	"C" tubing, arm 2 ins., strut 1½ ins.	9	5000	459.00
40032	Wrought iron pipe, arm 2 ins., strut 1½ ins.	9	5100	459.00

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POLE BRACKETS AND BANDS

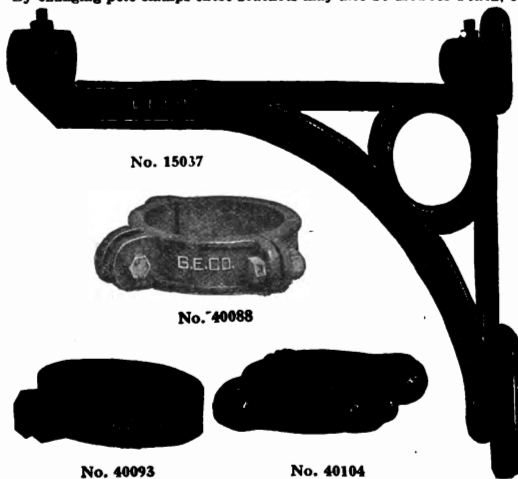


Form C Bracket

FORM C BRACKETS

List No.	Description	Approx. Wt. per 100	List Price per 100
40075	"A" tubing, arm 1½ ins., strut 1¼ ins.	6650 lbs.	\$837.00
40076	"C" tubing, arm 1½ ins., strut 1¼ ins.	8200 lbs.	864.00
40077	Wrought iron pipe, arm 1½ ins., strut 1¼ ins.	8500 lbs.	864.00
40078	"A" tubing, arm 2 ins., strut 1½ ins.	8200 lbs.	1006.00
40079	"C" tubing, arm 2 ins., strut 1½ ins.	10400 lbs.	1054.00
40080	Wrought iron pipe, arm 2 ins., strut 1½ ins.	10700 lbs.	1054.00

By changing pole clamps these brackets may also be used for 4 inch, 6 inch, or 7 inch poles.



No. 15037



No. 40088



No. 40093

No. 40104



No. 40081



No. 40097



No. 40109

POLE BRACKETS

15026	Short bracket for 1½ in. pipe, length 22½ ins., height 28½ ins., diam. of hole 2¼ ins.	2400 lbs.	\$375.00
15037	Long bracket for 1½ in. pipe, length 30½ ins., height 28½ ins., diam. of hole 2¼ ins.	3100 lbs.	450.00

BRACKET CASTINGS

List No.	Description	Form of Bracket	Size	Approx. Wt.	List Price per 100	List No.	Description	Form of Bracket	Size	Approx. Wt.	List Price per 100
125988	Outer end.....	A-1	1½ ins.	175 lbs.	\$37.00	125995	Pole end (wood)	A-1, A-2 and B2	1½ ins.	140 lbs.	\$23.00
125989	Outer end.....	A-1	2 ins.	225 lbs.	43.00	125996	Center.....	B	1½ ins.	425 lbs.	64.50
125990	Outer end.....	A-2	1½ ins.	185 lbs.	39.50	125997	Center.....	B	2 ins.	490 lbs.	76.50
125991	Outer end.....	A-2 and B2	2 ins.	240 lbs.	41.00	125998	Center.....	C	1½ ins.	310 lbs.	46.00
125992	Center.....	A-1 and A-2	1½ ins.	75 lbs.	13.50	125999	Center.....	C	2 ins.	340 lbs.	52.00
125993	Center.....	A-1 and A-2	2 ins.	85 lbs.	13.50	126000	Pole for strut (wood).....	Band C	.....	110 lbs.	30.50
125994	Pole end (wood)	A-1, A-2 and B1½ ins.	125 lbs.	16.00							

STANDARD PIPE POLE BANDS

Pipe Bkt.		Approx.		List Price		Pipe Pole		Approx.		List Price	
—List No.—	—List No.—	Ins.	Wt. per 100—	Single	Double	Single	Double	Ins.	Wt. per 100—	Single	Double
—Single	—Double										
40081	40097	4	1 1/2	680 lbs.	775 lbs.	\$145.00	\$155.00	40088	40104	5	655 lbs. 755 lbs.
40082	40098	5	1 1/2	745 lbs.	760 lbs.	155.00	170.00	40090	40106	6	860 lbs. 960 lbs.
40083	40099	5	2	745 lbs.	760 lbs.	155.00	170.00	40092	40108	7	1035 lbs. 1135 lbs.
40084	40100	6	1 1/2	980 lbs.	995 lbs.	160.00	175.00	40093	40109	4	155 lbs. 200 lbs.
40085	40101	6	2	980 lbs.	995 lbs.	160.00	175.00	40094	40110	5	180 lbs. 225 lbs.
40086	40102	7	2	1360 lbs.	1405 lbs.	170.00	180.00	40095	40111	6	210 lbs. 250 lbs.
40087	40103	4	....	645 lbs.	745 lbs.	100.00	105.00	40096	40112	7	230 lbs. 275 lbs.

Delivery F. O. B. Factory, Schenectady, N. Y.

Railway Material

SUSPENSIONS



Form H-3 Straight Line Suspension



Section Form H-3 Suspension

Straight Line, Form H-3, 600 Volt

The Form H-3 Straight Line Suspension is of the crimped cup type, having the stud mechanically fastened into the shell and insulated by sheet mica under compression.

List No.	Description	Size	Length	Approx. Wt. per 100	List Price per 100
112200	Form H-3 Straight Line Suspension, $\frac{3}{8}$ in. Stud, malleable iron sherardized	3 ins.	6 $\frac{1}{2}$ ft.	170 lbs.	\$70.00



Suspension Body



Suspension Arm



600 Volt Straight Line Suspension

Form H Suspension Body With Pins

List No.	Length between Centers of Clevis Holes	Diam. of Shell	Diam. of Stud	Diam. of Pin	Approx. Wt. per 100	List Price per 100
66330	4 $\frac{1}{2}$ ins.	3 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	$\frac{1}{2}$ ins.	235 lbs.	\$61.00
66326	4 $\frac{3}{4}$ ins.	3 $\frac{1}{2}$ ins.	$\frac{3}{8}$ ins.	$\frac{1}{2}$ ins.	290 lbs.	63.00
128424	Removable suspension arm malleable iron sherardized				75 lbs.	10.00

Suspension arm for Form H Curve Suspension. Has $\frac{1}{4}$ inch eye.

Straight Line, 600 Volt

Each of these suspensions, being in one piece is held against turning by the span wire, and cannot therefore, become unscrewed as a result of vibration in service. Special leather washers can be provided to permit adjustment in seating the car boss against the suspension. Overall length, 6 $\frac{1}{2}$ inches; arm yokes accommodate $\frac{3}{8}$ inch span wire.

List No.	Diameter of Shell	Height of Shell	Diameter of Stud	Approx. Net Wt. per 100	List Price per 100
25880	3 $\frac{1}{4}$ ins.	2 ins.	$\frac{3}{8}$ ins.	210 lbs.	\$43.50
39690	3 $\frac{1}{2}$ ins.	2 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	205 lbs.	45.00
25979	3 $\frac{3}{4}$ ins.	2 $\frac{1}{2}$ ins.	$\frac{3}{8}$ ins.	270 lbs.	47.00
143559	3 $\frac{1}{2}$ ins.	2 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	5 lbs.	2.00
143560				6 lbs.	2.00

Leather washer for $\frac{3}{8}$ in. stud
Leather washer for $\frac{3}{8}$ in. stud



1200 Volt Straight Line Suspension

WITH 2 INCH GIANT STRAIN INSULATORS, LIST NO. 64425

These suspensions and the 3 $\frac{1}{2}$ inch straight line 600 volt suspensions are identical, except that the arms are replaced by devices to which giant or wood strain insulators are shackled.

List No.	Length between Centers	Diameter of Stud	Diameter of Shell	Approx. Wt. per 100	List Price per 100
66824	12 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	3 $\frac{1}{2}$ ins.	460 lbs.	\$170.00
66622	12 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	3 $\frac{1}{2}$ ins.	465 lbs.	172.00



1200 Volt Straight Line Suspension

WITH 1 $\frac{1}{2}$ INCH WOOD STRAIN INSULATORS, LIST NO. 37488

List No.	Length between Centers	Diameter of Stud	Diameter of Shell	Approx. Wt. per 100	List Price per 100
89475	23 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	3 $\frac{1}{2}$ ins.	635 lbs.	\$131.00
89473	23 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	3 $\frac{1}{2}$ ins.	640 lbs.	133.00

WITH 1 INCH WOOD STRAIN INSULATORS, LIST NO. 16727

List No.	Length between Centers	Diameter of Stud	Diameter of Shell	Approx. Wt. per 100	List Price per 100
66620	23 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	3 $\frac{1}{2}$ ins.	565 lbs.	\$121.00
66618	23 $\frac{1}{4}$ ins.	$\frac{3}{8}$ ins.	3 $\frac{1}{2}$ ins.	570 lbs.	123.00

All metal parts including stub have standard sherardized finish.
Delivery F. O. B. Factory, Schenectady, N. Y. Free Delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE SUPPORTS

Form H Suspensions


Single Curve Suspension—600 Volt

Double Curve Suspension—600 Volt

Form H-3 single curve suspension has the same interior construction as the straight line. The shell, however, is provided with a clevis into which the removable arm is fastened by a pin.

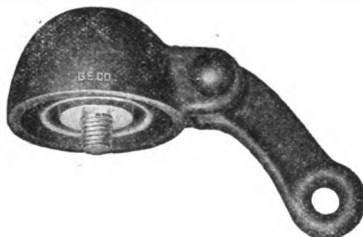
The length between center line of stud and center line of pull-off eye $4\frac{1}{2}$ inches; height above center of pull-off eye $2\frac{3}{4}$ inches; diameter of pull-off eye $\frac{1}{4}$ inch; thickness of arm at eye $\frac{1}{2}$ inch; diameter of shell 3 inches.

List No.	Description	Approx. Wt. per 100	List Price per 100
128651	Form H-3 single curve suspension, $\frac{3}{8}$ in. stud malleable iron sherardized	230 lbs.	\$85.00

DOUBLE CURVE SUSPENSION—600 VOLT

Length between centers of pull-off eyes 9 inches; height above center of pull-off eyes $2\frac{3}{4}$ inches; diameter of pull-off eyes $\frac{1}{4}$ inch; thickness of arm at the eyes $\frac{1}{2}$ inch; diameter of shell 3 inches.

128652	Form H-3 double curve suspension, $\frac{3}{8}$ in. stud malleable iron sherardized	290 lbs.	\$95.00
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1200 Volt Single Curve Suspension

600 Volt Single Curve Suspension

SINGLE CURVE

The Form H single curve suspension consists of a $3\frac{1}{4}$ inch body casting, into which the insulation holding the stud is molded, with a clevis on one side to which the pull-off arm is attached by means of a $\frac{1}{4}$ inch steel pin and cotter.

Length between center line of stud and center of pull-off eye, $4\frac{1}{2}$ inches; height above center of pull-off eye, $3\frac{1}{2}$ inches; diameter of pull-off eye, $\frac{1}{4}$ inch; thickness of pull-off arm at eye, $\frac{1}{2}$ inch; diameter of shell, $3\frac{1}{2}$ inches.

List No.	Diameter of Stud	Approx. Net Wt. per 100	List Price per 100
68953	$\frac{3}{8}$ in.	310 lbs.	\$64.00
68955	$\frac{1}{2}$ in.	315 lbs.	66.50

SUSPENSION BODY—WITH PIN

For 600 and 1200 Volt Single Curve Form H Suspensions

Distance between center line of stud and center of clevis hole $2\frac{3}{4}$ inches; diameter of shell $3\frac{1}{4}$ inches; height of shell $2\frac{1}{4}$ inches; diameter of pin $\frac{1}{4}$ inch.

68961	$\frac{3}{8}$ in.	255 lbs.	\$54.00
68963	$\frac{1}{2}$ in.	260 lbs.	56.00


1200 Volt Single Curve Suspension

1200 Volt Single Curve Suspension

WITH $1\frac{1}{4}$ INCH WOOD STRAIN INSULATOR, LIST NO. 43230

Length between center line of stud and center of outer eye $14\frac{1}{4}$ inches; height above center of pull-off eye $3\frac{1}{2}$ inches; diameter of shell $3\frac{1}{2}$ inches. All metal parts including stud have standard sherardized finish.

List No.	Diameter of Stud	Approx. Wt. per 100	List Price per 100
89485	$\frac{3}{8}$ in.	495 lbs.	\$106.00
89487	$\frac{1}{2}$ in.	500 lbs.	108.00

WITH 2 INCH GIANT STRAIN INSULATOR, LIST NO. 64417

Length between center line of stud and center of outer eye $8\frac{1}{4}$ inches; height above center of pull-off eye $3\frac{1}{2}$ inches; diameter of shell $3\frac{1}{2}$ inches. All metal parts including stud have standard sherardized finish.

68965	$\frac{3}{8}$ in.	415 lbs.	\$124.50
68967	$\frac{1}{2}$ in.	420 lbs.	126.50

WITH 1 INCH WOOD STRAIN INSULATOR, LIST NO. 43229

Length between center line of stud and center of outer eye $14\frac{1}{4}$ inches; height above center of pull-off eye $3\frac{1}{2}$ inches; diameter of shell $3\frac{1}{2}$ inches. All metal parts including stud have standard sherardized finish.

68945	$\frac{3}{8}$ in.	470 lbs.	\$101.00
68947	$\frac{1}{2}$ in.	475 lbs.	103.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

Railway Material

SUSPENSIONS



600 Volt Double Curve Suspension



Ceiling Suspension

FORM H DOUBLE CURVE

The Form H double curve suspensions are like the single curve suspensions, except that there are two clevises and arms.

Length between centers of pull off eyes, 9 inches; height above center of pull off eyes, $3\frac{1}{2}$ inches; diameter of shell, $3\frac{1}{2}$ inches; diameter of pull off eyes, $\frac{1}{2}$ inch; thickness of pull off arms at eyes, $\frac{1}{2}$ inch.

List No.	Diameter of Stud	Approx. Net Wt. per 100	List Price per 100
68937	$\frac{3}{8}$ ins.	395 lbs.	\$81.00
68939	$\frac{1}{2}$ ins.	400 lbs.	83.00

FORM H BRIDGE OR CEILING—600 VOLT

These suspensions have a total height of 2 inches above the ear seat. The supporting ears are slotted for $\frac{1}{2}$ inch lag screws or bolts.

Distance between centers of screw slots, $4\frac{1}{4}$ inches; thickness of slotted ears, $\frac{3}{8}$ inch; diameter of shell, $3\frac{1}{4}$ inches.

List No.	Description	Approx. Wt. per 100	List Price per 100
19044	Form H ceiling suspension, $\frac{3}{8}$ in. stud, jappanned	230 lbs.	\$45.50
27370	Form H ceiling suspension, $\frac{3}{8}$ in. stud, sherardized	230 lbs.	48.50
40961	Form H ceiling suspension, $\frac{1}{2}$ in. stud, sherardized	245 lbs.	70.00



1200 Volt Double Curve Suspension

FORM H WITH 2 INCH GIANT STRAIN INSULATORS, LIST NO. 64417

Length between centers of pull off eyes $17\frac{3}{8}$ inches; height above centers of pull off eyes $3\frac{1}{2}$ inches; diameter of shell, $3\frac{1}{2}$ inches.

List No.	Diameter of Stud	Approx. Wt. per 100	List Price per 100
68909	$\frac{3}{8}$ ins.	603 lbs.	\$202.00
68971	$\frac{1}{2}$ ins.	610 lbs.	204.00



1200 Volt Double Curve Suspension

FORM H WITH 1 INCH WOOD STRAIN INSULATORS, LIST NO. 43229

Length between centers of pull off eyes $28\frac{3}{4}$ inches; height above centers of pull off eyes $3\frac{1}{2}$ inches; diameter of shell $3\frac{1}{2}$ inches.

List No.	Diameter of Stud	Approx. Wt. per 100	List Price per 100
68940	$\frac{3}{8}$ ins.	715 lbs.	\$155.00
68951	$\frac{1}{2}$ ins.	720 lbs.	157.00

FORM H WITH $1\frac{1}{4}$ INCH WOOD STRAIN INSULATORS, LIST NO. 43230

List No.	Diameter of Stud	Approx. Wt. per 100	List Price per 100
89489	$\frac{3}{8}$ ins.	765 lbs.	\$165.00
89491	$\frac{1}{2}$ ins.	770 lbs.	167.00

On the above all parts including stud have standard sherardized finish.
Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE SUPPORTS



No. 105705



Low Mining Suspension



Mining Suspension

Suspensions, Form H3
LOW BRIDGE OR CEILING—600 VOLT

List No.	Description	Diam.	Approx. Net Wt. per 100	List Price per 100
116061	Low bridge ceiling suspension Form H3, $\frac{3}{4}$ in. stud with arms at bottom, japanned	3 ins.	150 lbs.	\$67.50
64560	Low bridge ceiling suspension Form H3, $\frac{3}{4}$ in. stud with arms at bottom, sherardized	3 ins.	150 lbs.	67.50
105705	Low bridge ceiling suspension Form H3, $\frac{3}{4}$ in. stud with arms at top, sherardized	3 ins.	150 lbs.	70.00
116078	Low bridge ceiling suspension Form H3, $\frac{3}{4}$ in. stud with arms at top, japanned	3 ins.	150 lbs.	70.00

LOW MINING

Height from ear seat to top of shell, $1\frac{1}{4}$ inches; diameter of shell at top, 3 inches; height of boss above shell, $\frac{3}{4}$ inch.				
64561	Low mining suspension $\frac{3}{4}$ in. stud, sherardized		150 lbs.	\$79.50
114735	Low mining suspension $\frac{3}{4}$ in. stud, japanned		150 lbs.	76.50

Suspensions, Form H—Mining

Diameter of top flange, 4 inches; diameter of shell, $3\frac{1}{4}$ inches; height from ear seat to top of flange, 2 inches.				
35687	Form H mining suspension $\frac{3}{4}$ in. stud, japanned		250 lbs.	\$48.50
35688	Form H mining suspension $\frac{3}{4}$ in. stud, sherardized		250 lbs.	51.50
40964	Form H mining suspension $\frac{3}{4}$ in. stud, japanned		255 lbs.	75.50
40965	Form H mining suspension $\frac{3}{4}$ in. stud, sherardized		255 lbs.	80.00

Standard Mining Suspension

This suspension consists of the standard Form H mining suspension, with a 5 inch roof bolt and two expansion wedges.
The roof drilling should be $1\frac{1}{4}$ inches in diameter and at least 6 inches deep.

FORM H WITH ROOF BOLT AND WEDGES

All metal parts including stud have standard sherardized or japan finish.

List No.	Description	Approx. Net Wt. per 100	List Price per 100
35685	Mining suspension, complete, $\frac{3}{4}$ in. stud, japanned	370 lbs.	\$66.50
35686	Mining suspension, complete, $\frac{3}{4}$ in. stud, sherardized	370 lbs.	71.50
40962	Mining suspension, complete, $\frac{3}{4}$ in. stud, japanned	375 lbs.	93.50
40963	Mining suspension, complete, $\frac{3}{4}$ in. stud, sherardized	375 lbs.	100.00
35689	Roof bolt ($\frac{3}{4}$ -11, 5 in. special), sherardized	45 lbs.	7.00
35690	Upper roof wedge, sherardized	45 lbs.	7.00
35691	Lower roof wedge, sherardized	35 lbs.	6.00
114861	Roof bolt ($\frac{3}{4}$ -11, 5 inch special), japanned	40 lbs.	6.25
114862	Upper roof wedge, japanned	45 lbs.	6.25
114863	Lower roof wedge, japanned	35 lbs.	5.50

WITH 4 INCH EXPANSION BOLT

The roof drilling should be $1\frac{1}{4}$ inches in diameter and at least 5 inches deep.
Expansion bolts 6 inches long or having hexagonal shoulders are furnished as alternatives for the standard 4 inch bolt when so desired.

68941	Mining suspension, complete, $\frac{3}{4}$ in. stud, sherardized	350 lbs.	\$76.25
68942	Mining suspension, complete, $\frac{3}{4}$ in. stud, japanned	350 lbs.	70.75
68943	Mining suspension, complete, $\frac{3}{4}$ in. stud, sherardized	355 lbs.	104.75
68944	Mining suspension, complete, $\frac{3}{4}$ in. stud, japanned	355 lbs.	97.75
66334	Expansion bolt 4 inches long with stud (threaded $\frac{3}{4}$ -11), sherardized	100 lbs.	24.75
116079	Expansion bolt 4 in. long with stud (threaded $\frac{3}{4}$ -11), japanned	100 lbs.	22.25
66336	Expansion bolt 6 in. long with stud (threaded $\frac{3}{4}$ -11), sherardized	110 lbs.	30.00
116080	Expansion bolt 6 in. long with stud (threaded $\frac{3}{4}$ -11), japanned	110 lbs.	26.50
100409	Expansion bolt 4 in. long with stud (threaded $\frac{3}{4}$ -11), having hex. shoulder, sherardized	105 lbs.	31.00
116082	Expansion bolt 4 in. long with stud (threaded $\frac{3}{4}$ -11), having hex. shoulder, japanned	105 lbs.	27.50
100410	Expansion bolt 6 in. long with stud (threaded $\frac{3}{4}$ -11), having hex. shoulder, sherardized	115 lbs.	33.75
116083	Expansion bolt 6 in. long with stud (threaded $\frac{3}{4}$ -11), having hex. shoulder, japanned	115 lbs.	30.50

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE SUPPORTS

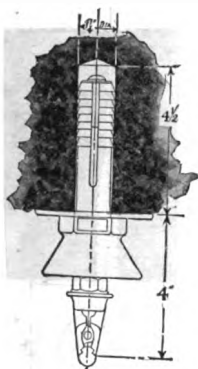


Fig. 1



Low Combination Mining Suspension

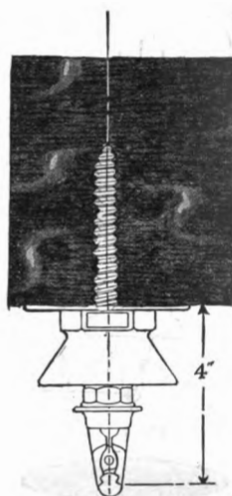


Fig. 2

Low Combination Mining

This suspension is similar to the flat top suspension, but it is only 1 1/4 inches high from ear seat to top of flange. Its low height and large top bearing surface makes an extremely compact, strong suspension which will permit stringing the trolley wire close to the roof with sufficient tension to provide long hanger spacing and maximum head-room with safe clearances between trolley wheel flanges and the roof. The large top bearing surface is particularly advantageous in meeting the side strains on curves and grades.

Fig. 1 shows the low combination suspension and mechanical clamping ear fastened directly into the roof with an expansion bolt. This combination gives a clearance of 4 inches between the trolley wire and roof and is especially recommended for use in mines having limited head-room.

Fig. 2 shows the low combination suspension and mechanical clamping ear fastened into timber. This is an ideal suspension unit for use in low coal entries. The trolley wire is supported 4 inches from the roof.

Fig. 3 shows the combination suspension and combination clamp, supporting the trolley wire from the roof by means of a length of 1 1/4 inch pipe. By this method a level trolley wire can be maintained under an uneven top. A saw cut in the end of the pipe causes the ends to spread when driven into a hole in the roof over a tapered wooden plug.

Diameter of top flange, 4 inches; diameter of shell, 3 1/4 inches; length from ear seat to top of flange, 1 1/4 inches.

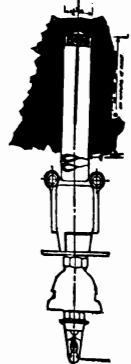


Fig. 3



Mining Suspension



Bracket Suspension

List No.	Description	Approx. Net Wt. per 100	List Price per 100
165188	Form H mining suspension, 3/8 in. stud, jappanned	275 lbs.	\$48.50
165189	Form H mining suspension, 3/8 in. stud, sherardized	275 lbs.	\$1.50

FORM H

Standard Mining Suspension

With Lag Screw and Wood Plug

This suspension consists of the standard Form H suspension with a gimlet point lag screw threaded into the top and projecting 3 inches above the tapped boss.

It is used in connection with a wooden plug, List No. 34137, which is drilled axially for the lag screw.

The plug is driven into a hole drilled in the mine roof and the lag screwed into the plug, its taper splitting the wood and expanding it permanently in place.

This is also an excellent ceiling suspension for use in timbered entries, or in car-barn wiring, the lag being screwed into the roof timbers.

The roof drilling should be 1 1/4 inches in diameter and 4 inches deep.

List No.	Description	Approx. Net Wt. per 100	List Price per 100
34135	Mining suspension, complete, 3/8 in. stud, jappanned	275 lbs.	\$52.75
34136	Mining suspension, complete, 3/8 in. stud, sherardized	275 lbs.	55.75
40966	Mining suspension, complete, 3/8 in. stud, jappanned	280 lbs.	79.75
40967	Mining suspension, complete, 3/8 in. stud, sherardized	280 lbs.	84.25
24137	Wooden plug (3 in. by 1 1/2 in.)	10 lbs.	2.50
36310	Lag screw (3/4 in. by 3 3/4 in. special)	25 lbs.	4.25

Brackets

The Form H bracket suspension consists of the standard 3 1/4 inch shell to which the bracket arm clamp is hinged, thus providing the flexibility required to care for vibration in the trolley wire.

For suspensions for 2 inch pipe the height from ear seat to center of bracket arm clamp is 5 1/4 inches; for 1 1/2 inch pipe the height is 4 3/4 inches; diameter of shell 3 1/4 inches. All metal parts including stud have standard sherardized finish.

List No.	Description	Approx. Net Wt. per 100	List Price per 100
25992	Bracket suspension complete, 3/8 in. stud for 2 in. pipe	540 lbs.	\$111.00
25993	Bracket suspension complete, 3/8 in. stud for 1 1/2 in. pipe	530 lbs.	106.00
25994	Bracket suspension, 3/8 in. stud, without clamp	275 lbs.	46.00
25996	Clamp for 2 in. pipe, for use with List No. 25992	265 lbs.	65.00
25997	Clamp for 1 1/2 in. pipe, for use with List No. 25993	255 lbs.	60.00

The clamps for the Form H bracket suspensions are the same as those used with Form G bracket suspensions.

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE SUPPORTS

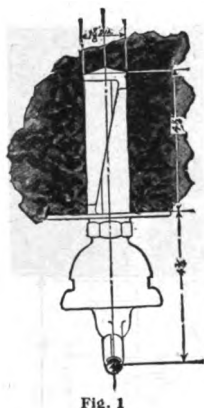


Fig. 1

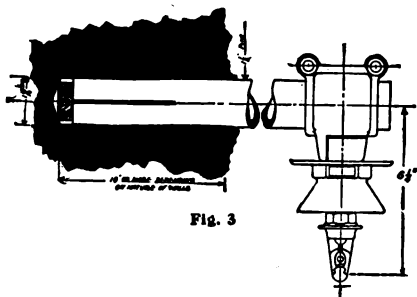


Fig. 3

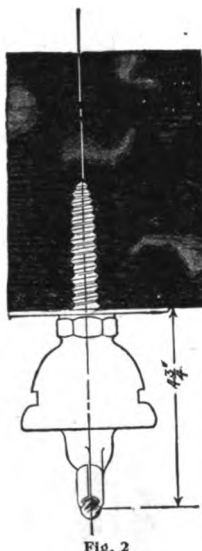


Fig. 2

Trolley Wire Support

Fig. 1 shows the flat top suspension and mechanical clamping ear fastened directly into the roof with roof bolt and wedges. This supporting unit gives a clearance of $4\frac{1}{4}$ inches between trolley wire and roof.

Fig. 2 shows the standard flat top suspension installed on timber giving $4\frac{1}{4}$ inches between trolley wire and roof. It is well adapted for general use throughout mines and mine yards where sufficient head room exists.

Fig. 3 shows the trolley wire supported from the side wall by a piece of $1\frac{1}{4}$ inch pipe driven into a horizontal hole. The combination pipe clamp and flat top suspension makes an ideal unit for supporting the trolley wire around curves under uneven top.

Combination Mine Suspension and Clamp

This suspension differs from the standard Form H mine suspension in the elimination of the boss above the flange. It may be attached directly to the mine roof by means of an expansion bolt or to timbers by means of special lag screws. Its design makes it possible to properly seat the suspension against the roof without forcing the expansion bolt into the roof hole beyond recovery.

This suspension is $2\frac{1}{2}$ inches in height and $3\frac{1}{4}$ inches in diameter; diameter of top flange is 4 inches.

List No.	Description	Approx. Net Wt. per Lb.	List Price per 100
125330	Form H combination mine suspension, sherardized.....	300 lbs.	\$51.50
125331	Form H combination mine suspension, japanned.....	300 lbs.	48.50
125334	Form H combination mine suspension, with lag screw, sherardized.....	325 lbs.	55.75
125335	Form H combination mine suspension, with lag screw, japanned.....	325 lbs.	52.75
125336	Form H combination mine suspension, with roof stud and wedges, sherardized.....	420 lbs.	71.50
125337	Form H combination mine suspension, with roof stud and wedges, japanned.....	420 lbs.	66.50
125338	Form H combination mine suspension, with 4 in. expansion bolt, sherardized.....	400 lbs.	76.25
125339	Form H combination mine suspension, with 4 in. expansion bolt, japanned.....	400 lbs.	70.75
125340	Form H combination mine suspension, with 6 in. expansion bolt, sherardized.....	410 lbs.	81.50
125341	Form H combination mine suspension, with 6 in. expansion bolt, japanned.....	410 lbs.	75.00
119828	Combination clamp, $1\frac{1}{4}$ in. and $1\frac{1}{2}$ in. pipes, sherardized.....	225 lbs.	32.50
119829	Combination clamp, $1\frac{1}{4}$ in. and $1\frac{1}{2}$ in. pipes, japanned.....	225 lbs.	30.00

Extension Pipe Clamp

135755	Pipe clamp, $1\frac{1}{4}$ in. pipe, sherardized.....	125 lbs.	\$26.50
135756	Pipe clamp, $1\frac{1}{4}$ in. pipe, plain.....	125 lbs.	23.50
135757	Form H combination mine suspension with $1\frac{1}{4}$ in. pipe clamp, sherardized.....	425 lbs.	78.00
135758	Form H combination mine suspension with $1\frac{1}{4}$ in. pipe clamp, plain.....	425 lbs.	72.00

Expansion Case and Pipe Clamp for Extension Suspensions

125328	Expansion case, $\frac{3}{4}$ in. pipe, sherardized.....	250 lbs.	\$32.00
125329	Expansion case, $\frac{3}{4}$ in. pipe, japanned.....	250 lbs.	30.00
125332	Pipe clamp, $\frac{3}{4}$ in. pipe, sherardized.....	200 lbs.	26.00
125333	Pipe clamp, $\frac{3}{4}$ in. pipe, japanned.....	200 lbs.	24.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE SUSPENSIONS, FORM S



No. 66648 with 2 inch Giant Strain Insulators, List No. 64425



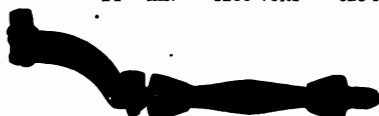
List No. 66649 and 89483 with 1 inch and 1½ Strain Insulators, List No. 16727 and 37488

Single Trolley, Straight Line, 600 VOLT WITH 2 INCH GIANT STRAIN INSULATOR, LIST NO. 64425

List No.	Diameter of Stud	Length Between Center of Outer Eye	Approx. Wt. per 100	List Price per 100
66648	5/8 in.	15 5/8 ins.	410 lbs.	\$149.00
66646	3/4 in.	15 5/8 ins.	415 lbs.	151.00
WITH 1 INCH WOOD STRAIN INSULATORS, LIST NO. 16727				
66640	5/8 in.	27 ins.	515 lbs.	\$100.00
66638	3/4 in.	27 ins.	520 lbs.	102.00
WITH 1½ INCH WOOD STRAIN INSULATORS, LIST NO. 37488				
89483	5/8 in.	27 ins.	585 lbs.	\$110.00
89481	3/4 in.	27 ins.	590 lbs.	112.00
WITH 2 INCH GIANT STRAIN INSULATORS, LIST NOS. 64425 AND 64417				
100120	5/8 in.	24 ins. 1200 volts	620 lbs.	\$270.00
100118	3/4 in.	24 ins. 1200 volts	625 lbs.	272.00



Single Curve Suspension with Giant Strain Insulator



Single Curve Suspension with Wood Strain Insulator



Single Curve Suspension Body

Single Curve Suspension

The Form S single curve suspension is adapted for use on curves in yards, and on haulage tracks on the surface.

List No.	Description	Approx. Net Wt. per 100	List Price per 100
25987	Form S single curve suspension with Giant strain insulator, 5/8 in. stud.	240 lbs.	\$85.50
25983	Form S single curve suspension with Giant strain insulator, 3/4 in. stud.	245 lbs.	87.50
33958	Form S single curve suspension with wood strain insulator, 5/8 in. stud.	295 lbs.	61.00
33954	Form S single curve suspension with wood strain insulator, 3/4 in. stud.	300 lbs.	63.00
64244	Form S single curve suspension body with 5/8 in. stud.	155 lbs.	31.00
64243	Form S single curve suspension body with 3/4 in. stud.	160 lbs.	33.00



No. 64252, 600 Volt Single Curve Suspension

Straight Line Suspension Body

WITH 1½ INCH WOOD STRAIN INSULATOR, LIST NO. 37488

List No.	Diameter of Stud	Length Between Center Line of Stud to Center Outer Eye	Approx. Wt. per 100	List Price per 100
64252	5/8 in.	14 7/8 ins.	330 lbs.	\$86.00
64251	3/4 in.	14 7/8 ins.	335 lbs.	68.00
WITH 2 INCH GIANT STRAIN INSULATORS, LIST NOS. 64425 AND 64417				
66166	5/8 in.	13 3/4 ins. 1200 volts	345 lbs.	\$146.00
66165	3/4 in.	13 3/4 ins. 1200 volts	350 lbs.	148.00

BODIES FOR STRAIGHT LINE SUSPENSIONS

List No.	Diameter of Stud	Length Between Pin Centers	Clevis Opening	Diameter of Pins	Approx. Wt. per 100	List Price per 100
66632	5/8 in.	9 ins.	1 1/8 in.	1 1/2 in.	235 lbs.	\$40.00
66630	3/4 in.	9 ins.	1 1/8 in.	1 1/2 in.	240 lbs.	42.00

On the above all metal parts, including stud, have standard sherardized finish.
Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE SUSPENSIONS



Double Curve Suspension Body



Double Curve Suspension with Giant Strain Insulators



Double Curve Suspension with Wood Strain Insulators

Double Curve Suspensions

List No.	Description	Length Between Centers of Outer Eyes	Approx. Net Wt. per 100	List Price per 100
25988	Form S double curve suspension with 2 in. Giant strain insulator, $\frac{5}{8}$ in. stud	18 ins.	410 lbs.	\$149.00
25986	Form S double curve suspension with 2 in. Giant strain insulator, $\frac{3}{4}$ in. stud	18 ins.	415 lbs.	151.00
33960	Form S double curve suspension with 1 in. wood strain insulator, $\frac{5}{8}$ in. stud	29 $\frac{3}{4}$ ins.	515 lbs.	100.00
33956	Form S double curve suspension with 1 in. wood strain insulator, $\frac{3}{4}$ in. stud	29 $\frac{3}{4}$ ins.	520 lbs.	102.00
64246	Form S double curve suspension body with $\frac{5}{8}$ in. stud	10 $\frac{1}{2}$ ins.	235 lbs.	40.00
64245	Form S double curve suspension body with $\frac{3}{4}$ in. stud	10 $\frac{1}{2}$ ins.	240 lbs.	42.00
68168	Form S double curve suspension body with $\frac{5}{8}$ in. stud with 2 in. strain insulator	26 $\frac{1}{2}$ ins.	620 lbs.	270.00
68167	Form S double curve suspension body with $\frac{3}{4}$ in. stud with 2 in. strain insulator	26 $\frac{1}{2}$ ins.	625 lbs.	272.00

WITH 1 $\frac{1}{4}$ INCH WOOD STRAIN INSULATORS, LIST NO. 37488

64254	Form S double curve suspension, $\frac{5}{8}$ in. stud	29 $\frac{3}{4}$ ins.	585 lbs.	\$110.00
64253	Form S double curve suspension, $\frac{3}{4}$ in. stud	29 $\frac{3}{4}$ ins.	590 lbs.	112.00



600 Volt Straight Line Suspension

WITH 2 INCH GIANT STRAIN INSULATORS, LIST NO. 64425

66644	Distance between studs 6 $\frac{1}{2}$ ins., $\frac{5}{8}$ in. stud	22 $\frac{1}{8}$ ins.	555 lbs.	\$179.00
66642	Distance between studs 6 $\frac{1}{2}$ ins., $\frac{3}{4}$ in. stud	22 $\frac{1}{8}$ ins.	565 lbs.	183.00

WITH 1 INCH WOOD STRAIN INSULATORS, LIST NO. 16727

66636	Distance between studs 6 $\frac{1}{2}$ ins., $\frac{5}{8}$ in. stud	33 $\frac{1}{8}$ ins.	660 lbs.	\$130.00
66634	Distance between studs 6 $\frac{1}{2}$ ins., $\frac{3}{4}$ in. stud	33 $\frac{1}{8}$ ins.	670 lbs.	134.00

WITH 1 $\frac{1}{4}$ INCH WOOD STRAIN INSULATORS, LIST NO. 37488

89479	Distance between studs 6 $\frac{1}{2}$ ins., $\frac{5}{8}$ in. stud	33 $\frac{1}{8}$ ins.	730 lbs.	\$140.00
89477	Distance between studs 6 $\frac{1}{2}$ ins., $\frac{3}{4}$ in. stud	33 $\frac{1}{8}$ ins.	740 lbs.	144.00

All metal parts including studs have sherardized finish.

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

FORM S DOUBLE TROLLEY SUSPENSIONS



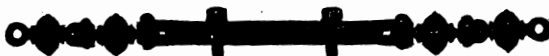
Straight Line Suspension Body

Bodies for Straight Line Suspensions

COMPLETE WITH BOLTS, WASHERS AND PINS

Length between pin centers $14\frac{1}{2}$ inches; distance between stud centers $6\frac{1}{2}$ inches; clevis opening $\frac{1}{8}$ inch; diameter of pin $\frac{1}{2}$ inch.

List No.		Length Between Center Outer Eye	Distance Between Studs	Approx. Wt. per 100	List Price per 100
66628	Straight line suspension body, $\frac{5}{8}$ in. stud...	.....	.....	380 lbs.	\$70.00
66626	Straight line suspension body, $\frac{3}{4}$ in. stud...	.....	.....	390 lbs.	74.00



1200 Volt Straight Line Suspension

WITH 2 INCH GIANT STRAIN INSULATORS, LIST NOS. 64425 AND 64417

100124	Straight line suspension, $\frac{5}{8}$ in. stud.....	30 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	765 lbs.	\$300.00
100122	Straight line suspension, $\frac{3}{4}$ in. stud.....	30 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	775 lbs.	304.00



600 Volt Single Curve Suspension

WITH 2 INCH GIANT STRAIN INSULATORS, LIST NOS. 64425

27377	Single curve suspension, $\frac{5}{8}$ in. stud.....	15 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	350 lbs.	\$109.50
27374	Single curve suspension, $\frac{3}{4}$ in. stud.....	15 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	360 lbs.	113.50



600 Volt Single Curve Suspension

WITH 1 INCH WOOD STRAIN INSULATORS, LIST NO. 16727

33966	Single curve suspension, $\frac{5}{8}$ in. stud.....	21 $\frac{3}{8}$ ins.	6 $\frac{1}{2}$ ins.	405 lbs.	\$85.00
33962	Single curve suspension, $\frac{3}{4}$ in. stud.....	21 $\frac{3}{8}$ ins.	6 $\frac{1}{2}$ ins.	415 lbs.	89.00



600 Volt Single Curve Suspension

WITH 1 $\frac{1}{4}$ INCH WOOD STRAIN INSULATORS, LIST NO. 37488

64256	Single curve suspension, $\frac{5}{8}$ in. stud.....	19 $\frac{3}{4}$ ins.	6 $\frac{1}{2}$ ins.	440 lbs.	\$90.00
64255	Single curve suspension, $\frac{3}{4}$ in. stud.....	19 $\frac{3}{4}$ ins.	6 $\frac{1}{2}$ ins.	450 lbs.	94.00



1200 Volt Single Curve Suspension

WITH 2 INCH GIANT STRAIN INSULATORS, LIST NOS. 64425 AND 64417

68170	Single curve suspension, $\frac{5}{8}$ in. stud.....	19 $\frac{3}{4}$ ins.	6 $\frac{1}{2}$ ins.	455 lbs.	\$170.00
68169	Single curve suspension, $\frac{3}{4}$ in. stud.....	19 $\frac{3}{4}$ ins.	6 $\frac{1}{2}$ ins.	465 lbs.	174.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

FORM S DOUBLE TROLLEY SUSPENSIONS



Single Curve Suspension Body

Bodies for Single Curve Suspension

Length between center line of outer stud and center of pin $11\frac{1}{4}$ inches; distance between stud centers $6\frac{1}{2}$ inches; clevis opening $\frac{1}{4}$ inch; diameter of pin $\frac{1}{2}$ inch.

List No.		Length Between Outer Eyes	Distance Between Studs	Approx. Wt. per 100	List Price per 100
64248	Single curve suspension body, $\frac{5}{8}$ in. stud	.....	.....	265 lbs.	\$35.00
64247	Single curve suspension body, $\frac{3}{4}$ in. stud	.....	.....	275 lbs.	59.00



600 Volt Double Curve Suspension

WITH 2 INCH STRAIN GIANT INSULATORS, LIST NO. 64425

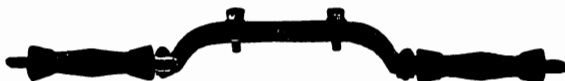
27376	Double curve suspension, $\frac{5}{8}$ in. stud	24 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	570 lbs.	\$179.00
27375	Double curve suspension, $\frac{3}{4}$ in. stud	24 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	580 lbs.	183.00



600 Volt Double Curve Suspension

WITH 1 INCH WOOD STRAIN INSULATORS, LIST NO. 16727

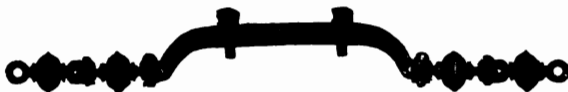
33968	Double curve suspension, $\frac{5}{8}$ in. stud	36 $\frac{1}{4}$ ins.	6 $\frac{1}{2}$ ins.	675 lbs.	\$130.00
33964	Double curve suspension, $\frac{3}{4}$ in. stud	36 $\frac{1}{4}$ ins.	6 $\frac{1}{2}$ ins.	635 lbs.	134.00



600 Volt Double Curve Suspension

WITH $1\frac{1}{4}$ INCH WOOD STRAIN INSULATORS, LIST NO. 37488

64258	Double curve suspension, $\frac{5}{8}$ in. stud	36 $\frac{1}{4}$ ins.	6 $\frac{1}{2}$ ins.	745 lbs.	\$140.00
64257	Double curve suspension, $\frac{3}{4}$ in. stud	36 $\frac{1}{4}$ ins.	6 $\frac{1}{2}$ ins.	755 lbs.	144.00



1200 Volt Double Curve Suspension

WITH 2 INCH GIANT STRAIN INSULATORS, LIST NOS. 64425 AND 64427

68172	Double curve suspension, $\frac{5}{8}$ in. stud	33 ins.	6 $\frac{1}{2}$ ins.	700 lbs.	\$300.00
68171	Double curve suspension, $\frac{3}{4}$ in. stud	33 ins.	6 $\frac{1}{2}$ ins.	700 lbs.	304.00



Double Curve Suspension Body

Bodies for Double Curve Suspensions

Complete With Bolts, Washers and Pins

Length between centers of pins 17 inches; distance between stud centers $6\frac{1}{2}$ inches; clevis opening $\frac{1}{4}$ inch; diameter of pin $\frac{1}{2}$ inch. Standard sherardized finish throughout.

64250	Double curve suspension body, $\frac{5}{8}$ in. stud	395 lbs.	\$70.00
64249	Double curve suspension body, $\frac{3}{4}$ in. stud	405 lbs.	74.00

BOLTS, WASHERS AND PINS WITH SHERARDIZED FINISH For Form S Suspension, Straight Line, Single and Double Curve

51890	Bolt 2 in. long, $\frac{5}{8}$ -11 hexagonal head	.....	\$5.00
51889	Bolt 2 in. long, $\frac{3}{4}$ -10 hexagonal head	.....	7.00
27442	Lock washer for $\frac{5}{8}$ in. bolt	.....	.80
27441	Lock washer for $\frac{3}{4}$ in. bolt	1.00
100216	$\frac{1}{2}$ in. round head pin and cotter	3.75

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SUSPENSIONS, FORM D

In the Form D suspensions the cap and cone dovetail together in such a way as to prevent the formation of a film of moisture between them. The stud bolt head is made considerably larger than the opening in the body casting so that accidental breakage of the insulation will not allow the trolley wire to fall. A dead load of over 5 tons is required to crush the insulation between the stud cap and body.

A metal washer molded into the cone provides a positive bearing for the ear boss.

The lock washer, which is supplied only when specially ordered, engages directly with the screw cap and the body and effectively prevents any tendency to unscrew from vibration.

All metal parts including studs have standard sherardized finish.



Single Curve Suspension



Straight Line Suspension

FORM D SINGLE TROLLEY

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
37953	Single curve suspension, $\frac{5}{8}$ in. stud	245	\$53.50
37964	Single curve suspension, $\frac{3}{4}$ in. stud	250	65.50
37971	Single curve body	150	23.50
37979	Straight line suspension, $\frac{5}{8}$ in. stud	195	47.50
37981	Straight line suspension, $\frac{3}{4}$ in. stud	200	59.50
37980	Straight line body	100	17.50
37996	Double curve suspension, $\frac{5}{8}$ in. stud	295	59.00
37988	Double curve suspension, $\frac{3}{4}$ in. stud	300	71.00
37972	Double curve body	200	29.00



Ceiling Suspension



Strain Suspension

FORM D SINGLE TROLLEY

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100	List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
37991	Ceiling suspension, $\frac{5}{8}$ in. stud	330	\$64.50	37997	Strain suspension, $\frac{5}{8}$ in. stud	245	\$55.00
37993	Ceiling suspension, $\frac{3}{4}$ in. stud	335	76.50	80015	Strain suspension, $\frac{3}{4}$ in. stud	250	67.00
36703	Ceiling body, sherardized	250	34.50	37975	Strain body	150	23.00
15819	Ceiling body, japanned	250	30.00				



Cap



Cone



Lock Washer

INSULATING PARTS FOR FORM D SUSPENSION

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
16925	Screw cap insulator, $\frac{5}{8}$ in. stud	70	\$20.00
16926	Cone for No. 16925	25	10.00
26143	Screw cap insulator, $\frac{3}{4}$ in. stud	75	26.00
26144	Cone for No. 26143	25	10.00
19480	Lock washer for all Form D suspensions	3	3.50
113978	Screw cap insulator, $\frac{5}{8}$ in. stud with extra high heat resisting compound	70	on appl'n
113979	Cone for List No. 113978	25	on appl'n

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Railway Material

TROLLEY WIRE SUPPORTS



Mining Suspension with
Roof Bolt and Wedges



Mining Suspension with
Expansion Bolt



Bracket Suspension

Form D—Mining Suspension—Single Trolley

Greatest diameter 5 inches; diameter of top body flange 4 inches; height of body $4\frac{1}{8}$ inches.

List No.	Description	Approx. Net Wt.	List Price
37681	Mining suspension, $\frac{5}{8}$ in. stud with roof bolt and wedges, japanned.	510 lbs.	\$94.25
37995	Mining suspension, $\frac{5}{8}$ in. stud with roof bolt and wedges, sherardized.	510 lbs.	100.75
40969	Mining suspension, $\frac{5}{8}$ in. stud with roof bolt and wedges, sherardized.	515 lbs.	112.75
68938	Mining suspension, $\frac{5}{8}$ in. stud with 4 in. expansion bolt, japanned.	510 lbs.	98.75
68937	Mining suspension, $\frac{5}{8}$ in. stud with 4 in. expansion bolt, sherardized.	490 lbs.	105.50
68939	Mining suspension, $\frac{5}{8}$ in. stud with 4 in. expansion bolt, sherardized.	495 lbs.	117.50
39704	Mining body, sherardized.	285 lbs.	47.00
16387	Mining body, japanned.	285 lbs.	42.50
41069	Roof bolt ($\frac{5}{8}$ in.-11, 5 in. special) with nut, sherardized.	50 lbs.	10.75
35690	Upper roof wedge, sherardized.	45 lbs.	7.00
35691	Lower roof wedge, sherardized.	35 lbs.	6.00
119521	Roof bolt ($\frac{5}{8}$ in.-11, 5 in. special) with nut, japanned.	50 lbs.	10.00

Form D Single Trolley Bracket Suspension

For suspensions for 2 inch pipe the height from ear seat to center of bracket arm clamp is $3\frac{1}{2}$ inches; for $1\frac{1}{2}$ inch pipe the height is $3\frac{1}{2}$ inches.

List No.	Description	Approx. Wt.	List Price
38005	Bracket suspension, $\frac{5}{8}$ in. stud, for 2 in. pipe.	400 lbs.	\$90.00
60016	Bracket suspension, $\frac{5}{8}$ in. stud, for 2 in. pipe.	405 lbs.	102.00
38008	Bracket suspension, $\frac{5}{8}$ in. stud, for $1\frac{1}{2}$ in. pipe.	375 lbs.	87.00
60017	Bracket suspension, $\frac{5}{8}$ in. stud, for $1\frac{1}{2}$ in. pipe.	380 lbs.	99.00
39706	Bracket body, for 2 in. pipe.	305 lbs.	60.00
39707	Bracket body, for $1\frac{1}{2}$ in. pipe.	280 lbs.	57.00



Straight Line Suspension



Single Curve Suspension

Form D Double Trolley Suspension

List No.	Description	Length Between Center and Outer Eye	Distance Between Center and Stud	Approx. Wt.	List Price
38010	Straight line suspension, $\frac{5}{8}$ in. stud, length $13\frac{1}{4}$ ins.		$6\frac{1}{2}$ ins.	per 100	per 100
38012	Straight line suspension, $\frac{5}{8}$ in. stud.		$6\frac{1}{2}$ ins.	470 lbs.	\$118.00
39708	Straight line body		$6\frac{1}{2}$ ins.	480 lbs.	142.00
				280 lbs.	58.00

Single Curve Suspension

38014	Double trolley, single curve suspension, $\frac{5}{8}$ in. stud.	$11\frac{1}{4}$ ins.	$6\frac{1}{2}$ ins.	500 lbs.	\$108.00
38016	Double trolley, single curve suspension, $\frac{5}{8}$ in. stud.	$11\frac{1}{4}$ ins.	$6\frac{1}{2}$ ins.	510 lbs.	132.00
39709	Double trolley, single curve body.	$11\frac{1}{4}$ ins.	$6\frac{1}{2}$ ins.	310 lbs.	48.00



Double Curve Suspension

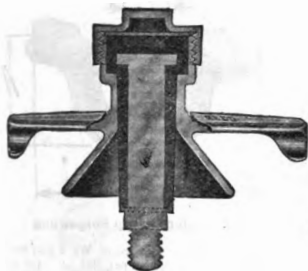
Double Curve Suspension

39927	Double trolley, double curve suspension, $\frac{5}{8}$ in. stud.	$15\frac{1}{4}$ ins.	$6\frac{1}{2}$ ins.	565 lbs.	\$119.00
39928	Double trolley, double curve suspension, $\frac{5}{8}$ in. stud.	$15\frac{1}{4}$ ins.	$6\frac{1}{2}$ ins.	575 lbs.	143.00
39710	Double trolley, double curve body.	$15\frac{1}{4}$ ins.	$6\frac{1}{2}$ ins.	375 lbs.	59.00

Studs and bodies have sherardized finish.

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

SUSPENSIONS, FORM G



Section of Form G Suspension



No. 17207



Cross Section of Insulated Bolts



No. 17341

List No.	Description	Approx. Weight per 100	List Price per 100
17207	Insulated bolt, 5/8 in. stud standard head	90	\$30.00
62561	Insulated bolt, 5/8 in. stud standard head	95	34.00
17341	Insulated bolt, 5/8 in. stud for automatic ear, List No. 17338 standard head	95	40.00
13680	Insulated bolt, 5/8 in. stud standard head. Extra high heat resisting compound.	90	on appl.
123675	Insulated bolt, 5/8 in. stud special head	105	30.00

Standard head: Dimension 1 1/4 in., 3/4 in. Large head: Dimension 1 1/2 in., 1 in.



Single Curve Suspension
SINGLE CURVE SUSPENSION

List No.	Size Stud	Length Center Stud to Pulloff Eye	Height	Approx. Weight per 100	List Price per 100
25961	5/8 in.	4 ins.	3 1/4 ins.	270	\$76.00
66022	5/8 in.	4 ins.	3 1/4 ins.	275	80.00
25982	Body			145	31.00
25978	Cap			35	15.00



Double Curve Suspension
DOUBLE CURVE SUSPENSION

List No.	Size Stud	Length Center Stud to Full Eye	Height	Approx. Weight per 100	List Price per 100
25984	5/8 in.	8 ins.	3 1/4 ins.	310	\$84.00
66023	5/8 in.	8 ins.	3 1/4 ins.	315	88.00
25985	Body			185	39.00
25978	Cap			35	15.00



Straight Line Suspension
STRAIGHT LINE SUSPENSION

List No.	Size Stud	Length Across Arm	Height	Approx. Weight per 100	List Price per 100
25976	5/8 in.	6 ins.	3 1/4 ins.	245	\$74.00
66019	5/8 in.	6 ins.	3 1/4 ins.	250	78.00
25977	Body			120	29.00
25978	Cap			35	15.00



Socket Ceiling Suspension



Ceiling Suspension
SOCKET CEILING SUSPENSION

List No.	Size Stud	Height	Diam. Screw Hole	Approx. Weight per 100	List Price per 100
38690	5/8 in.	3 1/4 ins.	1/4 in.	170	\$69.00
68399	5/8 in.	3 1/4 ins.	1/4 in.	175	73.00
38691	Body			80	39.00

CEILING SUSPENSION

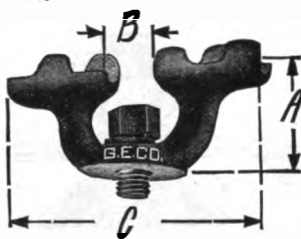
List No.	Ceiling suspension	Approx. Weight per 100	List Price per 100
25988	Ceiling suspension	225	\$79.00
66034	Ceiling suspension	230	83.00
25991	Body	75	28.00
25990	Cap	60	21.00

All metal parts, including studs, have sheardized finish.
Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over, to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE SUPPORTS



Form P Suspension


**Straight Line Suspension
Form P Suspension**


Feeder Clamp Suspension

List No.	Description	Approx. Wt. per 100	List Price per 100
106824	Form P suspension, $\frac{3}{4}$ in. stud, complete	500 lbs.	\$80.00
106825	Form P suspension, $\frac{3}{4}$ in. stud, complete	505 lbs.	90.00
106826	Form P suspension, $\frac{3}{4}$ in. stud, without guard	375 lbs.	70.00
106827	Form P suspension, $\frac{3}{4}$ in. stud, without guard	380 lbs.	70.00
106822	Form P suspension, $\frac{3}{4}$ in. stud, without guard	300 lbs.	58.00
106823	Porcelain body only, with $\frac{3}{4}$ in. stud	305 lbs.	58.00
106828	Suspension yoke only	125 lbs.	12.00
106829	Wheel guard only, for $\frac{3}{4}$ in. stud	75 lbs.	20.00
106830	Wheel guard only, for $\frac{3}{4}$ in. stud	75 lbs.	20.00

Feeder Tap

List No.	Description	Length	Approx. Wt. per 100	List Price per 100
11294	Straight line feeder suspension, $\frac{3}{4}$ in. stud, comp.	6 ins.	85 lbs.	\$50.00
150313	Straight line feeder suspension, $\frac{3}{4}$ in. stud, mal. iron, sherardized	6 ins.	85 lbs.	25.00
11296	Straight line feeder suspension, $\frac{3}{4}$ in. stud, comp.	6 ins.	90 lbs.	55.00

List No.	Description	Dimensions in Inches	Approx. Wt. per 100	List Price per 100
16380	Feeder clamp suspension, $\frac{3}{4}$ in. stud comp. for 1/0 feeder wire.	A 1 $\frac{1}{4}$ B 5 $\frac{1}{2}$ C 5 $\frac{1}{2}$	90 lbs.	\$68.00
48807	Feeder clamp suspension, $\frac{3}{4}$ in. stud comp. for 1/0 feeder wire.	1 $\frac{1}{4}$ 1 $\frac{1}{4}$ 5 $\frac{1}{2}$	95 lbs.	72.00
61507	Feeder clamp suspension, $\frac{3}{4}$ in. stud comp. for 4/0 feeder wire.	2 $\frac{1}{4}$ 1 $\frac{1}{2}$ 5 $\frac{1}{2}$	225 lbs.	70.00
48808	Feeder clamp suspension, $\frac{3}{4}$ in. stud comp. for 4/0 feeder wire.	2 $\frac{1}{4}$ 1 $\frac{1}{2}$ 5 $\frac{1}{2}$	230 lbs.	78.00



Expansion Bolt



Expansion Bolt



For Forms H and H3 Suspensions



For Form D Suspensions



Roof Plug and Lag

Roof Fastenings EXPANSION BOLTS

List No.	Fig. No.	Length	Finish	Suspensions Used With	Approx. Net Wt. per 100	List Price per 100
116079	1	4 ins.	Japanned	Forms H and H3	100 lbs.	\$22.25
66334	1	4 ins.	Sherardized	Forms H and H3	100 lbs.	24.75
116081	2	4 ins.	Japanned	Form D	105 lbs.	26.25
68397	2	4 ins.	Sherardized	Form D	105 lbs.	105.50
116082	3	4 ins.	Japanned	Forms H and H3	105 lbs.	27.50
100408	3	4 ins.	Sherardized	Forms H and H3	105 lbs.	27.50
116080	1	6 ins.	Japanned	Forms H and H3	110 lbs.	26.50
66336	1	6 ins.	Sherardized	Forms H and H3	110 lbs.	30.00
116071	2	6 ins.	Japanned	Form D	115 lbs.	29.00
116070	2	6 ins.	Sherardized	Form D	115 lbs.	32.50
116083	3	6 ins.	Japanned	Forms H and H3	115 lbs.	30.50
100410	3	6 ins.	Sherardized	Forms H and H3	115 lbs.	33.75

ROOF WEDGE

List No.	Description	Approx. Net Wt. per 100	List Price per 100
114862	Upper roof wedge, japanned	45 lbs.	\$6.25
35890	Upper roof wedge, sherardized	45 lbs.	7.00
114863	Lower roof wedge, japanned	35 lbs.	5.50
35891	Lower roof wedge, sherardized	35 lbs.	6.00
35889	Roof bolt ($\frac{3}{4}$ in.-11, 5 in. special) sherardized	40 lbs.	7.00
41069	Roof bolt ($\frac{3}{4}$ in.-11, 5 in. special)	45 lbs.	10.75

ROOF PLUG AND LAG SCREW

The Forms H and H3 suspensions may be attached to the mine roof by means of the wooden plug and gimlet point lag screw threaded to fit the suspension and projecting three inches above it.

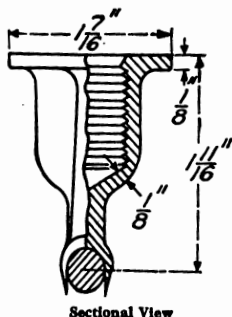
The roof drilling should be 1 $\frac{1}{2}$ inches in diameter and 4 inches deep.

34137	Wooden plug (3 in. by 1 $\frac{1}{4}$ ins.), for Forms H and H3	10 lbs.	\$2.50
36310	Lag screw ($\frac{3}{4}$ in. by 3 $\frac{1}{4}$ in. special), sherardized	25 lbs.	7.25

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

LINE MATERIAL

Ears for Round Wire



The Forms H2 and J2 ears have a $1\frac{1}{4}$ inch hub flange and are suitable for suspensions presenting a large bearing surface at the base of their studs, such as the Forms H, S, D and P.

Form H2 Ears have a groove depth equal to the diameter of the wire so that when the lips are peened down and soldered the bottom of the wire is exposed, allowing unobstructed passage of the trolley wheel.

Form J2 Ears have an extra deep groove so that the lips approximately meet beneath the wire and are generally used without solder.

In the design of these ears all angles are filled with generous fillets, and in their manufacture extreme care is exercised to maintain accurate dimensions of the milled grooves and of the lips, which are tapered to a knife edge.

Grooves are milled to exact dimensions and, unless specially ordered, Form H2 Ears are tinned for soldering and Form J2 Ears are furnished untinned.



Plain Ear

CLINCH EARS, FORM J

L't No.	Description	Approx. Net	List Price
		Wt. in Lbs. per 100	
32575	Form J2, for No. 0 wire, $\frac{5}{8}$ in. tap, complete, 9 ins. long.	69	\$40.00
32577	Form J2, for No. 00 wire, $\frac{5}{8}$ in. tap, complete, 9 ins. long.	74	42.00
32571	Form J2, for No. 0 wire, $\frac{5}{8}$ in. tap, complete, 12 ins. long.	75	42.00
32573	Form J2, for No. 00 wire, $\frac{5}{8}$ in. tap, complete, 12 ins. long.	85	50.00
32568	Form J2, for No. 0 wire, $\frac{5}{8}$ in. tap, complete, 15 ins. long.	88	55.00
32569	Form J2, for No. 00 wire, $\frac{5}{8}$ in. tap, complete, 15 ins. long.	97	60.00
34113	Form J2, for No. 000 wire, $\frac{5}{8}$ in. tap, complete, 15 ins. long.	124	75.00
32566	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap, complete, 15 ins. long.	124	75.00
34114	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap, complete, 15 ins. long.	140	85.00
32567	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap, complete, 15 ins. long.	140	85.00



12 Inch Plain Ear

SOLDERED EARS

32563	Form H2, for No. 0 wire, $\frac{5}{8}$ in. tap.	66	\$40.00
32565	Form H2, for No. 00 wire, $\frac{5}{8}$ in. tap.	85	50.00



9 Inch Plain Ear

SOLDERED EARS

31666	Form H2, for No. 0 wire, $\frac{5}{8}$ in. tap.	57	\$35.00
31668	Form H2, for No. 00 wire, $\frac{5}{8}$ in. tap.	68	40.00



15 Inch Plain Ear

SOLDERED EARS

31665	Form H2, for No. 0 wire, $\frac{5}{8}$ in. tap.	88	\$55.00
31667	Form H2, for No. 00 wire, $\frac{5}{8}$ in. tap.	104	65.00
31611	Form H2, for No. 000 wire, $\frac{5}{8}$ in. tap.	122	70.00
26151	Form H2, for No. 0000 wire, $\frac{5}{8}$ in. tap.	122	70.00
34112	Form H2, for No. 0000 wire, $\frac{5}{8}$ in. tap.	128	75.00
19492	Form H2, for No. 0000 wire, $\frac{5}{8}$ in. tap.	128	75.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

LINE MATERIAL **Ears for Round Wire**



**Form C-Plain
CLINCH EARS**

Form C ears differ from the Form J ears in that the sides of the boss are flat, tapering up to the top of the hub without flange and the extreme ends of the ear are reinforced on the top. These ears are furnished with lips untinned.

List No.	Description	Approx. Net Wt. per 100	List Price per 100
61695	For 00 wire, 12 ins. long, $\frac{5}{8}$ in. tap.	80	\$60.00
129946	For 00 wire, 15 ins. long, $\frac{5}{8}$ in. tap.	100	75.00
150531	For 000 wire, 15 ins. long, $\frac{5}{8}$ in. tap.	120	82.00
61694	For 0000 wire, 15 ins. long, $\frac{3}{4}$ in. tap.	145	85.00



15 Inch Feeder Ear

SOLDERED CLINCH EARS

All feeder, strain and splicing ears for use on round wire are of the deep groove form. The 0 and 00 sizes have hub flanges $1\frac{1}{8}$ inches in diameter and the 000 and 0000 sizes have $1\frac{1}{8}$ inches flanges.

All these ears are designed for soldering and, unless specially ordered, are furnished with tinned lips.

15120	Form J, for No. 0 wire, $\frac{5}{8}$ in. tap.	95	\$70.00
15121	Form J, for No. 00 wire, $\frac{5}{8}$ in. tap.	100	75.00
34115	Form J2, for No. 000 wire, $\frac{5}{8}$ in. tap.	145	80.00
26152	Form J2, for No. 0000 wire, $\frac{3}{4}$ in. tap.	145	80.00
34116	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.	155	105.00
26153	Form J2, for No. 0000 wire, $\frac{3}{4}$ in. tap.	155	105.00
39896	Set screw for above feeder ears, 14-24, $\frac{1}{2}$ in. long, square head.	4	1.20



15 Inch Strain Ear

STRAIN EARS

68446	Form J, for No. 0 wire, $\frac{5}{8}$ in. tap.	100	\$65.00
60348	Form J, for No. 00 wire, $\frac{5}{8}$ in. tap.	110	75.00
60349	Form J2, for No. 000 wire, $\frac{5}{8}$ in. tap.	150	95.00
60350	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.	190	115.00



19 Inch Strain Ear

STRAIN EAR

15140	Form J, for No. 0 wire, $\frac{5}{8}$ in. tap.	130	\$85.00
15147	Form J, for No. 00 wire, $\frac{5}{8}$ in. tap.	145	90.00
34117	Form J2, for No. 000 wire, $\frac{5}{8}$ in. tap.	205	125.00
26156	Form J2, for No. 0000 wire, $\frac{3}{4}$ in. tap.	205	125.00
34118	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.	250	135.00
26157	Form J2, for No. 0000 wire, $\frac{3}{4}$ in. tap.	250	135.00



Single End Strain

SINGLE END STRAIN

30459	8 in., for No. 0 wire.	40	\$30.00
30460	8 in., for No. 00 wire.	50	35.00
34121	9 in., for No. 000 wire.	60	40.00
34122	9 in., for No. 0000 wire.	70	45.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

**LINE MATERIAL
Ears for Round Wire**



15 Inch Splicing Ear

SOLDERED CLINCH EARS FOR ROUND WIRE

List No.	Description	Approx. Net Wt. per 100	List Price per 100
15138	Form J, for No. 0 wire, $\frac{5}{8}$ in. tap.....	125	\$70.00
12900	Form J, for No. 00 wire, $\frac{5}{8}$ in. tap.....	130	75.00
34119	Form J2, for No. 000 wire, $\frac{5}{8}$ in. tap.....	210	110.00
26154	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.....	210	110.00
34120	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.....	250	120.00
26155	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.....	250	120.00



15 Inch Splicing Ear

15 INCH SPLICING EAR, FORM Q

Provided with cup set screws for holding the trolley wire. For use without solder.

141334	For No. 0 round or grooved wire, $\frac{5}{8}$ in. tap.....	175	\$105.00
141335	For No. 00 round or grooved wire, $\frac{5}{8}$ in. tap.....	185	105.00
141336	For No. 000 round or grooved wire, $\frac{5}{8}$ in. tap.....	225	130.00
145825	For No. 000 round or grooved wire, $\frac{5}{8}$ in. tap.....	240	130.00
141337	For No. 0000 round or grooved wire, $\frac{5}{8}$ in. tap.....	235	135.00
145826	For No. 0000 round or grooved wire, $\frac{5}{8}$ in. tap.....	250	135.00



19 Inch Splicing Ear

19 INCH SPLICING EARS, MECHANICAL

41189	For Nos. 0 and 00 round or grooved wire, $\frac{5}{8}$ in. tap.....	400	\$275.00
41190	For Nos. 0 and 00 round or grooved wire, $\frac{5}{8}$ in. tap.....	400	275.00
39458	For Nos. 000 and 0000 round or grooved wire, $\frac{5}{8}$ in. tap.....	585	290.00
41186	For Nos. 000 and 0000 round or grooved wire, $\frac{5}{8}$ in. tap.....	585	290.00



Double Boss Strain Ear

13 1/2 INCH DOUBLE BOSS STRAIN FOR USE WITH STRAIN PLATES

89055	Form J2, for No. 0 wire, $\frac{5}{8}$ in. tap.....	130	\$115.00
89090	Form J2, for No. 00 wire, $\frac{5}{8}$ in. tap.....	150	120.00
89098	Form J2, for No. 000 wire, $\frac{5}{8}$ in. tap.....	200	125.00
59206	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.....	200	125.00
89097	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.....	245	130.00
59205	Form J2, for No. 0000 wire, $\frac{5}{8}$ in. tap.....	245	130.00



Clamping Ear for Round Trolley Wire

FORM B CLAMPING EAR

Overall length, 8 inches; height from center of trolley wire to top of hub, 1 1/2 inches.

16379	Clamping ear, Form B, $\frac{5}{8}$ in. tap, for Nos. 0 and 00 wire, malleable iron, sherardized.....	85	\$60.00
15901	Clamping sheath, for List No. 16379, bronze.....	15	20.00
15902	Clamping block, for List No. 16379, comp.....	12	1.75
139273	Clamping screw, for List No. 16379, steel.....	6	2.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable alterations are made for shipments west thereof.

LINE MATERIAL



Form M Plain Ear



Form M Feeder Ear



Automatic Ear

Insulated Bolt
No. 17341

Form M Mechanical Ears for Round Wires

Form M mechanical clamping ears are used extensively in mine trolley construction.

The design of this clamp is such that it may be attached to the suspension and at the same time be made to grip the trolley wire by the single operation of turning the nut.

It is made of malleable iron with excellent wheel clearance and is $2\frac{3}{4}$ inches high and $3\frac{1}{2}$ inches long.

List No.	Description	Approx. Net Wt. per 100	List Price per 100
141292	Form M plain ear for Nos. 00, 000 and 0000 round wire, $\frac{3}{8}$ in. tap, sherardized	100 lbs.	\$42.00
141293	Form M plain ear for Nos. 00, 000 and 0000 round wire, $\frac{3}{8}$ in. tap, japanned	100 lbs.	40.00
141294	Form M plain ear for Nos. 00, 000 and 0000 Fig. 8 wire, $\frac{3}{8}$ in. tap, sherardized	105 lbs.	42.00
141295	Form M plain ear for Nos. 00, 000 and 0000 Fig. 8 wire, $\frac{3}{8}$ in. tap, japanned	105 lbs.	40.00
141296	Form M plain ear for Nos. 00, 000 and 0000 grooved wire, $\frac{3}{8}$ in. tap, sherardized	95 lbs.	42.00
141297	Form M plain ear for Nos. 00, 000 and 0000 grooved wire, $\frac{3}{8}$ in. tap, japanned	95 lbs.	40.00
150340	Form M feeder ear for Nos. 00, 000 and 0000 Fig. 8 wire, $\frac{3}{8}$ in. tap	125 lbs.	60.00
150341	Form M feeder ear for Nos. 00, 000 and 0000 grooved wire, $\frac{3}{8}$ in. tap	115 lbs.	60.00
150342	Form M feeder ear for Nos. 00, 000 and 0000 round wire, $\frac{3}{8}$ in. tap	120 lbs.	60.00

6 Inch Automatic Ear

The automatic ear is clamped on the wire by the spreading action of a special pointed stud in the suspension, for which the special insulated bolt, List No. 17341, is furnished with Form G suspensions.

17338	6 in. automatic ear, for Nos. 0 and 00 wires, $\frac{3}{8}$ in. tap, mal. iron, sherardized	125 lbs.	\$30.00
17400	Adapter for List No. 17338, $\frac{3}{8}$ in. tap and stud, comp.	50 lbs.	30.00



Round Trolley Wire



Grooved Trolley Wire



Fig. 8 Trolley Wire



5 Inch Plain



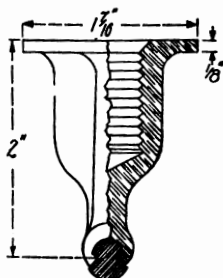
7 Inch Plain

Clamping Ears

SCREW CLAMP, FORM A

List No.	Description	Approx. Net Wt. per 100	List Price per 100
41047	For Nos. 0 and 00 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	70 lbs.	\$22.00
41048	For Nos. 0 and 00 wire, $\frac{3}{8}$ in. tap, mal. iron, japanned	70 lbs.	21.00
41443	For Nos. 0 and 00 wire, $\frac{3}{8}$ in. tap, comp.	80 lbs.	40.00
66042	For Nos. 0 and 00 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	70 lbs.	22.00
66044	For Nos. 0 and 00 wire, $\frac{3}{8}$ in. tap, comp.	80 lbs.	40.00
41049	For Nos. 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	75 lbs.	22.00
41050	For Nos. 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, japanned	75 lbs.	21.00
41444	For Nos. 000 and 0000 wire, $\frac{3}{8}$ in. tap, comp.	85 lbs.	42.00
66043	For Nos. 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	75 lbs.	22.00
66045	For Nos. 000 and 0000 wire, $\frac{3}{8}$ in. tap, comp.	85 lbs.	42.00
19432	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, japanned	66 lbs.	21.00
37804	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	66 lbs.	22.00
27627	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, comp.	75 lbs.	42.00
59584	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	66 lbs.	22.00
30310	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, comp.	75 lbs.	42.00
34123	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, japanned	88 lbs.	22.00
37805	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	88 lbs.	24.00
34124	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, comp.	100 lbs.	50.00
37806	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	88 lbs.	24.00
27628	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, comp.	100 lbs.	50.00
115812	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, japanned	70 lbs.	22.00
109898	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	70 lbs.	24.00
109899	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, comp.	70 lbs.	24.00
116080	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, japanned	94 lbs.	22.00
114878	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, sherardized	94 lbs.	24.00
114879	For Nos. 00, 000 and 0000 wire, $\frac{3}{8}$ in. tap, mal. iron, comp.	94 lbs.	24.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.



Form P2

LINE MATERIAL **Ears for Grooved Wire, Form P** **SOLDERED CLINCH**

Clinch ears for grooved wire are designed to be sprung on the wire by hand and the sides crimped together, making a snug fit. They are then usually soldered. Special attention is called to the fact that the grooves are formed to give an exact fit both at the groove bottom and the lips. The ears are furnished with lips tinned for soldering.



9 Inch Plain Ear

9 INCH PLAIN EARS

List No.	Description	Approx. Wt. per 100	List Price
39879	Form P-2, for No. 00 wire, 5/8 in. tap	85 lbs.	\$45.00
40941	Form P-2, for No. 000 wire, 5/8 in. tap	100 lbs.	60.00
40942	Form P-2, for No. 0000 wire, 5/8 in. tap	100 lbs.	60.00
40937	Form P-2, for No. 0000 wire, 5/8 in. tap	120 lbs.	70.00
40938	Form P-2, for No. 0000 wire, 5/8 in. tap	120 lbs.	70.00



12 Inch Plain Ear

12 INCH PLAIN EARS

39880	Form P-2, for No. 00 wire, 5/8 in. tap	100 lbs.	\$55.00
40943	Form P-2, for No. 000 wire, 5/8 in. tap	129 lbs.	65.00
40944	Form P-2, for No. 000 wire, 5/8 in. tap	129 lbs.	65.00
40939	Form P-2, for No. 0000 wire, 5/8 in. tap	140 lbs.	70.00
40940	Form P-2, for No. 0000 wire, 5/8 in. tap	140 lbs.	70.00



15 Inch Plain Ear

15 INCH PLAIN EARS

39881	Form P-2, for No. 00 wire, 5/8 in. tap	125 lbs.	\$82.00
39882	Form P-2, for No. 000 wire, 5/8 in. tap	150 lbs.	75.00
39883	Form P-2, for No. 000 wire, 5/8 in. tap	150 lbs.	75.00
39884	Form P-2, for No. 0000 wire, 5/8 in. tap	170 lbs.	85.00
39885	Form P-2, for No. 0000 wire, 5/8 in. tap	170 lbs.	85.00



15 Inch Feeder Ear

15 INCH FEEDER EARS

39891	Form P, for No. 00 wire, 5/8 in. tap	140 lbs.	\$85.00
39892	Form P-2, for No. 000 wire, 5/8 in. tap	185 lbs.	90.00
39893	Form P-2, for No. 000 wire, 5/8 in. tap	180 lbs.	90.00
39894	Form P-2, for No. 0000 wire, 5/8 in. tap	200 lbs.	95.00
39895	Form P-2, for No. 0000 wire, 5/8 in. tap	200 lbs.	95.00
39896	Set screw for feeder ears, 14-24, 3/8 in. square head	4 lbs.	1.20

The feeder boss on all 1/0 and 2/0 ears is drilled to take wire 2/0 and smaller. The 3/0 and 4/0 ears take feeder wires up to 4/0.



15 Inch Strain Ear

15 INCH STRAIN EARS

60351	Form P, for No. 00 wire, 5/8 in. tap	130 lbs.	\$75.00
60352	Form P-2, for No. 000 wire, 5/8 in. tap	190 lbs.	110.00
Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.			

LINE MATERIAL **Ears for Grooved Wire**



19 Inch Strain Ear

SOLDERED CLINCH EARS, 19 INCH STRAIN

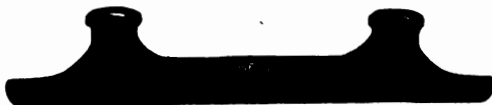
List No.	Description	Approximate Weight per 100	List Price per 100
39886	Form P, for No. 00 wire, $\frac{3}{8}$ inch tap	170	\$85.00
39887	Form P-2, for No. 000 wire, $\frac{3}{8}$ inch tap	238	115.00
39888	Form P-2, for No. 0000 wire, $\frac{3}{8}$ inch tap	240	115.00
39889	Form P-2, for No. 00000 wire, $\frac{3}{8}$ inch tap	290	125.00
39890	Form P-2, for No. 00000 wire, $\frac{3}{8}$ inch tap	290	135.00



Single End Strain Ear

SOLDERED CLINCH EARS, SINGLE END STRAIN

68442	8 inch half strain ear for No. 00 wire	60	\$40.00
68444	9 inch half strain ear for No. 000 wire	75	40.00
68445	9 inch half strain ear for No. 0000 wire	90	40.00



Double Boss Strain Ear

13 1/2 INCH DOUBLE BOSS STRAIN EARS**For Use With Strain Plates**

88896	Form P-2, for No. 00 wire, $\frac{3}{8}$ inch tap	170	\$105.00
88894	Form P-2, for No. 000 wire, $\frac{3}{8}$ inch tap	225	110.00
59203	Form P-2, for No. 000 wire, $\frac{3}{8}$ inch tap	225	110.00
88895	Form P-2, for No. 0000 wire, $\frac{3}{8}$ inch tap	270	115.00
59204	Form P-2, for No. 0000 wire, $\frac{3}{8}$ inch tap	270	115.00



Splicing Ear

SPlicing EARS, SOLDERED

Designed for soldering in the same manner as soldered splicing sleeves.

19436	19 1/2 inch splicing ear, for No. 00 wire, $\frac{3}{8}$ inch tap	225	\$145.00
21487	19 1/2 inch splicing ear, for No. 00 wire, $\frac{3}{8}$ inch tap	225	145.00
19437	21 1/2 inch splicing ear, for No. 000 wire, $\frac{3}{8}$ inch tap	250	160.00
21488	21 1/2 inch splicing ear, for No. 000 wire, $\frac{3}{8}$ inch tap	250	160.00
19438	23 1/2 inch splicing ear, for No. 0000 wire, $\frac{3}{8}$ inch tap	285	170.00
21454	23 1/2 inch splicing ear, for No. 0000 wire, $\frac{3}{8}$ inch tap	285	170.00



15 Inch Splicing Ear, Soldered Clinch

EARS FOR GROOVED WIRE, FORM J

15138	Form J, for No. 0 wire, $\frac{3}{8}$ inch tap	125	\$70.00
12900	Form J, for No. 00 wire, $\frac{3}{8}$ inch tap	130	75.00
34119	Form J-2, for No. 000 wire, $\frac{3}{8}$ inch tap	210	110.00
26154	Form J-2, for No. 0000 wire, $\frac{3}{8}$ inch tap	210	110.00
34120	Form J-2, for No. 00000 wire, $\frac{3}{8}$ inch tap	250	120.00
26155	Form J-2, for No. 00000 wire, $\frac{3}{8}$ inch tap	250	120.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

Railway Material

LINE MATERIAL

Trolley Wire Ears



19 Inch Splicing Ear Cap
Equipped with Large Clamping Nuts for Holding Trolley Wire. No Solder Needed.

MECHANICAL EARS FOR ROUND WIRE

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
41189	For Nos. 0 and 00 wire, $\frac{5}{8}$ in. tap.....	400	\$275.00
41190	For Nos. 0 and 00 wire, $\frac{3}{4}$ in. tap.....	400	275.00
30458	For Nos. 000 and 0000 wire, $\frac{5}{8}$ in. tap.....	585	290.00
41186	For Nos. 000 and 0000 wire, $\frac{3}{4}$ in. tap.....	585	290.00



10 Inch Curve Ear

SCREW CLAMP EARS—FORM A

The curve ears may also be advantageously employed in straight line construction, especially with Nos. 000 and 0000 wires.

34125	For Nos. 00, 000 and 0000 wire, $\frac{5}{8}$ in. tap, mal. iron, japanned	For grooved wire	125	\$33.00
37808	For Nos. 00, 000 and 0000 wire, $\frac{5}{8}$ in. tap, mal. iron, sherardized		125	35.00
37685	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, mal. iron, sherardized		125	35.00
115717	For Nos. 00, 000 and 0000 wire, $\frac{5}{8}$ in. tap, mal. iron, japanned	For Fig. 8 wire	130	33.00
114882	For Nos. 00, 000 and 0000 wire, $\frac{5}{8}$ in. tap, mal. iron, sherardized		130	35.00
114883	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, mal. iron, sherardized		130	35.00



14 Inch Curve Ear

SCREW CLAMP EARS—FORM A

59568	For Nos. 00, 000 and 0000 wire, $\frac{5}{8}$ in. tap, mal. iron, sherardized.....	185	\$45.00
43716	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, mal. iron, sherardized.....	185	45.00



7 Inch Feeder Ear

SCREW CLAMP—FORM A

Feeder ears are made of composition with the lips tinned. The boss will accommodate feeder wire up to and including 0000 cables.

59565	For Nos. 00, 000 and 0000 wire, $\frac{5}{8}$ in. tap, comp. }	For grooved wire	115	\$75.60
59566	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, comp. }		115	75.60
114884	For Nos. 00, 000 and 0000 wire, $\frac{5}{8}$ in. tap, comp. }	For Fig. 8 wire	120	75.60
114885	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, comp. }		120	75.60



7 Inch Feeder Ear

FEEDER EAR WITHOUT SUSPENSION BOSS

48455	For Nos. 00, 000 and 0000 wire, comp.....	100	\$64.80
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This ear will accommodate feeder wire up to and including 4/0.
Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

LINE MATERIAL

Ears for Grooved Wire



12 Inch Strain
SCREW CLAMP EARS—FORM A

List No.	Description	Approx. Wt. per 100	List Price per 100
34127	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, comp.	165 lbs.	\$102.40
21485	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, comp.	165 lbs.	102.40



12 Inch Strain Ear
12 INCH STRAIN—EXTRA HEAVY

59567	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, comp.	200 lbs.	\$102.40
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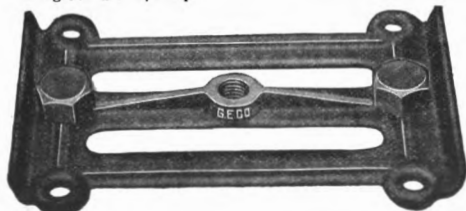
7 Inch Half Strain
7 INCH HALF STRAIN

61232	For Nos. 00, 000 and 0000 grooved wire comp.	90 lbs.	\$59.40
114907	For Nos. 00, 000 and 0000 Fig. 8 wire, comp.	90 lbs.	59.40



7 Inch Feeder
7 INCH FEEDER

140155	For use in attaching directly to feed span wire. For Nos. 00, 000 and 0000 grooved wire, comp.	110 lbs.	\$64.80
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Strain Plate
Strain Plate

The strain plate consists of a malleable iron casting designed for support at the center by any standard straight line hanger, the center hole being tapped for either $\frac{3}{4}$ inch or $\frac{1}{2}$ inch stud. One-half inch holes are provided at each corner of the plate for attachment of guy wires. The double boss ears listed elsewhere are generally used with the strain plate, though the use of two screw clamp ears, either 5 inches or 7 inches long, is sometimes preferred.

Overall length 10 inches; length between centers of pull off eyes $7\frac{3}{4}$ inches; length between centers of stud bolts $7\frac{3}{4}$ inches; overall width $6\frac{3}{4}$ inches; width between centers of pull off eyes $5\frac{3}{4}$ inches. Standard sherardized finish throughout.

62537	Strain plate only, $\frac{3}{4}$ in. tap, $\frac{3}{4}$ in. studs.	300 lbs.	\$80.00
62536	Strain plate only, $\frac{3}{4}$ in. tap, $\frac{1}{2}$ in. studs.	310 lbs.	80.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

Railway Material

LINE MATERIAL



12 Inch Strain Ear

FORM A SCREW CLAMP EARS FOR FIGURE 8 WIRE

Strain ears for anchorage are made of standard composition, are suitable for heavy construction, and have lips tinned for soldering to the wire.

List No.	Description	Approx. Weight per 100	List Price per 100
114880	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, composition	170	\$102.40
114881	For Nos. 00, 000 and 0000 wire, $\frac{3}{4}$ in. tap, composition	170	102.40

Splicing Sleeve—Standard

SPlicing SLEEVES—SOLDERED.

Brass Sleeves (Standard)

64431	For No. 0 round wire 10 in. by $\frac{1}{4}$ in.	50	\$75.00
64432	For No. 0 round wire, 15 in. by $\frac{1}{4}$ in.	75	85.00
64433	For No. 0 round or groove wire, 10 in. by $\frac{1}{4}$ in.	55	60.00
64434	For No. 00 round or grooved wire, 16 in. by $\frac{1}{4}$ in.	75	85.00
158937	For No. 00 round or grooved wire, 18 in. by $\frac{1}{4}$ in.	105	110.00
64435	For No. 000 round or grooved wire, 11 in. by $\frac{1}{4}$ in.	90	90.00
64436	For No. 000 round or grooved wire, 12 in. by $\frac{1}{4}$ in.	130	135.00
64437	For No. 0000 round or grooved wire, 12 in. by $\frac{1}{4}$ in.	150	125.00
64438	For No. 0000 round or grooved wire, 20 in. by $\frac{1}{4}$ in.	210	190.00

Pure Copper Sleeves

88641	For No. 0 round wire, 15 in. by $\frac{1}{4}$ in.	80	\$135.00
88651	For No. 00 round or grooved wire, 16 in. by $\frac{1}{4}$ in.	80	130.00
88672	For No. 000 round or grooved wire, 18 in. by $\frac{1}{4}$ in.	130	195.00
88785	For No. 0000 round or grooved wire, 20 in. by $\frac{1}{4}$ in.	200	270.00

Bronze Sleeves

88786	For No. 0 round wire, 15 in. by $\frac{1}{4}$ in.	75	\$105.00
88787	For No. 00 round or grooved wire, 16 in. by $\frac{1}{4}$ in.	75	95.00
88842	For No. 000 round and grooved wire, 18 in. by $\frac{1}{4}$ in.	130	160.00
88893	For No. 0000 round and grooved wire, 20 in. by $\frac{1}{4}$ in.	200	240.00

Form E—Mechanical

MECHANICAL SPlicing SLEEVE

For Use Without Solder—Made With Tempered Steel Wedge

64441	For No. 0 round wire, 10 in. long	75	\$50.00
64442	For No. 00 round or grooved wire, 11 in. long	90	55.00
64443	For No. 000 round or grooved wire, 11 in. long	115	65.00
64444	For No. 0000 round or grooved wire, 12 in. long	125	75.00
42448	For No. 00 figure 8 wire, 10 in. long	90	65.00
42449	For No. 000 figure 8 wire, 10 in. long	115	75.00
42450	For No. 0000 figure 8 wire, 12 in. long	130	85.00
140073	Extra wedges for 0 and 00 round or grooved and 000 figure 8 sleeves		7.50
140074	Extra wedges for 000 and 0000 round or grooved and 0000 figure 8 sleeves		7.50



Form Q—Mechanical

FORM Q MECHANICAL SPlicing SLEEVE

133243	For No. 0 round or grooved wire, 9 in. long	125	\$70.00
133344	For No. 00 round or grooved wire, 9 in. long	160	75.00
133345	For No. 000 round or grooved wire, 12 in. long	225	100.00
133346	For No. 0000 round or grooved wire, 12 in. long	275	110.00
151678	For No. 0 figure 8 wire, 9 in. long	130	75.00
151679	For No. 00 figure 8 wire, 9 in. long	170	80.00
151680	For No. 000 figure 8 wire, 12 in. long	240	110.00
151681	For No. 0000 figure 8 wire, 12 in. long	300	125.00

Form Q mechanical splicing sleeves are made of composition metal and provided with cup set screws for clamping the wire. For use without solder.



Form R

FORM R-2 SPlicing SLEEVES

155041	Form R-2 splicing sleeve for 0 and 00 round or grooved wire, 10 in. long, comp.	140	\$120.00
155042	Form R-2 splicing sleeve for 000 and 0000 round or groove 1 wire, 10 in. long, comp.	250	180.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery, F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

Railway Material

LINE MATERIAL

Form R Splicing Sleeve

Splicing Sleeve Form R for Pantagraph Trolley

Form R splicing sleeves have a sheet iron tube formed to hold the ends of the trolley wire by long tapered wedges driven in on top of the wire.

List No.		Approx. Wt. per 100	List Price per 100
†141184	Form R mechanical splicing sleeve for 4/0 round or grooved wire, sherardized	450	\$300.00
†141201	Renewable shoe for List No. 141184	200	55.00



Turnbuckle



Wedge Grips with Clevis

Insulated Turnbuckles

Insulated turnbuckles are provided with drop forged steel eyebolts. In turnbuckles with malleable iron castings, the eyebolts are sherardized to prevent rusting and in the composition turnbuckles the eyebolt is heavily plated with copper. The casting is made in two halves which fit around the head of the insulated portion and are then riveted together, thus affording a resistance to tensile strain limited only by the ultimate breaking point of the solid metal. The swivel bearing is metal to metal and is so designed that there is no relative motion between the insulated portion and the adjoining head. The maximum draw-up for both sizes is 4 inches.

List No.	Description	Test Load in Lbs.	Average Breaking Load in Lbs.	Maximum Length Between Eyes in Ins.	Diameter of Eyes in Ins.	Approx. Net Wt. in Lbs. per 100	List Price per 100
†27382	¾ in. bolt, mal. iron, sherardized	4000	8000	11 ¾	¾	325	\$115.00
†17223	¾ in. bolt, comp.	2500	5000	11 ¾	¾	350	190.00
†40802	¾ in. bolt, mal. iron, sherardized	7000	14000	12	1	350	155.00
†40803	¾ in. bolt, comp.	4500	9000	12	1	375	250.00

Wedge Grip with Clevis

The wedge grip is designed particularly for fastening the ends of span, guy or trolley wires. The clamping action is very powerful as the long tapered steel wedges tighten under strain.

List No.	Description	Approx. Wt. in Lbs. per 100	List Price per 100
†138280	Wedge grip for ⅞ in. and 1½ in. diameter cables or 000 and 0000 trolley wire, mal. iron, sherardized	215	\$75.00
†147243	Wedge grip for ¾ in. and ¾ in. diameter cables or 0 and 00 trolley wire, mal. iron, sherardized	90	62.00

High Tension Insulator

The link strain insulator has exceptionally large creepage surface and in such form as to make it impossible for rain driving in any direction to maintain a continuous surface between terminals. The interlinking of the guy wires brings the material under compression strain only. They have dark chocolate color finish.



Strain Insulator, No. 45207

List No.	Description	Approx. Wt. per 100	List Price per 100
*45207	6½ in. strain insulator, 11000 volt, line voltage; 2500 lb. safe working load	350	\$100.00
*61912	7½ in. strain insulator, 15000 volt, line voltage; 4500 lb. safe working load	150	125.00

*Delivery F. O. B. Factory, Schenectady, N. Y.

†Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

**LINE MATERIAL
Feeder Wire Insulators**



No. 64259



No. 46012



No. 46010

**FEEDER WIRE INSULATORS—600 VOLTS
With Top and Side Bearing**

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
64259	For No. 0000 to 500,000 cm. feeders 1 in. pin hole.	225	\$65.00

**TIE TOP INSULATOR
With Top and Side Bearing**

List No.	Description	Diam. Pin Hole in Ins.	Approx. Weight per 100	List Price per 100
46013	For No. 0000 and smaller conductor.	1	415	\$90.00
46012	For 500,000 cm. and smaller conductor.	1	445	95.00
46007	For No. 0000 and smaller conductor.	1 1/2	410	90.00
46006	For 500,000 cm. and smaller conductor.	1 1/2	440	95.00
46005	For 800,000 cm. and smaller conductor.	1 1/2	520	98.00
46004	For 1,500,000 cm. and smaller conductor.	1 1/2	540	100.00

**FEEDER WIRE INSULATOR, 600 VOLTS, CLIP TOP
With Top Clips and Side Bearing**

48011	For No. 0000 and smaller conductor.	1	390	\$90.00
48010	For 500,000 cm. and smaller conductor.	1	415	95.00
48003	For No. 0000 and smaller conductor.	1 1/2	385	90.00
46002	For 500,000 cm. and smaller conductor.	1 1/2	410	95.00
46000	For 800,000 cm. and smaller conductor.	1 1/2	495	105.00
48001	For 1,500,000 cm. and smaller conductor.	1 1/2	520	110.00



No. 61110



No. 46008



Feeder Tap
Insulator

WEDGE TOP INSULATOR WITH TOP AND SIDE BEARING

List No.	Description	Diam. Pin Hole in Ins.	Approx. Weight per 100	List Price per 100
61110	For 0000 to 500,000 cm. conductor.	1	520	\$100.00
61109	For 0000 to 500,000 cm. conductor.	1 1/2	515	100.00
61108	For 600,000 to 1,500,000 cm. conductor.	1 1/2	625	110.00

CORNER INSULATOR WITH SIDE BEARINGS

46014	For No. 0000 to 500,000 cm. conductor.	1	390	\$90.00
46008	For No. 0000 to 500,000 cm. conductor.	1 1/2	385	90.00
46009	For 600,000 to 1,500,000 cm. conductor.	1 1/2	440	100.00

**FEEDER TOP INSULATORS
For Attaching Feeder to Bracket Arm**

40207	For 1 1/4 in. pipe (1.66 in. outside diam.) malleable iron, galvanized.	180	\$75.00
40208	For 1 1/2 in. pipe (1.9 in. outside diam.) malleable iron, galvanized.	180	75.00
40209	For 2 in. pipe (2.38 in. outside diam.) malleable iron, galvanized.	200	75.00

All metal parts are sherardized.

Delivery F. O. B. Factory, Schenectady, N. Y.

LINE MATERIAL

Giant Strain Insulators



Giant Insulator

Recent radical improvements in design give the giant strain insulator greatly increased mechanical strength and a dielectric strength to care for the potentials encountered in direct suspension work. The insulation under stress is exclusively sheet mica (under compression) and the limit of its mechanical strength is the rupturing limit of the metal parts without regard to temperature or other service conditions. The insulators are made in two sizes, having 2 in. and 2½ in. diameters, and equipped with standard and large eyes and standard and large clevises in any combination. All metal parts are sherardized.



No. 64425

No. 64417

No. 64426

No. 64420

Mechanical Strength in Pounds

	2 Ins.	2½ Ins.
Test load	2500	4000
Average breaking load	5000	8000

Electrical Strength in Volts

	2 Ins.	2½ Ins.
Test voltage	5000	5000
Average breakdown voltage	12000	15000

Dimensions of Eyes in Inches

	Inside Diam.	Outside Diam.
Standard eye for 2 in. insulator	1 1/8	1 1/8
Large eye for 2 in. insulator	1 1/2	1 1/2
Standard eye for 2½ in. insulator	1 3/4	1 3/4
Large eye for 2½ in. insulator	2 1/8	2 1/8

DIMENSIONS

Dimensions of Clevises in Inches

	Spread	Diam. of Through Bolt
Standard clevis for 2 in. insulator	1 1/8	3/4
Standard clevis for 2½ in. insulator	1 3/4	1 1/4
Large clevis for 2½ in. insulator	2 1/8	1 3/4

GIANT STRAIN INSULATOR

List No.	Description	Size	Distance Between Centers of Eyes or Clevis Bolt Holes	Approx. Net Wgt. in Lbs. per 100	List Price per 100
64417	With standard eye and clevis	2 ins.	4 1/8 ins.	105	\$80.50
64418	With 2 standard clevises	2 ins.	4 1/8 ins.	115	66.50
64419	With large eye and standard clevis	2 ins.	4 1/8 ins.	110	62.50
64425	With 2 standard eyes	2 ins.	3 1/8 ins.	87	54.50
64427	With large eye and standard eye	2 ins.	3 1/8 ins.	92	56.50
64428	With 2 large eyes	2 ins.	3 1/8 ins.	95	58.50
64420	With standard eye and clevis	2½ ins.	4 1/8 ins.	165	84.00
64421	With standard eye and large clevis	2½ ins.	4 1/8 ins.	173	89.00
64422	With large eye and large clevis	2½ ins.	4 1/8 ins.	182	91.00
64423	With 2 standard clevises	2½ ins.	4 1/8 ins.	180	91.00
64424	With 2 large clevises	2½ ins.	4 1/8 ins.	200	104.00
64426	With 2 standard eyes	2½ ins.	4 1/8 ins.	155	74.00
64429	With large eye and standard eye	2½ ins.	4 1/8 ins.	165	76.00
64430	With 2 large eyes	2½ ins.	4 1/8 ins.	200	78.00
108054	With large eye and standard clevis	2½ ins.	4 1/8 ins.	200	86.00



No. 27378

No. 27380

No. 27379

No. 27381

SPHERICAL STRAIN INSULATORS

The spherical strain insulators are made in two sizes having diameters 2½ ins. and 2¾ ins. They are designed especially for use in span and guy wires in relatively light construction. The smaller size is suitable for a working load of 1000 lbs.; the average tensile strength is 3000 lbs. The 2¾ ins. size has an average tensile strength of 5000 lbs., and is suitable for a working load up to 2000 lbs. Both sizes are subjected to a potential test of 5000 volts.

Dimensions of Eyes

	Inside Diam. in Ins.	Outside Diam. in Ins.
Eye for 2½ in. insulator	1 1/8	1 1/8
Eye for 2¾ in. insulator	1 1/4	1 1/4

Dimensions of Clevises

	Spread in Ins.	Diam. of Through Bolt in Ins.
Clevis for 2½ in. insulator	1 1/8	3/4
Clevis for 2¾ in. insulator	1 1/4	1 1/4

List No.	Description	Size	Distance Between Centers of Eyes or Clevis Bolt Holes	Approx. Weight lbs. per 100	List Price per 100
27378	2½ in. insulator, with malleable iron eyes, sherardized	2½ ins.	3 1/8 ins.	85	\$54.00
16399	2½ in. insulator, with composition eyes	2½ ins.	3 1/8 ins.	85	68.00
27380	2¾ in. insulator, with malleable iron eyes, sherardized	2¾ ins.	4 ins.	125	74.00
17221	2¾ in. insulator, with composition eyes	2¾ ins.	4 ins.	125	93.00
27379	2½ in. insulator, with malleable iron eye and clevis, sherardized	2½ ins.	4 ins.	130	60.50
16400	2½ in. insulator, with composition eye and clevis	2½ ins.	4 ins.	130	75.00
27381	2¾ in. insulator, with malleable iron eye and clevis, sherardized	2¾ ins.	4 1/8 ins.	155	84.00
17222	2¾ in. insulator, with composition eye and clevis	2¾ ins.	4 1/8 ins.	155	105.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over, to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

Railway Material

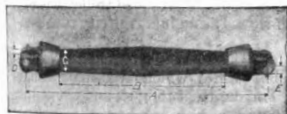
LINE MATERIAL **Wood Strain Insulators**



With Two Eyes



With Eye and Clevis



With Two Clevises



With Eye and Tapped Boss

WOOD STRAIN INSULATOR WITH TWO EYES

With Standard Eyes, 600 Volts

List No.	A	Dimensions in Inches B	C	D	Test Load in Lbs.	Average Breaking Load in Lbs.	Approx. Net Wt. per 100	List Price per 100
16727	9 1/4	5	1	1 1/4	3500	7000	140	\$30.00
37488	9 1/2	5	1 1/4	1 1/4	5000	10000	175	35.00
61563	12	5	1 3/4	1 1/4	7500	15000	440	98.00

1200 Volts

148353	14 1/4	10	1	1 1/4	3500	7000	160	\$35.00
148354	14 1/4	10	1 1/4	1 1/4	5000	10000	205	46.00
148355	16	10	1 3/4	1 1/4	7500	15000	575	118.00

2400 Volts

37489	20	15	1	1 1/4	3500	7000	180	\$47.00
36313	20	15	1 1/4	1 1/4	5000	10000	235	55.00
148356	21	15	1 3/4	1 1/4	7500	15000	700	143.00

Semi-standard Insulators

48432	16 1/4	12	1	1 1/4	3500	7000	160	\$45.00
48431	16 1/4	12	1 1/4	1 1/4	5000	10000	200	50.00
119272	18	12	1 3/4	1 1/4	7500	15000	600	128.00

48433	28 1/4	24	1 1/4	1 1/4	5000	10000	300	73.00
48434	32 1/4	48	1 3/4	1 1/4	5000	10000	450	Price on application

With Long Eyes

124863	10 1/4	5	1	3/4	3500	7000	150	\$32.00
114138	10 1/4	5	1 1/4	3/4	5000	10000	185	40.00

WITH EYE AND CLEVIS

600 Volts

List No.	A	Dimensions in Inches B	C	D	E	Test Load in Lbs.	Average Breaking Load in Lbs.	Approx. Net Wt. per 100	List Price per 100
43229	9 1/4	5	1	1 1/4	1 1/4	3500	7000	160	\$37.00
43230	9 1/4	5	1 1/4	1 1/4	1 1/4	5000	10000	185	42.00
126140	12 1/4	6 1/4	1 3/4	1 1/4	1 1/4	7500	15000	500	108.00
135660	9 1/4	5	1 1/4	1 1/4	1 1/4	5000	10000	240	50.00

1200 Volts

148378	14 1/4	10	1	1 1/4	1 1/4	3500	7000	190	\$42.00
148379	14 1/4	10	1 1/4	1 1/4	1 1/4	5000	10000	250	53.00
148380	16 1/4	10	1 3/4	1 1/4	1 1/4	7500	15000	640	128.00

2400 Volts

43231	20 1/4	15	1	1 1/4	1 1/4	3500	7000	225	\$54.00
43232	20 1/4	15	1 1/4	1 1/4	1 1/4	5000	10000	295	62.00
148383	21 1/4	15	1 3/4	1 1/4	1 1/4	7500	15000	780	153.00

WITH TWO CLEVISES

600 Volts

105349	10 1/4	5 1/4	1	1 1/4	1 1/4	3500	7000	180	\$44.00
105348	10 1/4	5 1/4	1 1/4	1 1/4	1 1/4	5000	10000	210	49.00
105350	13	6 1/4	1 3/4	1 1/4	1 1/4	7500	15000	560	118.00

WITH EYE AND TAPPED BOSS

17080	9 1/4	5	1	1 1/4	1 1/4	3500	7000	110	\$40.00
100128	9 1/4	5	1 1/4	1 1/4	1 1/4	5000	10000	150	50.00
126138	12	6 1/4	1 3/4	1 1/4	1 1/4	7500	15000	375	85.00

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

TROLLEY WIRE FROGS

For different classes of service four sets of frogs, differing in the divergence angle of tongues and length of pan, are furnished.

For ordinary city service, with turnout radii not exceeding about 50 feet, the 20 deg. frogs are suitable, but, with the longer radii introduced by suburban and interurban work, smaller divergence angles are necessary.

A new frog having a divergence angle of 12 deg. and the pan portion arranged for the combination of city and interurban service can now be furnished.

The following table gives the range of distance from track switch point to track frog with which each set of Form G trolley frogs may be most satisfactorily used:

Frog Distance	Divergence Angle of Trolley Frog
Up to 22 feet	20°
From 20 to 30 feet	15°
Above 28 feet	8°

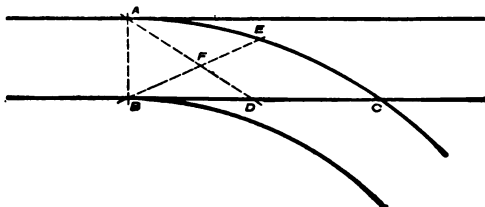
The minimum frog distance given in the table with which the 15 deg. frogs may be used to best advantage corresponds to a turnout radius of 40 feet, but when suburban cars, using high speed trolley wheels, run over city tracks it is advisable to use 15 degree rather than 20 degree frogs throughout the city construction even where the minimum frog distance is less than 20 feet.

In order to insure smooth transition of the wheel between tongue and pan, the pans of all Form G frogs have, at each end, an inclined plane rising at a very acute angle from the horizontal, which receives the flange of the wheel at a point depending upon the depth of the wheel groove. The depth of tongues and rise of the inclined plane admit the use of a groove depth of from $\frac{3}{4}$ inch to $1\frac{1}{4}$ inches.

Form K frogs have exceptionally long approaches with renewable end tongues which protect the trolley wire at the point of greatest wear.

All standard frogs are provided with four pull off rings, but similar frogs with two rings can be furnished if specially ordered.

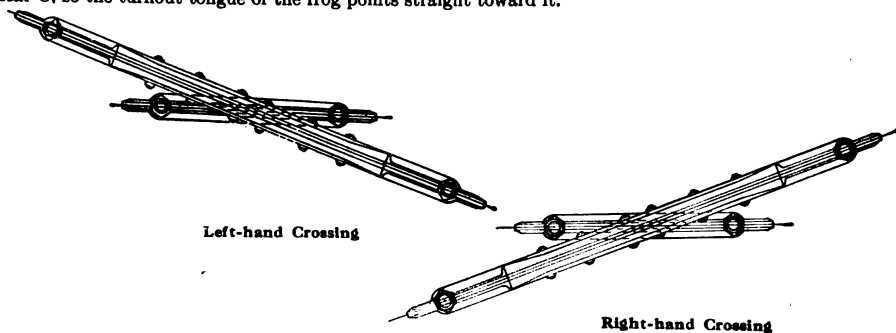
The following diagram shows an excellent method of properly placing the frogs on the line, and while certain variables, such as super-elevation of the outer rail on the curve, length of wheel base, and projection of trolley pole rearward from center of car, will necessitate slight variation of setting, this location will be found so nearly correct that a very small alteration, which must be determined by experiment, will compensate for the variable conditions.



To Locate Trolley Frog

Form G. From switch point, A, draw a line to center point D, of frog distance BC, and from switch point B, draw a line to center point E, of arc AEC. The intersection of these two lines at F will be the proper location of the frog.

Form K. From switch point, A, draw a line to a point, D, one-third of the frog distance BC, from B, and from switch point B draw a line to a point, E, one-third of the arc EAC, from A. The intersection of these two lines at F will be the proper location of the frog. A pull off should be located on the turnout wire near C, so the turnout tongue of the frog points straight toward it.



ACUTE ANGLE

The acute angle crossings can be furnished either right or left hand. The right-hand crossing is considered standard and is generally applicable. However, under certain conditions, such as the crossing of a 250 and 500 volt line, right and left crossings are not interchangeable. The left-hand crossings are, therefore, listed, and will be made up on order at the same prices as the corresponding right-hand crossings.

LINE MATERIAL **Trolley Wire Frogs**

For Round, Grooved or Figure 8 Wire



20 Degree V Frog

20 DEGREE FROGS

List No.	Description	Overall Length Inches	Overall Width Inches	Approx. Net Wt. Lbs. per 100	List Price per 100
29133	Right-hand frog, for Nos. 0 and 00 wire, comp.	17	6 1/4	710	\$370.50
29134	Left-hand frog, for Nos. 0 and 00 wire, comp.	17	6 1/4	710	370.50
29132	V frog, for Nos. 0 and 00 wire, comp.	17	6 3/4	725	370.50
29135	Three-way frog, for Nos. 0 and 00 wire, comp.	17	7 3/4	1000	627.00
46643	Right-hand frog, for Nos. 000 and 0000 wire, comp.	17	6 1/4	710	427.50
46646	Left-hand frog, for Nos. 000 and 0000 wire, comp.	17	6 1/4	710	427.50
46644	V frog, for Nos. 000 and 0000 wire, comp.	17	6 1/4	725	427.50
46647	Three-way frog, for Nos. 000 and 0000 wire, comp.	17	7 3/4	1000	855.00
114166	Left-hand frog, for Nos. 0 and 00 wire, mal. iron, sherardized.	17	6 1/4	710	225.00
114167	Right-hand frog, for Nos. 0 and 00 wire, mal. iron, sherardized.	17	6 1/4	710	225.00
103779	V frog, for Nos. 0 and 00 wire, mal. iron, sherardized.	17	6 3/4	725	225.00
114168	Left-hand frog, for Nos. 000 and 0000 wire, mal. iron, sherardized.	17	6 1/4	710	250.00
114169	Right-hand frog, for Nos. 000 and 0000 wire, mal. iron, sherardized.	17	6 1/4	710	250.00
103780	V frog, for Nos. 000 and 0000 wire, mal. iron, sherardized.	17	6 3/4	725	250.00

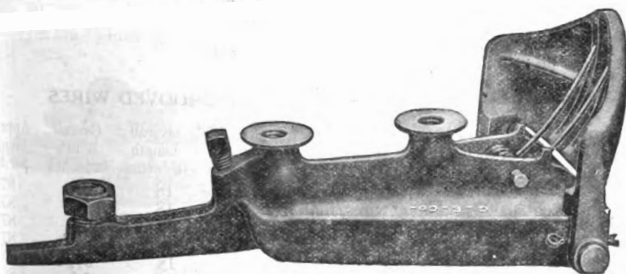
15 DEGREE FROGS

29130	Right-hand frog, for Nos. 00, 000 and 0000 wire, comp.	18	5 1/4	875	\$513.00
29131	Left-hand frog, for Nos. 00, 000 and 0000 wire, comp.	18	5 1/4	875	513.00
29129	V frog, for Nos. 00, 000 and 0000 wire, comp.	18	5 1/4	890	513.00
37487	Three-way frog, for Nos. 00, 000 and 0000 wire, comp.	18	7 3/4	1150	940.50
114154	Left-hand frog, for Nos. 00, 000 and 0000 wire, mal. iron, sherardized.	18	5 1/4	875	275.00
114165	Right-hand frog, for Nos. 00, 000 and 0000 wire, mal. iron, sherardized.	18	5 1/4	875	275.00
103781	V frog, for Nos. 00, 000 and 0000 wire, mal. iron, sherardized.	18	5 1/4	890	275.00

3 DEGREE FROGS

29127	Right-hand frog, for Nos. 00, 000 and 0000 wire, comp.	21 1/4	6	1300	\$627.00
29128	Left-hand frog, for Nos. 00, 000 and 0000 wire, comp.	21 1/4	6	1300	627.00
29126	V frog, for Nos. 00, 000 and 0000 wire, comp.	21 1/4	6	1350	627.00
103782	Right-hand frog, for Nos. 00, 000 and 0000 wire, mal. iron, sherardized.	21 1/4	6	1300	300.00
103783	Left-hand frog, for Nos. 00, 000 and 0000 wire, mal. iron, sherardized.	21 1/4	6	1300	300.00
103784	V frog, for Nos. 00, 000 and 0000 wire, mal. iron, sherardized.	21 1/4	6	1350	300.00

All pull-off eyes are 1/4 inch in diameter. Frogs similar to the above but for 1/0 wire can be furnished.



Drawbridge Frog

DRAWBRIDGE FROG

16395	Complete, 1/2 inch tap, for Nos. 00, 000 and 0000 wire, comp.	15	7 1/4	875	\$855.00
15993	Without spring contact, comp.	15	7 1/4	890	541.50

Frogs similar to the above but for 1/0 wire will be furnished at the same price.
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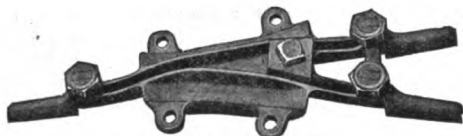
LINE MATERIAL

Form G-2 Trolley Wire Frogs

The Form G-2 frogs are like the Form G, excepting in material and the arrangement of the end tongues. The body of the Form G-2 is sherardized malleable iron and the renewable end tongues are composition. The tongue proper, which is peened over the trolley wire, and the shoe, which clamps the wire under pressure from the large clamping nut, are in one piece and may be removed and replaced without in any way disturbing the frog body.



Frog with One Tongue in Position, Other Two Disconnected



20 Degree Left-hand Frog

20 DEGREE FROGS FOR ROUND OR GROOVED WIRES

List No.	Description	Overall Length in Inches	Overall Width in Inches	Approx. Weight per 100	List Price per 100
110745	Right-hand, for Nos. 0 and 00 wires, mal. iron, sherardized.	17	6½	710	\$325.00
60302	Right-hand, for Nos. 000 and 0000 wires, mal. iron, shrd.	17	6½	710	350.00
110746	Left-hand, for Nos. 0 and 00 wires, mal. iron, sherardized.	17	6½	710	325.00
60301	Left-hand, for Nos. 000 and 0000 wires, mal. iron, shrd.	17	6½	710	350.00
110747	V frog, for Nos. 0 and 00 wires, mal. iron, sherardized.	17	6½	725	325.00
60303	V frog, for Nos. 000 and 0000 wires, mal. iron, sherardized.	17	6½	725	350.00
110748	3 way frog, for Nos. 0 and 00 wires, mal. iron, sherardized.	17	7¾	1000	775.00
60307	3 way frog, for Nos. 000 and 0000 wires, mal. iron, shrd.	17	7¾	1000	800.00
110756	End tongue for all frogs for Nos. 0 and 00 wires, comp.	4⅝	1	75	41.98
65856	End tongue for all frogs Nos. 000 and 0000 wires, comp.	4⅝	1	75	47.88



15 Degree Left-hand Frog

15 DEGREE FROGS FOR ROUND OR GROOVED WIRES

List No.	Description	Overall Length in Inches	Overall Width in Inches	Approx. Weight per 100	List Price per 100
110749	Right-hand, for Nos. 0 and 00 wires, mal. iron, sherardized.	18	5⅞	875	\$350.00
60228	Right-hand, for Nos. 000 and 0000 wires, mal. iron, shrd.	18	5⅞	875	375.00
110750	Left-hand, for Nos. 0 and 00 wires, mal. iron, sherardized.	18	5⅞	875	350.00
60226	Left-hand, for Nos. 000 and 0000 wires, mal. iron, shrd.	18	5⅞	875	375.00
110751	V frog, for Nos. 0 and 00 wires, mal. iron, sherardized.	18	5⅞	890	350.00
60229	V frog, for Nos. 000 and 0000 wires, mal. iron, sherardized.	18	5⅞	890	375.00
110752	3 way frog, for Nos. 0 and 00 wires, mal. iron, sherardized.	18	7¾	1150	750.00
60234	3 way frog, for Nos. 000 and 0000 wires, mal. iron, shrd.	18	7¾	1150	775.00
110756	End tongue for all frogs, for Nos. 0 and 00 wires, comp.	4⅝	1	75	41.98
65856	End tongue for all frogs, for Nos. 000 and 0000 wires, comp.	4⅝	1	75	47.88

All pull-off eyes are ½ inch in diameter.

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LINE MATERIAL
Trolley Wire Frogs
For Round or Grooved Wire



12 Degree Frog Form K

FORM K FROGS

This frog has extra long approaches with renewable end tongues. The body is malleable iron sherardized and the end tongues composition. The bolts for fastening the wire into the frog are $\frac{1}{4}$ inch in diameter and have square heads.

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
140109	Left-hand frog, for Nos. 0 and 00 wire, mal. iron, sherardized	2000	\$575.00
140110	Right-hand frog, for Nos. 0 and 00 wire, mal. iron, sherardized	2000	575.00
140107	Left-hand frog, for Nos. 000 and 0000 wire, mal. iron, sherardized	2000	600.00
140108	Right-hand frog, for Nos. 000 and 0000 wire, mal. iron, sherardized	2000	600.00
129977	V frog, for Nos. 0 and 00 wire, mal. iron, sherardized	2100	575.00
136004	V frog, for Nos. 000 and 0000 wire, mal. iron, sherardized	2100	600.00
150562	Renewable end tongue, for 0 and 00 wire, comp.	80	96.90
150563	Renewable end tongue, for 000 and 0000 wire, comp.	100	108.30



8 Degree Right-hand Frog

8 DEGREE HIGH SPEED FROGS

List No.	Description	Overall Dimensions in Inches Length Width	Approx. Wt. in Lbs. per 100	List Price per 100
58720	Right-hand frog, complete, with guard plate and clamping ears for Nos. 00, 000 and 0000 wire, comp.	23 $\frac{1}{8}$ 6 $\frac{5}{8}$	1900	\$2366.00
58721	Left-hand frog, complete, with guard plate and clamping ears for Nos. 00, 000 and 0000 wire, comp.	23 $\frac{1}{8}$ 6 $\frac{5}{8}$	1900	2366.00
58722	V frog, complete, with guard plate and clamping ears for Nos. 00, 000 and 0000 wire, comp.	23 $\frac{1}{8}$ 6 $\frac{5}{8}$	1900	2366.00

All pull off eyes are $\frac{1}{2}$ inch in diameter.



8 Degree Right-hand Frog

8 DEGREE RIGHT HAND FROGS

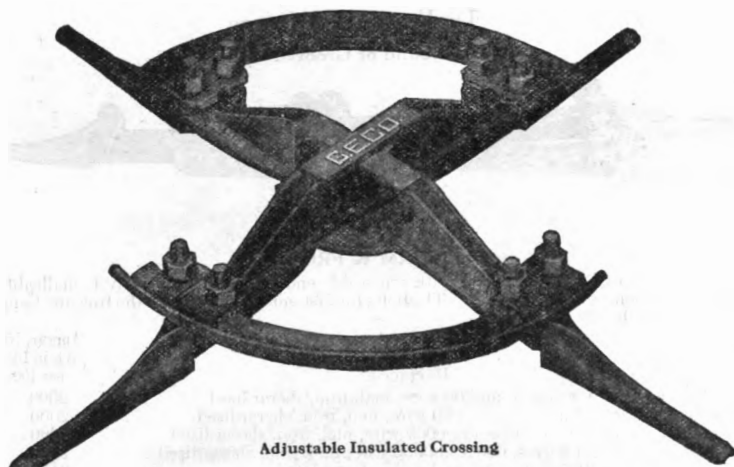
For line work where both wheel and sliding collectors are employed the following are recommended:

49054	Right-hand frog, for Nos. 00, 000 and 0000 wire, comp.	22	6 $\frac{1}{4}$	1375	\$912.00
59825	Left-hand frog, for Nos. 00, 000 and 0000 wire, comp.	22	6 $\frac{1}{4}$	1375	912.00
59826	V frog, for Nos. 00, 000 and 0000 wire, comp.	22	6 $\frac{1}{4}$	1375	912.00

All pull off eyes are $\frac{1}{2}$ inch in diameter.

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TROLLEY WIRE CROSSINGS



Adjustable Insulated Crossing

Crossings, Uninsulated, Form K

This crossing has the improved method of fastening the trolley wires and renewable end tongues to the body. The deflector bar prevents trolley poles from becoming caught in the angle between the runways. It is adjustable for any angle between 30 and 90 degrees.

List No.	Description	Approx. Wt. in Lbs. per 100	List Price per 100
141692	For 0 and 00 wire, mal. iron, sherardized	2100	\$600.00
141691	For 000 and 0000 wire, mal. iron, sherardized	2100	600.00
150562	Renewable end tongue 0 and 00 wire, comp.	80	96.90
150563	Renewable end tongue 000 and 0000 wire, comp.	100	108.30



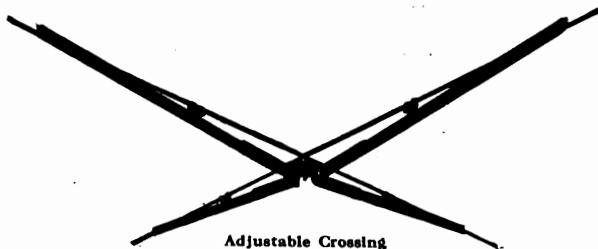
Right Angle

Right Angle Crossing, Form G

This crossing is similar to the right angle crossing for wheel collectors, List No. 11297, excepting that in the pan is provided a double groove runway for wheels, and heavy extension flanges offer a smooth underrun for sliding collectors.

For use where both wheel and sliding collectors are employed, the following is offered:

64170	For Nos. 00, 000 and 0000 wires, comp.	1000	\$684.00
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Adjustable Crossing

Adjustable Crossing, Form G

The adjustable crossing is composed of light structural steel sections with sherardized finish, having a dip at the center point to provide clearance for the passage of the sliding collector.

48835	Adjustable crossing for Nos. 00, 000 and 0000 wires	4000	\$900.00
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LINE MATERIAL



15 Degree Right-hand Frog



35 Degree Crossing—Form G

**Trolley Frogs—Special
15 DEGREE FROGS**

Suitable for yard work where sliding collectors only are used.

List No.	Description	Overall Length in Ins.	Overall Width in Ins.	Approx. Net Wt. in Lbs. per 100	List Price per 100
66673	Right-hand frog, for Nos. 00, 000 and 0000 wires, comp....	17 $\frac{3}{8}$	6 $\frac{1}{8}$	1375	\$484.50
66674	Left-hand frog, for Nos. 00, 000 and 0000 wires, comp....	17 $\frac{3}{8}$	6 $\frac{1}{8}$	1375	484.50
66675	V frog, for Nos. 00, 000 and 0000 wires, comp.....	17 $\frac{3}{8}$	6 $\frac{1}{8}$	1375	481.50

All pull-off eyes are $\frac{1}{2}$ inch in diameter.

Crossings, Form G, Uninsulated

The principle of the inclined plane to insure smooth transition of the trolley wheel between tongue and pan has been embodied in the design of all Form G crossings, and the maximum speed at which the trolley will operate at crossing points has been greatly increased thereby. They will accommodate round or grooved wire of the size indicated in the tables.

The Form G adjustable crossing can be set at any angle between 30 and 90 degrees.

35 DEGREE CROSSINGS

42413	Crossing for Nos. 00, 000 and 0000 wire, comp.....	16	5 $\frac{1}{2}$	865	\$541.40
103974	Crossing for Nos. 00, 000 and 0000 wire, mal. iron, sher....	16	5 $\frac{1}{2}$	865	250.00

15 DEGREE CROSSINGS

19490	Crossing for Nos. 00, 000 and 0000 wire, comp.....	21 $\frac{1}{4}$	5 $\frac{3}{8}$	1025	\$712.50
103975	Crossing for Nos. 00, 000 and 0000 wire, mal. iron, sher....	21 $\frac{1}{4}$	5 $\frac{3}{8}$	1025	375.00

8 DEGREE CROSSING

64445	Crossing for Nos. 00, 000 and 0000 wire, mal. iron, sher....	24 $\frac{1}{4}$	6 $\frac{1}{4}$	1400	\$500.00
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NOTE: The 8 degree crossing has renewable end tongues.



Rigid Crossing



Adjustable Crossing

RIGHT ANGLE CROSSING

List No.	Description	Overall Length in Ins.	Overall Width in Ins.	Approx. Net Wt. in Lbs. per 100	List Price Each
11297	For Nos. 00, 000 and 0000 wire, comp.....	15 $\frac{3}{8}$	15 $\frac{3}{8}$	910	\$513.00
103972	For Nos. 00, 000 and 0000 wire, mal. iron, sherardized....	15 $\frac{3}{8}$	15 $\frac{3}{8}$	910	300.00

ADJUSTABLE CROSSING

16393	For Nos. 0 and 00 wire, comp.....	...	...	1075	\$570.00
11298	For Nos. 00, 000 and 0000 wire, comp.....	...	...	1075	684.00
103973	For Nos. 00, 000 and 0000 wire, mal. iron, sherardized....	...	...	1075	450.00
101588	Cross tongue for List No. 11298, comp.....	...	...	365	342.00
115814	Cross tongue for List No. 103973, mal. iron, sherardized..	...	...	365	175.00

Crossings similar to the above, but for 1/0 wire, will be furnished at the same price.

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

LINE MATERIAL

Crossings, Form L, Insulated

The Form L insulated crossing consists of a beam of selected second growth hickory thoroughly impregnated with preservative oils to exclude moisture, finished with black japan, and castings of standard composition metal, with a replaceable white fiber runway. Attachment to the trolley wires is effected by mechanical clamps so that the crossing may be installed quickly without soldering and without cutting either wire.

The fiber runways as listed include fiber plates with screws. The crossings will accommodate round or grooved wire of the size indicated in the tables.



Right Angle Crossing

SINGLE TROLLEY CROSSINGS

List No.	Description	Overall Length	Overall Width	Approx. Net Wt. per 100	List Price per 100
46184	Right angle crossing for Nos. 00, 000 and 0000 wire.	35½ ins.	18½ ins.	1750 lbs.	\$1250.00
100935	White fiber runway for List No. 46184.	35½ ins.	18½ ins.	18 lbs.	100.00

Crossings similar to above, but for 1/0 wire will be furnished at the same price.



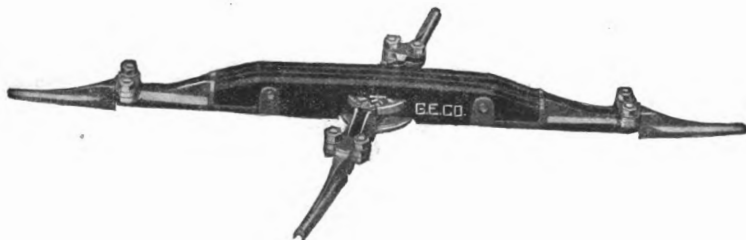
Adjustable Crossing

ADJUSTABLE CROSSINGS

The Form L adjustable crossings can be set at any angle between 45 and 90 degrees.

19406	Adjustable crossing for Nos. 0 and 00 wire, comp.	26 ins.	16¼ ins.	1275 lbs.	\$1140.00
19407	White fiber runway for List Nos. 19406, 26150 and 115815.	36 ins.	16¼ ins.	18 lbs.	110.00
104589	Cross tongue, complete, with nuts and clamping shoes for List No. 19406.	36 ins.	16¼ ins.	310 lbs.	300.00
26150	Adjustable crossing, for Nos. 00, 000 and 0000 wires, composition.	35½ ins.	16½ ins.	1400 lbs.	1197.00
115815	Adjustable crossing, for Nos. 00, 000 and 0000 wires, malleable iron.	35½ ins.	16½ ins.	1400 lbs.	900.00
104590	Cross tongue, complete, with nuts and clamping shoes, for List No. 26150.	35½ ins.	16½ ins.	365 lbs.	300.00
115816	Cross tongue, complete, with nuts and clamping shoes, for List No. 115815.	35½ ins.	16½ ins.	365 lbs.	175.00

Crossings, Form M, Insulated



Single Trolley—Adjustable Crossing

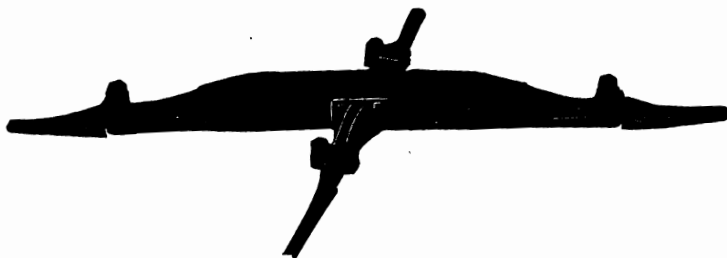
ADJUSTABLE INSULATED CROSSINGS

Form M insulated adjustable crossings have the end tongues fastened by ½ inch bolts. The body castings are malleable iron and the end tongues are composition.

List No.	Description	Approx. Net Wt. per 100	List Price per 100
134743	Adjustable crossing for Nos. 0 and 00 wire, malleable iron, sherardized.	1400 lbs.	\$1200.00
134744	Adjustable crossing for Nos. 000 and 0000 wire, malleable iron, sherardized.	1400 lbs.	1250.00
130562	End tongue for 0 and 00 wire, comp.	80 lbs.	96.90
130563	End tongue for 000 and 0000 wire, comp.	100 lbs.	108.10

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LINE MATERIAL



Right Angle Crossing, Form M

Single Trolley Crossings, Form L

List No.	Description	Approx. Wt. in Lbs., per 100	List Price per 100
155022	Form M crossing for 0-00 round and grooved wire, mal. iron, sherardized...	1500	\$1000.00
155023	Form M crossing for 000-0000 round and grooved wire, mal. iron, sherardized.	1575	1000.00
150562	Renewable end tongue for List No. 155022, composition.....	80	96.90
150563	Renewable end tongue for List No. 155023, composition.....	100	108.10



Acute Angle-Right-hand Crossings

Single Trolley Crossings, Form L, Insulated

List No.	Description	Overall Dimensions in Inches		Approx. Wt. in Lbs., per 100	List Price per 100
		Length	Width		
30615	35 deg. right-hand crossing, for Nos. 00, 000 and 0000 wire	39	9½	1725	\$2100.00
30616	White fiber runway, for List No. 30615.....			25	170.00
30613	27 deg. right-hand crossing, for Nos. 00, 000 and 0000 wire	39	9½	1700	2200.00
30614	White fiber runway, for List No. 30613.....			25	170.00
30611	20 deg. right-hand crossing, for Nos. 00, 000 and 0000 wire	46½	6¾	1685	2400.00
30612	White fiber runway, for List No. 30611.....			25	220.00
30609	15 deg. right-hand crossing, for Nos. 00, 000 and 0000 wire	46½	6¾	1685	2500.00
30610	White fiber runway, for List No. 30609.....			25	220.00
46181	8 deg. right-hand crossing, for Nos. 00, 000 and 0000 wire.	56½	5	1675	2600.00
100919	White fiber runway, for List No. 46181.....			25	220.00

Crossings similar to the above, but for 1/0 wire, will be furnished at the same price.



Left-hand Crossings

Acute Angle, Left-hand Crossing

100181	35 deg. left-hand crossing, for Nos. 00, 000 and 0000 wire.	39	9½	1725	\$2100.00
100924	White fiber runway, for List No. 100181.....			25	170.00
100180	27 deg. left-hand crossing, for Nos. 00, 000 and 0000 wire.	39	9½	1700	2200.00
100923	White fiber runway, for List No. 100180.....			25	170.00
64167	20 deg. left-hand crossing, for Nos. 00, 000 and 0000 wire.	46½	6¾	1685	2400.00
100922	White fiber runway, for List No. 64167.....			25	220.00
64166	15 deg. left-hand crossing, for Nos. 00, 000 and 0000 wire.	46½	6¾	1685	2500.00
100921	White fiber runway, for List No. 64166.....			25	220.00
100179	8 deg. left-hand crossing, for Nos. 00, 000 and 0000 wire..	56½	5	1675	2600.00
100920	White fiber runway, for List No. 100179.....			25	220.00

Crossings similar to the above, but for 1/0 wire, will be furnished at the same price.

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

INSULATED CROSSINGS

For Round, Grooved or Figure 8 Wires



Right Angle Crossing

Form L Insulated Crossings—Double Trolley

The double trolley crossings consist primarily of an insulating beam and two cross-tongues spaced suitably for use where the double trolley wires are $6\frac{1}{2}$ inches between centers. Crossings with tongue spacing either greater or less than standard will be supplied for special conditions at prices corresponding to the standard.

Crossings consisting of two insulating beams and a single cross-tongue or with two beams and two cross-tongues (for the crossing of two double trolley lines) are built to order.

Overall length $43\frac{1}{2}$ inches; overall width $18\frac{1}{2}$ inches.

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
46185	Right-angle crossing, for Nos. 00, 000 and 0000 wires, $6\frac{1}{2}$ ins. between trolley centers.....	1925	\$2700.00
100936	White fiber runway, for List No. 46185.....		265.00



Adjustable Crossing

Adjustable Crossing

The adjustable double crossing may be set at any angle between 45 and 90 degrees; when set at 45 degrees the distance between wires is $4\frac{3}{4}$ inches, and at 90 degrees $6\frac{1}{2}$ inches.

Overall length $43\frac{1}{2}$ inches; maximum overall width $18\frac{1}{2}$ inches.

64634	Adjustable crossing, for Nos. 00, 000 and 0000 wires, $6\frac{1}{2}$ inches between pivot points.....	2100	\$1950.00
100917	White fiber runway, for List No. 64634.....		175.00



Right-hand Crossing

Acute Angle—Right-hand Crossing

List No.	Description	Overall Dimensions in Inches Length Width	Distance Between Trolley Centers	Approx. Net Wt. in Lbs. per 100	List Price per 100
64169	35 degrees right-hand crossing, for Nos. 00, 000 and 0000 wires	$49\frac{1}{2}$ $9\frac{1}{2}$	$6\frac{1}{2}$	2300	\$2850.00
100929	White fiber runway, for List No. 64169.....				275.00
100184	27 degree right-hand crossing, for Nos. 00, 000 and 0000 wires.	$49\frac{1}{2}$ $9\frac{1}{2}$	$6\frac{1}{2}$	2400	3100.00
100928	White fiber runway, for List No. 100184.....				285.00
100183	20 degree right-hand crossing, for Nos. 00, 000 and 0000 wires.	$49\frac{1}{2}$ $9\frac{1}{2}$	$6\frac{1}{2}$	2500	3400.00
100927	White fiber runway, for List No. 100183.....				350.00
62552	15 degree right-hand crossing, for Nos. 00, 000 and 0000 wires.	$71\frac{1}{2}$ $6\frac{3}{4}$	$6\frac{1}{2}$	2600	3700.00
100926	White fiber runway, for List No. 62552.....				425.00



Left-hand Crossing

Acute Angle—Left-hand Crossing

List No.	Description	Overall Dimensions in Inches Length Width	Distance Between Trolley Centers	Approx. Net Wt. in Lbs. per 100	List Price per 100
100268	35 degree left-hand crossing, for Nos. 00, 000 and 0000 wires.	$49\frac{1}{2}$ $9\frac{1}{2}$	$6\frac{1}{2}$	2300	\$2850.00
100934	White fiber runway, for List No. 100268.....				275.00
100187	27 degree left-hand crossing, for Nos. 00, 000 and 0000 wires.	$49\frac{1}{2}$ $9\frac{1}{2}$	$6\frac{1}{2}$	2400	3100.00
100933	White fiber runway, for List No. 100187.....				285.00
100830	20 degree left-hand crossing, for Nos. 00, 000 and 0000 wires.	64 $6\frac{3}{4}$	$6\frac{1}{2}$	2500	3100.00
100932	White fiber runway, for List No. 100830.....				350.00
100186	15 degree left-hand crossing, for Nos. 00, 000 and 0000 wires.	64 $6\frac{3}{4}$	$6\frac{1}{2}$	2600	3700.00
100931	White fiber runway, for List No. 100186.....				425.00

Crossings similar to the above, but for 0 wire, will be furnished at the same price.

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LINE MATERIAL

Form L Section Insulator

The Form L section insulator consists of a beam of selected second-growth hickory well seasoned and treated with preservative oils to exclude moisture, finished with black japan, and castings of the standard composition metal, with a replaceable runway of hickory. Attachment to the trolley wires is made by double mechanical clamps at each end. The wood runway in conjunction with the accurately aligned castings offers a straight under-run, insuring a smooth passage for the trolley wheel. For 600 volt service the wood runway provides a 7 inch break in the trolley circuit; for 1200 volt service the break is 12 inches.

The insulators will accommodate round or grooved wires of the sizes indicated in the tables.



Section Insulator

600-1200 VOLTS

List No.	Description	Overall Length in Inches	Approximate Weight per 100	List Price per 100
19410	Section insulator, for Nos. 0 and 00 wires, 600 volts.....	31½ ins.	975 lbs.	\$769.50
19491	Section insulator, for Nos. 00, 000, and 0000 wires, 600 volts..	31½ ins.	1010 lbs.	826.50
115817	Section insulator, for Nos. 00, 000, and 0000 wires, 600 volts, malleable iron.....	31½ ins.	1010 lbs.	655.50
21456	Wooden runway for List Nos. 19410 and 19491.....	8¾ ins.	15 lbs.	22.80
46190	Section insulator, for Nos. 00, 000, and 0000 wires, 1200 volts.	36½ ins.	1200 lbs.	912.00
100176	Wooden runway, for List No. 46190.....	13¾ ins.	20 lbs.	57.00

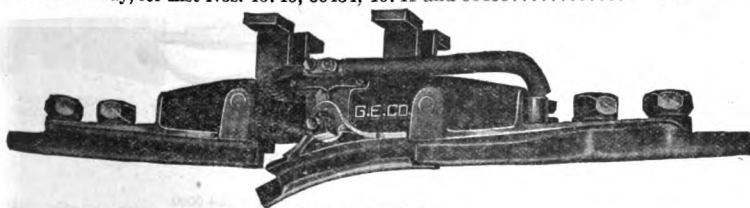


Section Insulator

600 VOLTS

Overall length 31½ inches.

List No.	Description	Approximate Weight per 100	List Price per 100
46740	Section insulator, for Nos. 0 and 00 wires, ¾ in. tap, 7 in. break.....	1025 lbs.	\$855.00
60434	Section insulator, for Nos. 00, 000, and 0000 wires, ¾ in. tap, 7 in. break....	1060 lbs.	912.00
46741	Section insulator, for Nos. 0 and 00 wires, ¾ in. tap, 7 in. break.....	1025 lbs.	855.00
60435	Section insulator, for Nos. 00, 000, and 0000 wires, ¾ in. tap, 7 in. break..	1060 lbs.	912.00
21456	Wooden runway, for List Nos. 46740, 60434, 46741 and 60435.....	15 lbs.	22.80



Section Insulator

Automatic Section Insulator—600 Volts

This device is a combined section insulator and automatic section switch, and, while it is designed especially for use in mine tramway work, may often be used to advantage on spur tracks in surface work, where it is desirable to cut out the spur section after the car has run back on to the main line.

The switch blade is operated by the trolley wheel, and is permanently connected to the feeder or to the main line trolley wire. Over all length 30½ inches; height 5½ inches.

List No.	Description	Approximate Weight per 100	List Price per 100
34870	Automatic section insulator, for Nos. 00, 000 and 0000 wires.....	1650 lbs.	\$1539.00
34871	Switch clips with screws.....	12 lbs.	28.50
34872	Locking spring.....	5 lbs.	5.13

Section insulators similar to the above but for 1/0 wire will be furnished at the same price.

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LINE MATERIAL



Hand-operated Section Switch

Hand-operated Section Switch and Form L-5 Section Insulator—600 Volts

For Round, Grooved and Figure 8 Wires

List No.	Description	Approx. Net Wt. in Lbs. per 100	List Price per 100
133902	Hand operated section insulator for Nos. 00, 000 and 0000 wires, mal. iron, sherardized.....	2200	\$1250.00
141298	Hand operated section insulator for Nos. 00, 000 and 0000 wires, comp.....	2200	1824.00
152493	Runway, complete, for List No. 133902.....	200	200.00
152494	Runway, complete, for List No. 141298.....	200	235.00
133903	Switch contact, complete, for List No. 133902.....	125	40.00
141322	Switch contact, complete, for List No. 141298.....	125	55.00
134626	Switch blade, complete, for List Nos. 133902 and 141298.....	175	15.00



Form L-3

Form L-3 Section Insulator

134613	For Nos. 00, 000 and 0000 wires; 7 in. break; malleable iron, sherardized, 600 volts.....	31½	1100	\$800.00
145583	For Nos. 00, 000 and 0000 wires; 7 in. break; comp., 600 volts.....	31½	1100	1197.00
139267	For Nos. 00, 000 and 0000 wires; 12 in. break; malleable iron, sher., 1200 volts.....	36½	1500	875.00
146238	For Nos. 00, 000 and 0000 wires; 12 in. break; comp., 1200 volts.....	36½	1500	1311.00
137629	For Nos. 00, 000 and 0000 wires; 24 in. break; malleable iron, sher., 2400 volts.....	48½	2500	1050.00
146239	For Nos. 00, 000 and 0000 wires; 24 in. break; comp., 2400 volts.....	48½	2500	1710.00
152493	Runway, complete, for List No. 134613.....	200	200	200.00
152494	Runway, complete, for List No. 145583.....	200	200	235.00



Form L-5 Section Insulator with Overlapping Runway

Form L-5 Section Insulator

With Overlapping Runway

155024	Form L5 hand-operated section switch and insulator for Nos. 00, 000 and 0000 wires, malleable iron, sherardized.....	31½	2500	\$1250.00
155025	Form L5 hand-operated section switch and insulator for Nos. 00, 000 and 0000 wires, composition.....	31½	2500	1700.00



600 Volts Section Insulator

Form L-3 Section Insulator

With Tapped Boss for Round, Grooved and Figure 8 Wires

150498	For Nos. 00, 000 and 0000 wires, ½ in.-11 tap, 7 in. break, malleable iron, sher.....	31½	1075	} On Application
155537	For Nos. 00, 000 and 0000 wires, ¾ in.-11 tap, 7 in. break, composition.....	31½	1075	
150949	For Nos. 00, 000 and 0000 wires, ¾ in.-10 tap, 7 in. break, malleable iron, sher.....	31½	1075	
155538	For Nos. 00, 000 and 0000 wires, ¾ in.-10 tap, 7 in. break, composition.....	31½	1075	

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LINE MATERIAL

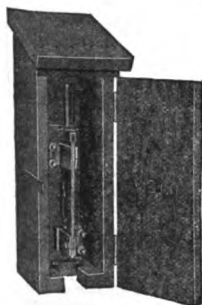


Form L-4

**Section Insulators, Form L
DOUBLE BEAM**

Form L-4 section insulators consist of two side beams of selected oil treated maple which are fastened to malleable iron end castings. The body of the insulator is provided with span holder and pull-off eyes so it can be permanently wired into the overhead construction. The runway is perfectly level and all wearing parts, including end tongues, arcing casting and wooden wheel guide, can be renewed without disturbing any of the wires. The trolley wire is fastened into the end casting by a long tapered steel wedge, driven in on top of the wire. This insulator will break a 4/0 trolley under tension test without injury to the insulator. Suitable clamps are provided for 4/0 feeder tap.

List No.	Description	Approx. Weight, per 100	List Price per 100
134896	Form L-4 section insulator for 000 and 0000 wire, 7 in. break, 600 volt, mal. iron, sher.	1500	\$900.00
140952	Form L-4 section insulator for 0 and 00 wire, 7 in. break, 600 volt, mal. iron, sher.	1425	900.00
139266	Form L-4 section insulator for 000 and 0000 wire, 12 in. break, 1200 volt, mal. iron, sher.	2000	950.00
156995	Renewable runway complete, including end tongues for List Nos. 134896 and 140952	300	175.00
156996	Renewable runway complete, including end tongues for List No. 139266	325	200.00



List No. 40307
Section Switch



List No. 40321
Section Switch and Fuse

Section Switches

POLE TYPE

In these switch boxes, the hinge clip of the switch is connected to the trolley line, and the box is so constructed that the cover can be closed and locked whether the switch is open or closed, thus preventing any interference with the line by unauthorized persons.

List No.		Ampere Capacity	Approx. Wt., Each, in Lbs.		List Price Each	
With Box	Without Box		With Box	Without Box	With Box	Without Box
40305	40313	200	12	5	\$8.00	\$5.00
40307	40315	400	17½	8	11.00	7.50
*40321	.....	400	32	..	20.00	.....
40309	40317	600	23	11	15.00	11.50
40311	40319	1200	46	28	28.00	22.50

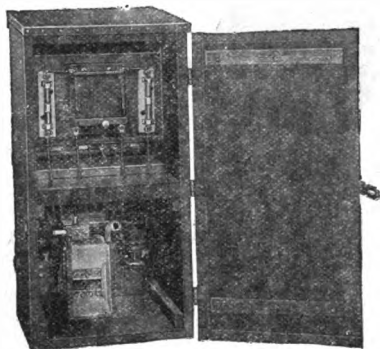
*Has fuse block.

**Delivery F. O. B. Factory, Schenectady, N. Y.

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SECTION SWITCHES

Automatic Sectionalizing Switch



Automatic Sectionalizing Switch

The switch is connected across the section insulator by the taps G and H. Circuit breaker B on being closed energizes section B and current passes through tap G, switch blade Y, contactor operating coil X to contact stud on relay which is open circuited. On closing circuit breaker C, section C is energized, current passes through tap H, switch blade Z, and relay operating coil W to ground, closing the relay disk V. This in turn completes the circuit through the contactor operating coil X, causing the contactor to close and completing the circuit across the insulator, thus placing all feeders in multiple. It will be noted that under these conditions should cars become banked in any one section, current from the other sections will be fed across the section insulators, thus increasing materially the efficiency of the entire copper distribution. The switch will not operate until both breakers, feeding the sections it is connected to, are closed.

In systems where these switches have been installed, exchange current readings taken during rush hours, as high as 600 and 700 amperes have been recorded, with a resultant increase in potential of from 100 to 150 volts.

For Railway Feeder Systems

The automatic sectionalizing switch herein illustrated and described is designed to improve the efficiency of direct current feeder systems by permitting all section feeders to be placed in multiple. This is accomplished by connecting the switch directly across the section insulators which, while giving all the advantages of the non-sectionalizing system, does not, in consequence of the automatic operation of the switch, do away with the beneficial results gained from a sectionalized system.

Suppose the trolley or third rail system to be divided into three sections, A, B and C (see connection diagram Fig. 1) and cars become banked during rush hours, etc., in section B, it will be seen that under the general conditions of section feeding the feeders to sections A and C will be idle while the feeder to section B will be insufficient, with a resultant drop in potential and consequent bad operating conditions.

The system, however, can be made continuous and all feeders placed in multiple by the use of the automatic sectionalizing switch, the operation of which is described as follows:

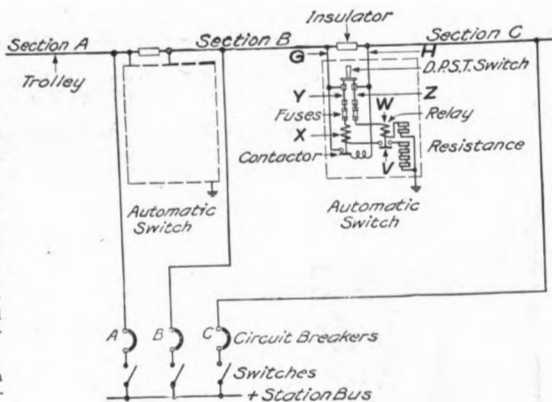
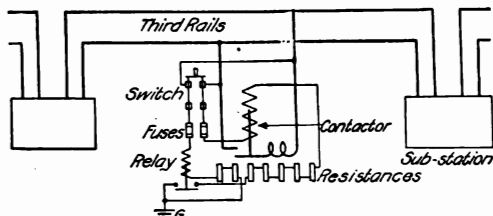


Fig. 1
Connections of Automatic Sectionalizing Switch on Direct Current Trolley System



Connections of Automatic Sectionalizing Switch on Direct Current Third Rail Systems—Rails Continuous between Substations

In cases of short circuits the isolation of the section affected is very simple. A short circuit occurring on section A will, as the system is continuous, cause Breakers A, B and C to drop out and all automatic switches to open circuit. When the station operator closes Breaker A, it will at once open, showing the locality of the trouble. He will next close Breakers B and C, which will energize these sections, causing the automatic switch to close and tying the two sections together.

When the short circuit in section A has been remedied, Breaker A can be closed, automatically tying in section A with the rest of the system.

Attention is especially called to the fact that a section cannot be isolated, i. e., both sectionalizing switches will not drop out, until the circuit breakers feeding the two adjacent sections and the breaker feeding the section to be isolated, have been tripped. After the sectionalizing switches have thus been open circuited, the breakers feeding the two adjacent sections can be closed.

CONSTRUCTION

The sectionalizing switch and box enclosing it are constructed and finished to withstand severest weather conditions. As the location and suspension of the switch depend on local conditions, no brackets are furnished.

This switch is highly recommended to customers wishing to improve their operating conditions without the large outlay for feeder copper generally necessary. Its use is also highly recommended in the original layout of feeder systems since by its adoption a smaller cross section of feeder copper can be utilized.

OVERHEAD LINE TOOLS



Trolley Wire Tightener
Trolley Wire Tightener

List No.	Description	Approximate Net Weight in Lbs. per 100	List Price Each
16914	Trolley Wire Tightener, 12 ins., take up.....	1925	\$7.50
100031	Trolley Wire Tightener, max. length 5 ft. 8½ ins., take up 1 ft. 6 ins. . .	2200	8.50



Trolley Wire Tightener
Trolley Wire Tightener

100029	Trolley Wire Tightener, max. length 7 ft. 2 ins., take up 2 ft. 2 ins.	2400	On Application
100030	Trolley Wire Tightener, max. length 10 ft. 2 ins., take up 3 ft. 2 ins. .	2800	On Application



Soldering Copper
Soldering Copper

16762	Soldering Copper for line work, weight 6 lbs.	600	\$5.50
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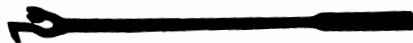
Tongs
Tongs

19457	Tongs for tightening cap and cone suspensions.	315	\$0.95
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Wrench
Wrench

35799	Wrench for Form H mining suspensions.	200	\$0.70
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Wrench
Wrench

46765	Wrench for Forms H, D and G, straight line suspensions.	325	\$1.00
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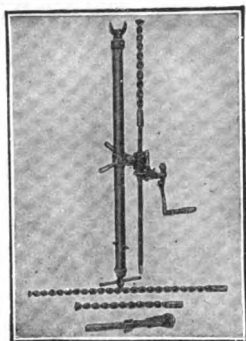


Combination Mine Wrench
Combination Mine Wrench

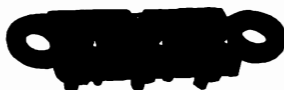
147784	Combination Mine Wrench for Form M clamping ear and Form H mining suspension.	130	\$0.40
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Railway Material

LINE MATERIAL TOOLS



Mine Roof Drill



No. 16915



No. 100077



No. 27437

Mine Roof Drill

This post drill is suitable for drilling holes in the mine roof for installing the trolley wire supports. It can be set up to drill at any angle in coal, slate or medium rock. It is made up very light and simple, weighing, without augers, about 50 lbs. so it can be easily transported and set up by one man.

The post has an extension of two-thirds of its length. For example, a 3 foot post can be extended to 5 feet. Drills having any height post can be furnished with feed bars having 8, 10, 12 or 14 threads to the inch; also augers of any diameter and length. The standard machine has 4 foot post and includes a set of 1 1/4 inch augers, 12, 24 and 36 inches long; also standard crank handle. A simple ratchet handle or a double acting ratchet handle can be furnished if desired.

List No.	Description	Weight in Lbs. Each	List Price Each
167960	4 ft. mine roof drill, complete, with 1 1/4 in. augers and handle	65 lbs.	\$30.00
	Ratchet handle, extra	10 lbs.	4.00
16915	Trolley wire hauling clamp	615 lbs.	2.15

Feeder Strain Clamps

List No.	Description	Approximate Weight per 100	List Price per 100
100077	For No. 0000 cable, mal. iron, sherardized	190 lbs.	\$45.00
100076	For 250000-300000 C.M. cable, mal. iron, sherardized	220 lbs.	50.00
100075	For 400000-650000 C.M. cable, mal. iron, sherardized	275 lbs.	70.00
100074	For 700000-1000000 C.M. cable, mal. iron, sherardized	350 lbs.	89.00

Trolley Terminal Clamp

27437	Terminal clamp for dead ending trolley wire, malleable iron, sherardized.	355 lbs.	\$60.00
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Cable Splicer



Cable Connector

Feeder Cable Splicers

List No.	Size of Cable	List Price	List No.	Size of Cable	List Price
43508	250000 C.M.	} On Application	43511	500000 C.M.	} On Application
43509	300000 C.M.		43512	750000 C.M.	
43510	400000 C.M.		43513	1,000000 C.M.	

Feeder Cable Connector

List No.	Size of Cable	List Price	List No.	Size of Cable	List Price
43538	250000 C.M.	} On Application	43541	500000 C.M.	} On Application
43539	300000 C.M.		43542	750000 C.M.	
43540	400000 C.M.		43543	1,000000 C.M.	

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Railway Material

LINE MATERIAL—CROSSARMS AND CLAMPS



3 Pin Single Arm



4 Pin Double Feeder Arm

Malleable Iron Feeder Arms

These arms as listed are suitable for standard pipe poles of various diameters. It should be noted that the diameters given are "pipe measurements." The diameter of the insulator pin holes is $1\frac{1}{8}$ inches.

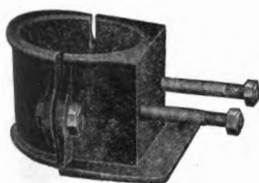
DOUBLE ARMS

List No.	Description	No. Pins	Approximate Wt., Lbs., per 100	List Price per 100
40113	For 4 in. standard pipe pole	2	1300	\$210.00
40114	For 5 in. standard pipe pole	2	1450	235.00
40115	For 6 in. standard pipe pole	2	1600	250.00
40116	For 7 in. standard pipe pole	2	1700	265.00
40117	For 4 in. standard pipe pole	4	1700	265.00
40118	For 5 in. standard pipe pole	4	1900	295.00
40119	For 6 in. standard pipe pole	4	2000	305.00
40120	For 7 in. standard pipe pole	4	2200	325.00
40121	For 4 in. standard pipe pole	6	2200	325.00
40122	For 5 in. standard pipe pole	6	2400	365.00
40123	For 6 in. standard pipe pole	6	2500	380.00
40124	For 7 in. standard pipe pole	6	2700	410.00

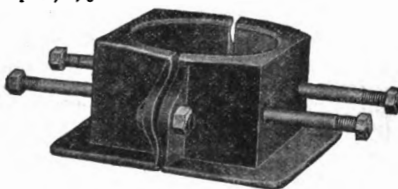
SINGLE ARMS

40137	For 4 in. standard pipe pole	1	950	\$160.00
40138	For 5 in. standard pipe pole	1	1100	180.00
40139	For 6 in. standard pipe pole	1	1200	190.00
40140	For 7 in. standard pipe pole	1	1300	205.00
40141	For 4 in. standard pipe pole	2	1250	205.00
40142	For 5 in. standard pipe pole	2	1400	225.00
40143	For 6 in. standard pipe pole	2	1500	235.00
40144	For 7 in. standard pipe pole	2	1600	250.00
40145	For 4 in. standard pipe pole	3	1475	235.00
40146	For 5 in. standard pipe pole	3	1600	250.00
40147	For 6 in. standard pipe pole	3	1700	265.00
40148	For 7 in. standard pipe pole	3	1800	280.00

Note: Actual outside diameter of 4 inch standard pipe pole, $4\frac{1}{2}$ inches.
 Actual outside diameter of 5 inch standard pipe pole, $5\frac{1}{8}$ inches.
 Actual outside diameter of 6 inch standard pipe pole, $6\frac{1}{8}$ inches.
 Actual outside diameter of 7 inch standard pipe pole, $7\frac{1}{8}$ inches.



No. 40162



No. 40166

Crossarm Clamps

For Fastening Wood Crossarms to Iron Poles
SINGLE CLAMPS

List No.	Description	Approximate Wt., Lbs., per 100	List Price per 100
40161	For 4 in. poles	675	\$123.00
40162	For 5 in. poles	925	160.00
40163	For 6 in. poles	1050	175.00
40164	For 7 in. poles	1150	188.00

DOUBLE CLAMPS

40165	For 4 in. poles	850	\$157.00
40166	For 5 in. poles	1150	212.00
40167	For 6 in. poles	1325	218.00
40168	For 7 in. poles	1150	250.00

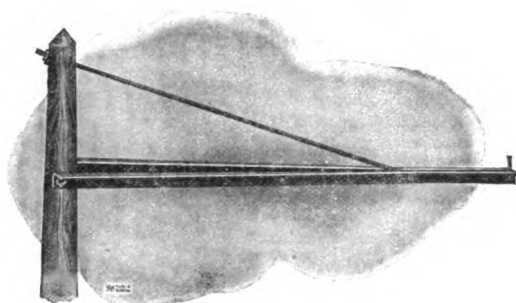
Delivery F. O. B. Factory, Schenectady, N. Y.

LINE MATERIAL FOR CATENARY CONSTRUCTION

Brackets

The angle iron bracket by reason of its horizontal stiffness greatly facilitates initial adjustment of the messenger during installation and insures maintaining uniform sag in messenger span throughout the length of the tangent. Its horizontal stiffness is also of great value in case of line breakage, the line remaining undisturbed except for two or three spans on either side of the break.

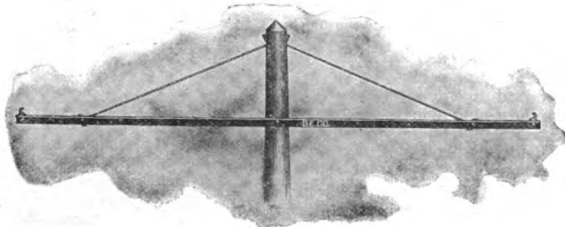
The angle bracket consists of two $2 \times 1\frac{1}{2} \times \frac{1}{4}$ inch angle irons joined at the extreme end by a space block and rivet, and by a second space block approximately 2 feet nearer the pole. The guy rod which supports the bracket from the pole top is attached to this second space block, and the slot formed between the angles by the space blocks through which the insulator pin bolt passes provides means for transverse adjustment of the messenger with respect to the track. The inner ends of the angles are sprung apart to span the pole to which they are lagged or bolted. This bracket is suitable for 7 feet 6 inches distance between track center and pole face.



Angle Iron Bracket Arm, No. 43322

SINGLE BRACKET

List No.	Description	Approximate Weight in Lbs. Each	List Price Each
43322	9 ft. angle iron bracket, japanned	60	\$3.85
For each additional 6 inches in length (weight 2.5 lbs.), add 12 cents to list price.			

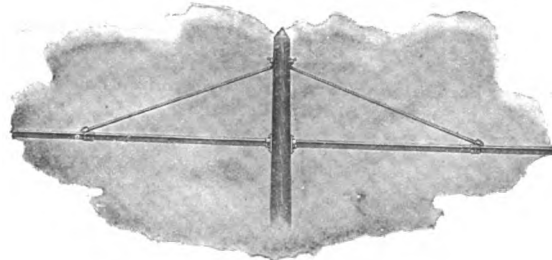


No. 47016

DOUBLE BRACKET

For double track pole construction a bracket arm having two guy rods and two sets of fittings is used. This double bracket is riveted at one end and bolted at the other to allow for spanning the pole in installation. It is 16 feet over all and suitable for 14 foot track center.

List No.	Description	Approximate Weight in Lbs.	List Price Each
47016	16 ft. double angle iron bracket, japanned	110	\$6.65



No. 48415

DOUBLE BRACKET

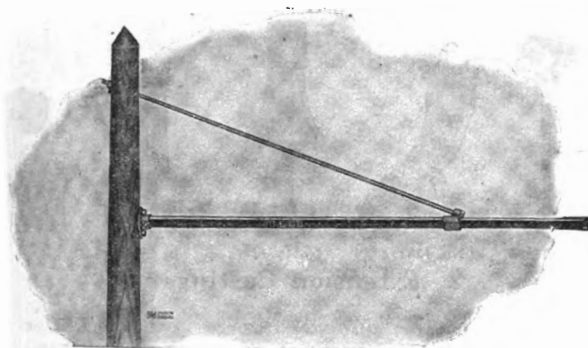
For double track work with 14 foot track centers the "T" iron bracket consists of two arms, two guy rods and two sets of fittings, each arm being 7 feet 6 inches long.

48415	Double "T" iron bracket with arms, 7 ft. 6 ins. long, $2\frac{1}{4} \times 2\frac{1}{4} \times \frac{1}{8}$ in., japanned	100	\$6.70
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Delivery F. O. B. Factory Schenectady, N. Y.

Railway Material

LINE MATERIAL FOR CATENARY CONSTRUCTION

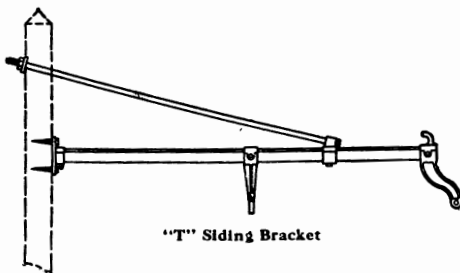


"T" Iron Bracket No. 48414

The "T" iron bracket has all of the advantages of the angle iron bracket, excepting its stiffness in the horizontal plane. The guy rod is attached to the arm approximately 2 feet from the end and the extension beyond the guy rod attachment provides for transverse adjustment of the messenger.

The "T" iron bracket consists of a "T" arm, guy rod, pole fitting and two 5 inch by $\frac{1}{2}$ inch lag screws, but does not include insulator pin. The length of the standard "T" iron bracket is 8 feet 6 inches which is suitable for 7 feet 6 inches distance between track center and pole face.

List No.	Description	Approx. Wt. Each	List Price Each
134746	8 ft. 6 in. "T" bracket, $2\frac{1}{4}$ x $2\frac{1}{4}$ x $\frac{1}{4}$ in., japanned	40 lbs.	\$3.20
48414	8 ft. 6 in. "T" bracket, $2\frac{1}{4}$ x $2\frac{1}{4}$ x $\frac{1}{4}$ in., japanned	55 lbs.	3.75
124591	9 ft. "T" bracket, $2\frac{1}{2}$ x $2\frac{1}{2}$ x $\frac{1}{4}$ in., japanned	75 lbs.	4.30

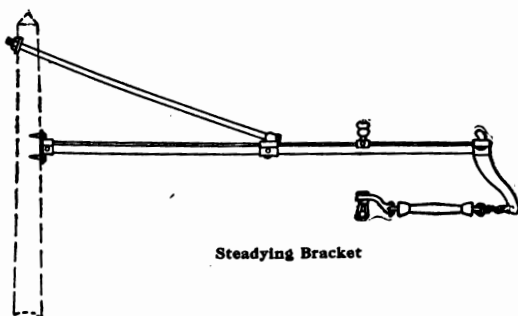


"T" Sliding Bracket

For sidings and spur tracks the "T" iron bracket consists of arm, guy rod and a set of castings. The outer end and center castings support the flexible span wire $9\frac{1}{4}$ inches below the top of arm.

List No.	Description	Approx. Wt.	List Price
147393	9 ft. "T" bracket $2\frac{1}{4}$ x $2\frac{1}{4}$ x $\frac{1}{4}$ in., japanned	100	per 100
147392	9 ft. "T" bracket $2\frac{1}{4}$ x $2\frac{1}{4}$ x $\frac{1}{4}$ in., japanned	56 lbs.	\$435.00
		70 lbs.	492.00

Bracket curve construction for large radius curves of three degrees and under, consists of a bracket of increased length and an outer end or extension casting for attaching the pull off. When necessary the extension casting may be reversed and the trolley pulled off toward the pole.



Steadying Bracket

For steadying the line brackets consisting of a bracket of increased length, outer end or extension casting together with a double curve yoke, eye, insulators, eyebolt and cable are recommended.
Delivery F. O. B. Factory, Schenectady, N. Y.

LINE MATERIAL



No. 125293



No. 145883



No. 125292



No. 46742



No. 48416



No. 145877

Extension Castings

List No.	Description	Approx. Wt. in Lbs. per 100	List Price Each
125292	Extension casting for angle iron brackets, $9\frac{1}{4}$ ins. top of arm to center of eye japanned.	400	\$0.50
125293	Extension casting for "T" iron bracket, List No. 48414, $9\frac{1}{4}$ in. top of arm to center of eye, japanned.	600	.65
135649	Extension casting for "T" iron bracket, List No. 124591, $9\frac{1}{4}$ in. top of arm to center of eye, japanned.	725	.75
145882	Extension casting for "T" iron brackets, List Nos. 134746 and 48414, $13\frac{1}{4}$ inches top of arm to center of eye, japanned.	750	.70
145883	Center casting for "T" iron brackets, List Nos. 134746 and 48414, $9\frac{1}{4}$ ins. top of arm to center of eye, japanned.	175	.40
135648	Center casting for "T" iron bracket, List No. 124591, $9\frac{1}{4}$ in. top of arm to center of eye, japanned.	185	.50

Insulator Pins

		Dia. Pin in Lbs.	List Price Each
46742	Insulator pin for angle iron bracket, diameter pin $1\frac{1}{4}$	200	\$40.00
48416	Insulator pin for "T" iron bracket, diameter pin $1\frac{1}{4}$	250	45.00

Anchor Pins

The pin is suitable for cementing to messenger insulator with $1\frac{1}{4}$ inch pin hole. The "J" bolt fastening is adjustable to standard "T" iron brackets.

List No.	Description	Approx. Wt. in Lbs. per 100	List Price Each
145877	Insulator pin with two clevises, malleable iron, japanned.	450	\$80.00
137704	Insulator pin with eye and clevis, malleable iron, japanned.	425	75.00



No. 137706



Form CG Hanger



Form CF Hanger

Feeder Pin

The feeder insulator pin for "T" iron brackets is suitable for cementing to feeder insulator with $1\frac{1}{4}$ inch pin hole. Ordinarily one of the messenger insulators is used.

137706	Feeder insulator pin for "T" iron brackets, malleable iron, japanned.	350	\$60.00
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Tangent Hangers for Catenary Construction

The Form CF hanger consists of a form of flat steel strip, riveted at one end to a malleable iron screw clamp trolley ear; at the other end the stem is bent to form a loop by which the hanger is suspended.

List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100	List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100
100078	6	73	\$21.00	100084	$14\frac{1}{2}$	94	\$24.50
100079	$6\frac{3}{4}$	75	21.30	100085	16	97	25.00
100080	$8\frac{1}{2}$	80	22.00	100086	$17\frac{1}{2}$	100	25.30
100081	11	86	23.00	100087	$19\frac{1}{4}$	104	26.00
100082	12	88	23.50	100088	$20\frac{1}{2}$	106	26.50
100083	$13\frac{1}{2}$	91	24.00				

These hangers are of lengths suitable for 22 inch deflection.

Tangent Hangers

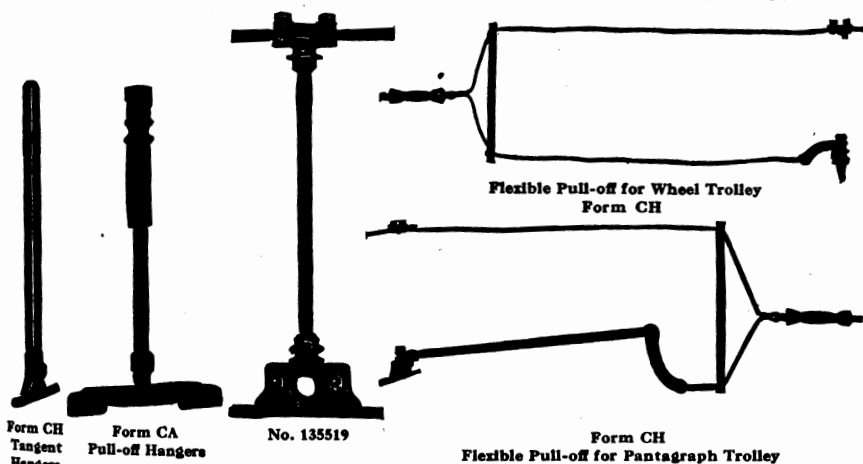
Made of $\frac{3}{4} \times 1$ inch flat steel strip with a loop formed at the top to fit over the messenger cable, allowing a play of 2 inches.

Form CG				Form CF			
List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100	List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100
108131	$6\frac{1}{4}$	110	\$26.50	108137	$14\frac{1}{4}$	129	\$31.00
108132	$6\frac{3}{4}$	113	26.75	108138	16	132	31.65
108133	$8\frac{1}{2}$	117	27.65	108139	$17\frac{1}{2}$	136	32.45
108134	11	121	29.00	108140	$19\frac{1}{4}$	141	33.35
108135	12	123	29.50	108141	$20\frac{1}{2}$	145	34.00
108136	$13\frac{1}{2}$	127	30.30				

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

Railway Material

LINE MATERIAL FOR CATENARY CONSTRUCTION



Tangent Hangers

Form CH

List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100	List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100
136313	6	78	\$20.85	138336	16½	162	\$27.70
158658	6½	82	21.20	158670	17	166	28.00
158657	7	86	21.50	139318	17½	170	28.35
158658	7½	90	21.85	158671	18	174	28.65
134795	8	94	22.15	158672	18½	178	29.00
138315	8½	98	22.50	158673	19	182	29.30
138659	9	102	22.80	138337	19½	186	29.65
158660	9½	106	23.15	158674	20	190	29.95
158661	10	110	23.45	138338	20½	194	30.30
158662	10½	114	23.80	158675	21	198	30.60
134797	11	118	24.10	158676	21½	202	30.95
136663	11½	122	24.45	158677	22	206	31.25
139316	12	126	24.75	158678	22½	210	31.60
158664	12½	130	25.10	158679	23	214	31.90
138335	13	134	25.40	158680	23½	218	32.25
158666	13½	138	25.75	158681	24	222	32.60
158667	14	142	26.05	158682	24½	226	32.90
158668	14½	146	26.40	158683	25	230	33.20
158669	15	150	26.70	138341	25½	234	33.55
139317	15½	154	27.05	158684	26	238	33.85
	16	158	27.35	158685	26½	242	34.20
				138343	27	246	34.55

Pull-off Hangers

In order to insure clearances for the passage of sliding collectors, the pull-off hangers are designed for use with bridles which are attached to the ear and the upper part of the pull-off stem, and which lead to the pull-off insulator or to a steel ring into which the wire is made up.

The Form CA pull-off hanger has the messenger clamp casting threaded to the stem and the distance between messenger and trolley wire is therefore fixed by adjustment when installing. These hangers are adjustable through a length of one and one-half inches greater and less than the nominal length. The stem of the Form CA hanger is ¾ inch in diameter.

List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100
48439	14	480	\$140.00
48440	17	500	140.00
48441	20	520	140.00

The Form CG pull-off hangers are similar to the Form CA hangers except that the clamping ear is provided with carriage bolts instead of flat head screws for tightening the ear on the trolley wire. The messenger clamp is also much simplified. This hanger has 1½ inches adjustment.

List No.	Length in Ins.	Approx. Wt. in Lbs. per 100	List Price per 100
135519	20	490	\$115.00
135520	17	450	115.00
135521	14	410	115.00

Form CH pull-offs consist of a separate messenger pull-off clamp and trolley ear with yoke, together with a steel strut for maintaining the proper dimension between wires. Flexibility is obtained at pull-off points by this construction, as the strut is located to one side of the trolley and messenger wire permitting an upward yield of the trolley wire from the passing collector.

For wheel operation an ordinary single curve yoke with eye is used and for pantagraph operation a single curve yoke having a long extended arm to provide the necessary clearance should be used.

The messenger clamp is arranged so that pull-off wire can be run through the clamps without cutting the wire in extra track construction.

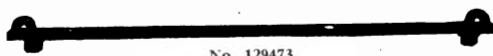
A strut should be installed between each track.

Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

LINE MATERIAL FOR CATENARY CONSTRUCTION

Pull-off Hangers (Continued)

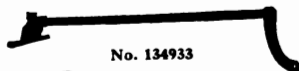
The messenger pull off is suitable for $\frac{1}{4}$ inch and $\frac{1}{2}$ inch diameter messenger wires and $\frac{1}{4}$ inch and $\frac{1}{2}$ inch diameter of pull off wires. It is made of malleable iron and standard "T" bolts sherardized.
The struts are of suitable length for standard 22 inch deflection, but on large propositions it is often necessary to have other lengths for special conditions.
The strut consists of a $1 \times \frac{3}{4} \times \frac{1}{4}$ inch channel iron together with standard "T" bolts sherardized.



No. 129473



No. 129476



No. 134933



No. 114173

Form CH Pull-off Hangers

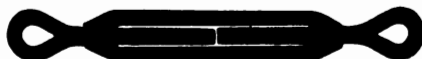
List No.	Description	Approx. Wt. in Lbs. per 100	List Price per 100
129472	14 in. pull off strut.....	75	\$18.00
129473	17 in. pull off strut.....	80	20.00
129474	20 in. pull off strut.....	85	22.00
129476	Messenger pull off.....	45	20.00
114173	Single curve pull off (wheel).....	280	70.00
114171	Single curve yoke only for List No. 114173.....	100	25.00
134033	Single curve pull off (pantograph).....	820	165.00
140141	Single curve yoke only for List No. 134933.....	640	125.00
113253	Curve ear $\frac{1}{4}$ in. stud for List Nos. 114173 and 134933.....	180	45.00



No. 64368



No. 48417



No. 48522



No. 61232



No. 46572



No. 46703



No. 100217

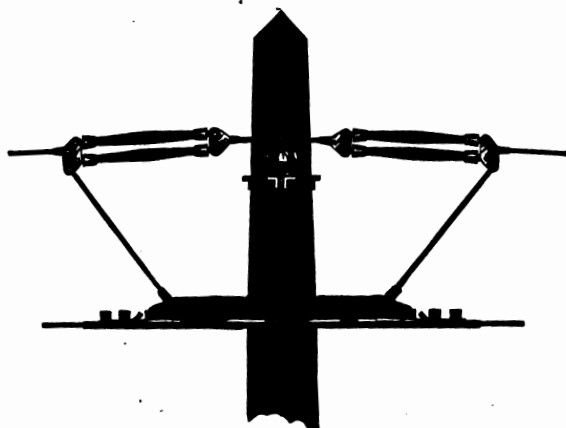
Anchorage Material

To provide vertical flexibility at anchorage points in lines using the Form CP tangent and pull off hangers, the trolley wire and messenger are clamped independently and the clamps guyed to the anchor eye through a strain insulator and a turnbuckle.
The Form CA anchor hanger for use with Form CA tangent and pull off hangers is fitted with a $\frac{5}{8}$ inch steel stem and is arranged for guying to the anchor eye through a bridle with suitable strain insulator and turnbuckle.
Either method of anchoring provides ample clearance for sliding collectors and prevents forming "pockets" or angles between trolley and guy wires in which a collector may catch.
All anchorage devices excepting ears, which are of composition and tinned for soldering, are sherardized throughout.

List No.	Description	Approx. Wt. in Lbs. per 100	List Price per 100	List No.	Description	Approx. Wt. in Lbs. per 100	List Price per 100
100217	Messenger anchor clamp.....	300	\$60.00	46572	Anchor eye for angle iron bracket.....	300	\$32.00
*61232	Trolley wire anchor ear.....	90	55.00	48417	Anchor eye for "T" iron bracket.....	250	40.00
64368	15 $\frac{1}{4}$ in. Form CA anchor hanger.....	360	130.00	46703	Span wire anchor clamp.....	525	48.00
48522	Anchor turnbuckle 6 x $\frac{3}{4}$ ins.....	200	96.00				

*Half strain soldered clinch ears may be used if preferred.

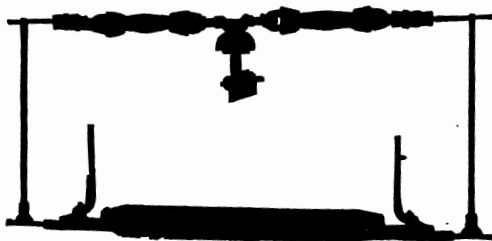
LINE MATERIAL FOR CATENARY CONSTRUCTION



No. 43705

Section Insulators—600 Volts.

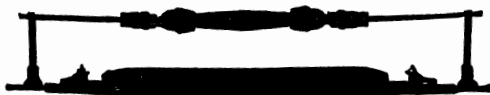
List No.	Description	Approximate Weight, in Lbs. per 100	List Price per 100
89586	Section insulator, complete, for Nos. 00, 000 and 0000 wires, 7 in. break . .	2000	\$2310.00
100247	Trolley insulator only, for List No. 89586	1200	912.00
100176	Wooden runway, for List No. 100247	20	570.00
SECTION INSULATOR—1200-3300 VOLTS			
43705	Complete, for Nos. 00, 000 and 0000 wires, 24 in. break, 1200-2400 volts	3300	\$2508.00
60436	Trolley insulator only, for List No. 43705	1700	1938.00
100177	Wooden runway, for List No. 60436	35	74.10
112151	Complete, for Nos. 00, 000 and 0000 wires, 36 in. break, 3300 volts	5000	2736.00
112152	Trolley insulator only, for List No. 112151	3000	2052.00
112153	Wooden runway, for List No. 112152	75	79.80



No. 139311

Section Insulators, Form L-3, 1200-1500 Volts

List No.	Description	Approx. Net Wt. in Lbs. Each	List Price Each
139312	Section insulator, complete, malleable iron, sherardized	40	\$13.68
Form L-3 section insulator for bracket catenary construction is suitable for wheel or pantagraph trolleys. It consists of section insulator, messenger insulators, wedge grips, insulator clamps and two hangers 20 1/2 inches long for 22 inch deflection construction.			
139311	Section insulator, complete, 12 inch break, malleable iron, sherardized . . .	40	\$13.68



No. 139310

139310	Section insulator, complete, 12 inch break, malleable iron, sherardized . . .	30	\$13.68
Delivery F. O. B. Factory, Schenectady, N. Y. Free delivery F. O. B. destination on orders amounting to \$50 list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.			

RAIL BONDS

Owing to the many types and the variation in dimensions of rails and joint plates in common use a great variety of forms of bonds has been developed to meet the widely varying conditions encountered in actual and prospective installations.

Occasionally exceptional cases arise requiring some modification of one of the standard forms of bonds in order that the best results may be obtained. The manufacturer will gladly submit recommendations with drawings showing how best to meet any bonding conditions, and its engineering department is always at the service of customers to give expert advice on this important subject.

Requests for recommendations should be accompanied by the following data:

General conditions of load.

Size of trolley and feeder wires.

Name of maker and section numbers of rail and joint plate, or a sketch showing section through rail and joint plate.

If patented joint, give its name, distance from end of rail to center of first bolt hole, and distance between center of first and second bolt holes, diameter of joint plate bolts and length of joint plates.

This Company strongly recommends that customers follow its suggestions and thereby avoid difficulties which would be encountered by overlooking certain points in the selection of rail bonds.

Only the best grade of pure copper having the requisite physical properties of conductivity and ductility is permitted to enter into the construction of these rail bonds.

The terminals are first forged into shape and then formed or drilled for the reception of the conductor.

After the parts are assembled, the portion of the bond to be welded is subjected to very heavy pressure while cold, for the purpose of excluding air from between the surfaces. This patented process, employed in the manufacture of all this Company's welded bonds, operates to prevent oxidation of the parts during welding; moreover, because of it the temperature required for welding is considerably below the point at which copper may be "burned" or otherwise injured.

It is well known that copper surfaces, if exposed to the air while hot, will not unite perfectly unless heated practically to the flow point, incurring grave danger of "burning."

A rigid inspection system, devised to carefully check every operation in the manufacturing process, is constantly enforced and assures the best of material and workmanship.

Mine Bonding. The bonds now used in many mines, consisting of channel pins and short lengths of copper wire, upon inspection and testing are frequently found to be in such poor condition and of such high resistance that the return current leaves the rails and follows adjacent pipe lines and streams of water on its way back to the power house.

The channel pin bonding when first installed offers little resistance and test readings equivalent to 6 to 8 feet of solid rail can be obtained, but the contact between the pin and rail being open to moisture, corrosion soon starts and the resistance steadily increases until it reaches a point where the value of the bond is entirely lost. The solid wire ordinarily used with channel pins has no flexibility and the vibration caused by trips passing over the joints has a constant tendency to loosen it in the pins.

Numerous tests made by the manufacturer, of channel pin bonds under the varying conditions encountered in mine work, have proven conclusively that this type of bond does not fulfill the requirements efficiently and that it is responsible for a large percentage of the troubles incident to electric haulage; e.g., low voltage, and armature and field burnouts. It also places an unnecessary load on the generating plant. The results of a large number of tests show clearly that over fifty per cent. of the channel pin bonds, six months or more after installation, have a resistance greater than that of an entire length of rail, and the balance of the joints have an average resistance equaling that of two-thirds of a rail length. It is impossible to obtain anything like efficient operation of electric locomotives over tracks bonded in this way.

To take the place of the inefficient channel pins the compressed terminal bonds are recommended. By their use the joint resistance may be reduced to the equivalent of from one-tenth to one-sixth of a rail length. This immediately improves voltage conditions, and the number of motor burnouts will be reduced to a minimum. More cars per trip can be handled, and the increased efficiency of the generating plant will easily offset the higher first cost of the bonds. Compressed terminal bonds properly installed show no material increase in joint resistance after four or five years' service under ordinary mine conditions, thus the saving in maintenance alone justifies the higher first cost of installation.

In installing compressed terminal bonds a hand compressor should be used.

This compressor will exert a pressure of 15 to 20 tons on the terminal, compressing the copper into the hole in the rail and forming an intimate contact. A button head is formed during compression which effectually seals the contact surface against the entrance of moisture.

For small rails when the full current capacity is to be utilized, Form D bonds, installed around the plates, are recommended, and, if given proper care in installation, give excellent results.

A specially wound cable composed of many fine wires gives great flexibility, relieving the terminals from vibration strains. The bonds should be installed on the inside of the rail as close under the heads of the track bolts as possible. This reduces to a minimum the possibility of damage to the bonding when cars are derailed. Actual observations show that bonds installed in this manner have been run over by the wheels of derailed cars without material injury to the bonds.

It is recommended that all permanent haulage tracks be bonded to their full capacity with compressed terminal bonds and the use of channel pins be limited to temporary tracks to rooms and chambers.

RAIL BONDS

Rail Bond Application

Rails. The resistance of steel rails is found to vary considerably, due to differences in chemical composition. Thus, steel suitable for third rail where large currents are carried generally has a special low carbon composition with a resistance approximately eight times that of copper, that is, a 100 lb. third rail having 10 square inches sectional area has a resistance equivalent to that of 1,591,546 circular mils of copper. Ordinary running rails are of high carbon steel and their resistance averages closely 12 times that of copper. That is, an 80 lb. running rail having a sectional area of 8 square inches has a resistance equivalent to that of 848,825 circular mils of copper.

COPPER EQUIVALENT OF STEEL RAILS

The following table gives in circular mils the sectional area of copper equivalent to steel rails of various weights and having various resistance coefficients.

Weight of Rail Lb. per Yard	Ratio of Resistance of Steel to Resistance of Copper					
	8 C.M.	10 C.M.	12 C.M.	13 C.M.	14 C.M.	15 C.M.
12	190,988	152,850	127,323	117,529	109,134	101,858
16	254,646	209,925	169,764	156,706	145,512	135,811
20	318,308	254,805	212,206	195,882	181,890	169,764
25	398,886	318,595	265,257	244,853	227,363	212,206
30	477,463	382,515	318,309	293,823	272,836	254,647
35	557,040	445,735	371,360	342,784	318,308	297,068
40	636,618	509,910	424,412	391,784	363,780	339,528
45	716,196	572,930	477,463	440,735	409,253	381,968
50	795,773	636,618	530,515	489,705	454,725	424,410
60	954,928	763,942	636,618	587,646	545,670	509,292
70	1,114,083	891,266	742,721	685,587	636,615	594,174
75	1,193,660	954,927	795,773	734,558	682,087	636,615
80	1,273,238	1,018,589	848,825	783,528	727,560	679,056
90	1,432,393	1,145,913	954,928	881,469	818,505	763,938
100	1,591,546	1,273,236	1,061,030	979,410	909,450	848,820

The area of the cross section of a rail is approximately one-tenth of its weight in lbs. per yard and its copper equivalent in circular mils is approximately 10,000 times its weight in lbs. per yard at the 12 to 1 ratio.

In selecting rail bonds for a particular installation the following data will be found useful in determining the size of bond required to prevent an unreasonable drop in voltage in the return circuit.

RESISTANCE OF STEEL RAILS IN OHMS AT 75 DEGREES F., NO JOINTS

Weight of Rail Lb. per Yd.	Actual Area Sq. Ins.	Actual Area Circular Mils	Resistance per Mile	
			8 to 1 Ratio	12 to 1 Ratio
16	1.57	1,986,200	0.22230	0.33450
20	1.96	2,494,700	0.17990	0.26825
25	2.45	3,119,300	0.14465	0.21500
30	2.94	3,743,300	0.12075	0.17885
35	3.43	4,367,200	0.10180	0.15125
40	3.92	4,978,300	0.09118	0.13395
45	4.42	5,627,700	0.07915	0.11905
50	4.90	6,238,800	0.07135	0.10710
60	5.88	7,486,600	0.05955	0.08920
70	6.86	8,734,400	0.05105	0.07660
75	7.35	9,230,900	0.04780	0.07185
80	7.84	9,982,100	0.04465	0.06695
90	8.82	11,229,900	0.03975	0.05955
100	9.80	12,477,700	0.03750	0.05365

The resistance of bonded rail will vary depending on the amount of contact made by the splice bars and rail ends, but in selecting bonds it is advisable to disregard this element of the return circuit as it is unreliable and frequently quite negligible.

Terminals

In determining the length and diameter of standard bond terminals, careful investigation and tests were made by compressing samples in blocks of steel having a thickness equal to that found in the standard rail webs. The terminal lengths here given as standard allow sufficient stock to completely fill the hole in the rail and form a button head outside to seal over the contact surfaces, so as to prevent the entrance of moisture between terminal and rail.

DIMENSIONS OF STANDARD SOLID TERMINALS

Size of Conductor	Diam. of Stud	Dimensions in Inches Length of Stud	Contact Area on Rail	Contact Resistance Ohms
1/0	1/4	1 1/2	0.88	0.0000080
2/0	5/16	1 3/4	1.10	0.0000064
3/0	3/8	1 7/8	1.33	0.0000053
4/0	7/16	2	1.55	0.0000045
50000 C.M.	1	2 1/2	1.77	0.0000040

The contact areas given in the table are correct for rails having the web $\frac{1}{8}$ inch thick. For rails having other thicknesses of web, add or deduct 3 per cent. for each $\frac{1}{16}$ inch in thickness.

The terminals of all tubular terminal bonds are $\frac{5}{8}$ inch long.

RAIL BONDS

Rail Bond Application—Concluded

RESISTANCE OF BONDS IN OHMS AND CARRYING CAPACITY IN AMPERES

Size of Conductor	Diam. of Terminal	Resistance per Inch of Conductor at 75 Deg. F.	Ampere Capacity
1/0	1 1/2 in.	0.00000829	210
2/0	1 3/4 in.	0.00000657	265
3/0	2 in.	0.00000521	335
4/0	2 1/4 in.	0.00000414	425
250,000 C.M.	2 1/2 in.	0.00000350	500
300,000 C.M.	1 in.	0.00000275	600
350,000 C.M.	1 in.	0.00000250	700
400,000 C.M.	1 in.	0.00000219	800
450,000 C.M.	1 in.	0.00000198	900
500,000 C.M.	1 in.	0.00000175	1000

The ampere capacity given in the table is the maximum current which the bond will carry continuously without showing an appreciable rise in temperature when the bond is installed on the rail where it will be exposed to the air. If concealed by joint plate only a slight increase in temperature will be shown as concealed bonds are usually of short length and the heat will be dissipated rapidly through the terminals into the rail.

Load currents of two or three times the amount given in the table can be carried for short periods without injurious heating.

In general, however, the total cross section of the bonds on a road should equal the total cross section of the copper trolley wire and feeder cable.

In the following table will be found the approximate resistance per joint of the standard size rails bonded at 75 degrees F. with bonds of a length and size most commonly used. The resistance of joints bonded with bonds of other lengths and sizes can be computed by referring to the above tables.

Wt. of Rail per Yard	Size of Conductor	Diam. of Terminal	Length of Bond	Resistance of Joints (Single Bonded)	Resistance per Mile of Rail with 170 Joints (Single Bonded)
16 lbs.	1/0	1 1/2 in.	20 ins.	0.0001818	0.36541
20 lbs.	2/0	1 3/4 in.	22 ins.	0.0001482	0.29344
25 lbs.	2/0	1 3/4 in.	24 ins.	0.0001590	0.24403
30 lbs.	2/0	1 3/4 in.	24 ins.	0.0001590	0.20788
35 lbs.	2/0	1 3/4 in.	26 ins.	0.0001721	0.18051
40 lbs.	2/0	1 3/4 in.	26 ins.	0.0001721	0.16321
40 lbs.	3/0	2 in.	26 ins.	0.0001365	0.15716
45 lbs.	3/0	2 in.	26 ins.	0.0001365	0.14225
50 lbs.	3/0	2 in.	28 ins.	0.0001469	0.13207
60 lbs.	3/0	2 in.	10 ins.	0.0000670	0.10939
60 lbs.	3/0	2 in.	10 ins.	0.0000532	0.09321
60 lbs.	4/0	2 1/4 in.	26 ins.	0.0001082	0.10759
60 lbs.	4/0	2 1/4 in.	26 ins.	0.0001168	0.10903
70 lbs.	4/0	2 1/4 in.	10 ins.	0.0000423	0.09379
70 lbs.	4/0	2 1/4 in.	26 ins.	0.0001168	0.09616
75 lbs.	4/0	2 1/4 in.	10 ins.	0.0000423	0.07901
80 lbs.	4/0	2 1/4 in.	10 ins.	0.0000423	0.07414
80 lbs.	250,000	2 1/2 in.	10 ins.	0.0000559	0.07305
90 lbs.	350,000	1 in.	12 ins.	0.0000303	0.06479
100 lbs.	450,000	1 in.	14 ins.	0.0000282	0.05844
100 lbs.	500,000	1 in.	16 ins.	0.0000288	0.05855

It is generally impossible in actual practice to ascertain the exact amount of current flowing in the rail because the current is constantly changing in value. This renders difficult the securing of accurate reading for computing the ohmic resistance of the joints. For this reason the common practice is to test bonding by means of instruments embodying the Wheatstone bridge principle. Such instruments by direct reading indicate the length of unbroken rail required to give a drop in voltage equal to that across the joint. The resistance, therefore, is expressed in feet of unbroken rail.

The amount of joint resistance permissible in good bonding depends on the size of the rail and the size of the bonds used: In mine and industrial installations the weight of rails used is ordinarily 20 to 40 pounds per yard and they are bonded with 0 and 00 bonds, 20 to 26 inches long. The average resistance of such joints in good condition should be equal to that of 4 1/2 to 6 feet of unbroken rail. On rails of medium sizes (60 to 80 lbs.) bonded with 0000 bonds, 9 or 10 inches long, the average resistance per joint should be that of between 3 and 4 feet of rail.

For the heavy rails (90 to 110 lbs.) bonded with 400,000 C.M. and 500,000 C.M. bonds, 14 or 16 inches long, the average resistance per joint should be equal to that of 2 feet of rail.

Joint resistance of more than twice that indicated as good bonding for small and medium sized rails or more than two and one-half times that indicated for heavy rails shows decidedly inferior bonding which should be replaced at once.

In order to obtain uniformly good results, particular care should be taken while installing bonds to have the walls of the holes in the rails and the surface of the bond terminals bright and clean, and free from moisture. Where these simple precautions are taken, joints of low resistance will be obtained and will show practically no increase in resistance after years of service.

RAIL BONDS

COMPRESSED STUD TERMINAL BONDS

The studs of these bonds are of solid copper slightly tapered and have a depression in the center of the bottom surface for centering the compressor screw when installing.

The accompanying illustration shows in section a $\frac{3}{4}$ inch diameter terminal compressed into a $\frac{3}{4}$ inch diameter hole in a piece of steel $\frac{1}{4}$ inch thick, representing the web of a rail. It was compressed with a double-screw compressor, exerting a pressure of 20 tons, operated by one man with the standard 40 inch wrench. Two annular grooves $\frac{1}{4}$ inch wide and $\frac{1}{4}$ inch deep were cut in the walls of the hole, and it will be observed that the grooves became completely filled with copper. This indicates that the studs are soft and malleable, flowing easily and evenly under the pressure of the screw and that the compressor screw forces the copper back into the hole, entirely filling it before it forms the rivet head over the hole.

Holes should be drilled with well sharpened tools so that the walls and edges of the hole will be smooth and free from burrs and other irregularities. Bond holes should be of the exact diameter of the bond stud to be inserted.

Oil should not be used in the drilling of holes, as all traces of it cannot readily be removed from the hole, and oil will prevent proper contact between the copper and the steel. A solution of soda and water or plain water may be used, but care should be exercised to see that the hole is wiped perfectly dry before the terminal is inserted. Bonds should not be installed in damp weather. If these simple precautions be disregarded the electrical efficiency of the bonding will be greatly affected.

If bond holes have been drilled some time prior to the applying of the bonds, the holes should be reamed, as a clean, bright contact is essential.

Rail bond terminals should be rubbed clean and bright with a piece of fine emery cloth before they are inserted in the rail.

Rail bond studs should never be upset with a hammer. Hammering a terminal merely puts a rivet head over the hole, and does not force the copper back into contact with the steel surrounding the hole.

Form D Solid Terminal Cable Bond

The compression method of installing bonds is admitted generally to be the correct one. After the head of the bond has been drawn up tightly against the web of the rail by the outer screw of our special compressor, the inner screw forces the copper back into the hole. The compressing portion of this inner screw is so designed that a rivet head cannot be formed on the terminal until the hole has been completely filled, even to the point of the steel. The rivet or button head seals the union, and insures practically a moisture-proof joint. A solution of red lead and linseed oil may be applied to the terminal and adjacent steel, after compression. This will effectually seal the joint against the admission of moisture.

To effect radial expansion of the copper in the hole equally in all directions, the inner screw of the bond compressor should be centered in the depression in the end of the terminal.

TUBULAR STUD TERMINAL BONDS

These bonds are like compressed stud terminal bonds except that the studs are drilled for expanding radially in the holes in the rails. The terminals are smooth, milled to exact size and are of one length. The illustration shows a sectional view of a tubular terminal expanded into a steel block representing the web of a rail. The effects of the expansion by the taper punch and drift pin are clearly shown.

The same general precautions in regard to drilling the rail and preparing the terminals should be taken as with compressed terminals. Greater care should be used, however, in having the hole drilled to size to insure the best results. After inserting the terminal in the hole, a long taper punch, well lubricated with oil or grease, is driven entirely through the terminal. The diameter of the punch is $\frac{1}{4}$ inch larger than the hole in the terminal and it therefore forces the copper in the terminal radially against the walls of the hole. A short drift pin $\frac{1}{4}$ inch larger than the maximum diameter of the taper punch is then driven home in the terminal, thus completing the expansion. In driving in the drift pin the copper of the terminal is slightly further expanded and a portion lying close to the pin is forced along by the pin out through the hole in the rail and expanded into a bell mouth. The diameter of the hole through the terminal is increased about $\frac{1}{4}$ inch by the action of the taper punch and drift pin, forcing the copper into intimate contact with the steel rail. Tubular terminal bonds are particularly advantageous in rebonding on paved streets and around special work or where dense traffic forbids the somewhat longer operation of installing compressed terminal bonds.

Form DT Tubular Terminal Cable Bond

**Taper Punch for Installing
Pin Terminal Bonds**

**Drift Pin for Installing
Pin Terminal Bonds**

Dimensions of Taper Punches and Drift Pins

Steel drift pins are included without charge in all shipments of tubular terminal bonds. Taper punches can be supplied when ordered.

Size of Bond Conductor	Dimensions in Inches			Taper Punch	
	Diameter Terminals	Diameter Hole	Diameter of Drift Pin	Max. Diameter in Inches	Length in Inches
Above 4/0	1	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{8}$	5
Above 4/0	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	4
Above 3/0	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	4
Above 2/0	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	3 1/4
Above 1/0	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	3 1/2

Standard drift pins are accurately machined, are free from burrs or sharp corners, and are sherardized to protect them from rusting.

RAIL BONDS

FORM D CABLE BONDS

Exposed Bonding. Bonding around the outside of joint plates with either Form D or Form DT bonds has now become the accepted standard practice and is generally used on mine haulage systems. The comparatively light weight rails used do not provide ample clearance for a concealed bond of the required capacity, and as the track in and about mines generally is not maintained in the condition usually found in railway installations, the short concealed bond is liable to be injured due to excessive movement of the joint.

These cable bonds have conductors of specially wound cable. The many fine strands are counterlaid with a short pitch. A long protecting sleeve encircles the cable where it emerges from the terminal protecting the strands during manufacture and strengthening the cable against the movement of the joint in service. Their length provides ample flexibility. A coat of heavy black paint applied over the bond will reduce theft. Some companies using this style of bond have minimised theft by taking precautions to bring to speedy justice each of the early offenders. A special cable having identification wires can be supplied if desired to enable positive identification in case of theft.

Forms D and DT cable bonds have terminals with offset shanks. The sleeve portion diverges from the web of the rail at



Form D Bond Spanning Joint Plate of T Rail

an angle of 20 degrees, thereby avoiding any sharp bends in the conductor in spanning a joint plate. The shanks of bonds to be used under the plate are at right angles to the terminal studs.

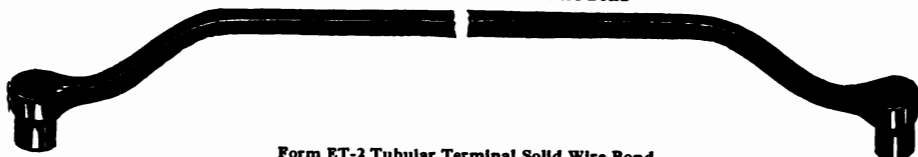
Forms D and DT cable bonds should be at least 6 inches longer than the joint plate which they are to span. The length is measured between centers of terminals when the bond is straight and extended.

FORM E SOLID WIRE BONDS

Solid wire bonds are suitable for bonding rigid structures and heavy rails laid in concrete and supported by the adjacent pavement. There is very little flexibility in this style of bond and its use is limited correspondingly.



Form E-2 Solid Terminal Solid Wire Bond



Form ET-2 Tubular Terminal Solid Wire Bond

The above bonds are for use in spanning joint plates. The bonds are factory formed so as to provide proper clearance around the plates.



Form E Bond Spanning Joint Plate of T Rail

A bond having a formed length at least 6 inches longer than the plate should be used. The formed length is $1\frac{1}{2}$ inches less than the actual developed length when a bond is straight and extended.



Form E-1 Solid Terminal Solid Wire Bond



Form ET-1 Tubular Terminal Solid Wire Bond

Cross bonds should be at least 10 inches longer than the track gauge. This length permits burying the conductor in the ground, thereby reducing the liability of theft.

The length is measured between centers of terminals when the bond is straight and extended.

TWIN STUD TERMINAL BONDS

The twin stud terminal is another form of rail bond terminal which offers an efficient mechanical and electrical contact with the rail. The accompanying illustration shows a section through the terminals and a steel block after installation by the regumering of the terminal into the rail has completely filled these grooves anchoring the copper into the steel mechanically and sealing the contact area from the entrance of moisture. The terminals are accurately milled to size.

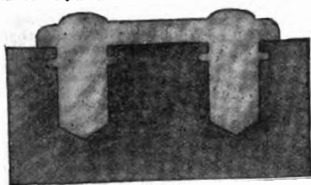
Application. The four holes in the head of the rail are drilled simultaneously by the four-spindle drilling machine and the bonds applied with a riveting hammer. The same general precautions of (See following page.)

Railway Material

RAIL BONDS

TWIN STUD TERMINAL BONDS—Concluded

avoiding the use of oil in drilling the rail, and the necessity of having the surfaces of the terminal bright and clean apply in the case of twin terminal bonds just as with other forms.



Section of Twin Stud Terminal Bond



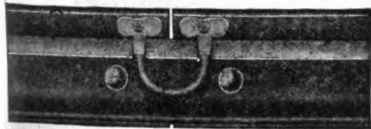
After drilling the rail the sharp edges of the holes should be dulled with a blunt punch to avoid cutting the terminal studs as they enter the holes. An annular groove about $\frac{1}{16}$ inch deep should be cut near the orifice of each hole with the hand milling cutter.

The depth of the hole should be $\frac{1}{4}$ inch less than the length of the terminal exclusive of the conical end. To install the bond the hammer should be applied to the bosses on the outer surface of the terminal at first very lightly and gradually with increased force until the bosses have disappeared. Care should be taken to deliver the blows squarely on the bosses so as to avoid cutting the studs on the edge of the holes.

All twin studs are $\frac{1}{4}$ inch in diameter and are spaced $1\frac{1}{4}$ inches between centers. Bonds up to and including 250,000 C.M. conductor have studs $\frac{1}{4}$ inch long, and larger sizes have studs $\frac{1}{2}$ inch long.

FORM M TWIN TERMINAL BONDS

The Form M bond is for use on the outside of the head of the rail, the conductor extending down outside of the joint plate and between the center track bolts. The conductor consists of specially wound cable providing great flexibility, and as it emerges from the terminal in the direction of the maximum movement of the joint the bond is exceptionally durable.



Form M1 Bond on Rail



Form M3 Bond on Rail

Form M1 bonds may be used on all joints where the distance between the two inner track bolts is such as will not interfere with the U-shaped conductor. The developed length is measured from center to center between studs when the conductor is straight and extended.

The conductor of the Form M3 bonds emerges from one side of the terminal and is used on joints having very short spacing between the inner track bolts as found on some six-bolt rail joints.

FORM M TWIN TERMINAL BONDS

The Form M2 bond has terminals like those of the Form M1 bond and is made in any required length of conductor. It is used for cross bonding and spanning long distances.

CONCEALED BONDING

This method permits the use of bonds having a length which will give the most efficient service for a given cross section of bond conductor. The minimum length of either ribbon or cable bonds to give thoroughly good results is shown in the following:

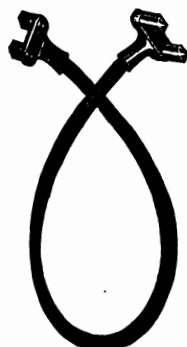
Conductor Section	Length in Inches Between Centers of Terminals	Conductor Section	Length in Inches Between Centers of Terminals
0	8	250,000	10
00	8	350,000	12
000	9	400,000	13
0000	10	500,000	16

Bonds of the foregoing lengths will fit any rails having the standard bolt spacing usually found on A. S. C. E. rail sections, and will give long life under all ordinary conditions. On roads having exceptionally heavy rolling stock or where the character of the roadbed is such as to allow considerable movement of the joints, a bond of slightly greater length should be used.

Tucking. The ribbon and divided cable bonds are provided with tuckings of liberal dimensions so that the bond will readily yield with the movement of the joint either longitudinally from expansion or contraction of the rail or vertically from the weight of passing cars. The tucking is generally located at a point on the bond coming opposite the rail ends. For single bonding the tucks will be exactly halfway between the terminals. When two bonds are generally staggered, making it necessary to offset the tucking from the center of the bond, the tucks one inch from the center of the bond gives proper clearance.

Spread. The divided conductor bonds are made with the two branches spread or separated to a dimension to permit clearance for the track bolts. The standard bonds are spread so as to span bolts $\frac{1}{4}$ inch in diameter, but where larger bolts are used, bonds with a greater spread are supplied as may be required.

Unbalancing. In many sections of rail the bonding space beneath the joint plate is unequally distributed above and below the joint bolt plates and therefore will not accommodate bonds in which the conductor



Form M2 Twin Terminal Cable Bond

bonds per joint are used they are generally staggered, making it necessary to offset the tucking from the center of the bond, the tucks one inch from the center of the bond gives proper clearance.

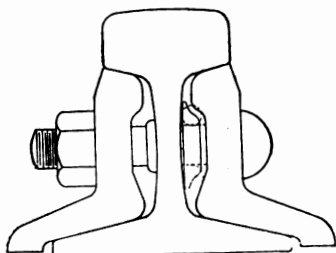
RAIL BONDS

CONCEALED BONDING—Concluded

branches are of equal rectangular or circular sections. This condition is common to all A.S.C.E. T rail sections with standard joint plates of 85 lbs. per yard and smaller. When ribbon bonds are used this condition is met by *unbalancing* the conductor; that is, by having more ribbons in the lower branch than in the upper, and, when cable bonds are used, by pressing the conductor branches approximately to a triangular section, thus providing for the maximum of clearance.

FORM F CABLE BONDS

The conductor of the divided cable bond adopted for use under joint plates is especially designed to give the greatest possible flexibility, and thereby withstand the destructive tendency of joint movements, thus ensuring a long life to the bond. The tuckings are of liberal dimensions and provide ample flexibility for the longitudinal movement of the rails.



Section of 70 lb. A. S. C. E. Rail with Standard Joint Plates, Showing 4/0 Bond with Round Cable Conductors in Dotted Lines and Pressed Cable Conductors in Solid Lines



T Rail Bonded with One Form F9 Bond

Form F bonds can be supplied having either solid or tubular terminals and when specially ordered the terminals are tinned.

In general it is found that only the large girder rails and large T rails have proper clearances for the balanced bond, and that the medium and smaller sizes of T rails have restricted space above the track bolts and require a conductor of another shape. Unbalancing of the conductors, readily accomplished in a ribbon bond, is not practicable with a divided cable bond because the cable is not so compact as the flat wire conductor and when a sufficient number of wires are transferred from the upper to the lower conductor to obtain the requisite clearance for the upper branch, the lower branch is too large to fit into the space below the bolts without being badly pinched between the rail and the plate. This pinching will very materially shorten the life of the bond, as the conductor is not free to move.



Form F9 Solid Terminal Cable Bond

Numerous tests have shown that pressing a conductor does not lessen its life but on the contrary increases it, since stiffening the pressed portions tends to confine all vibrating movement to the center of the bond, where the conductor is so formed as to best withstand vibration, and thereby actually increases its life. It is possible to bond 60 lb. rails with a 4/0 bond in this form and have satisfactory working clearances.



Form FT9 Tubular Terminal Cable Bond

The Forms F9 and FT9 bonds have conductors equally divided in the upper and lower branches pressed into approximately a triangular shape, thereby affording proper clearances on medium sizes of T rails having restricted space above the track bolts. The tucking is located at the center of the bonds.

RAIL BONDS



Form F-10 Solid Terminal Cable Bond



Form FT-10 Tubular Terminal Cable Bond

The conductors of Forms F-10 and FT-10 bonds are equally divided in the upper and lower branches and the tucking is offset from the center of the bond. These bonds are used in double bonding medium size T rails when the bonds are placed one on each side of the rail and the terminals are staggered necessitating the offsetting of the tucks so as to avoid interference with the insertion of the track bolts or the terminal of the second bond.

Unless otherwise specified the tucking is offset one inch from the center of the bond as this is found suitable for most conditions.



Form F-5 Solid Terminal Cable Bond

Forms F-5 and FT-5 bonds have conductors equally divided in upper and lower branches and the tucking is located in the center of the bond. The conductor consists of many fine strands all wound in the same



Form FT-5 Tubular Terminal Cable Bond

direction with a short pitch. This form of bond is adapted to single bonding, large girder and T rails or the medium sizes of T rails with special joint plates.

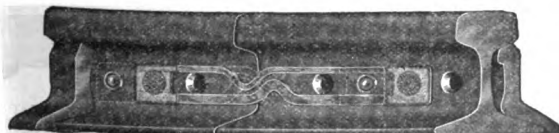
In double bonding large girder rails with two rows of track bolts the balance bond with round conductors will usually be found to give proper clearances.

FORM A RIBBON BONDS

The ribbon bond is particularly adapted to use under joint plates where the restricted space demands extreme compactness of design. The conductor of this bond is composed of thin copper ribbons with the greatest width in the horizontal plane, thus affording maximum flexibility in the vertical plane or in the direction of the greatest movement of the joint. The tucking of the conductor provides flexibility for the longitudinal movement of the rails.

Ribbon bonds can be supplied having either solid or tubular terminals and when specially ordered the terminals are tinned.

The conductor is usually unbalanced with about one-third in the upper branch and two-thirds in the lower. Thus a 4/0 bond for a 80 lb. A.S.C.E. rail with standard joint plates has 10 ribbons in the top branch and 18 in the lower branch. The terminals are usually located halfway between the first and second bolt holes.

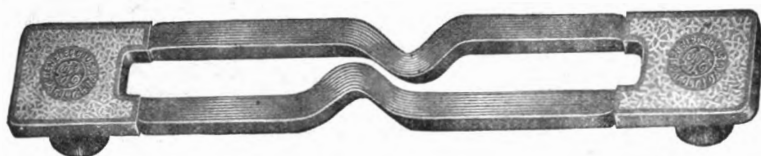


T Rail Double-Bonded with Form AT-8 Ribbon Bonds Spanning Both Inner Bolts

Railway Material

RAIL BONDS

FORM A RIBBON BONDS—Concluded

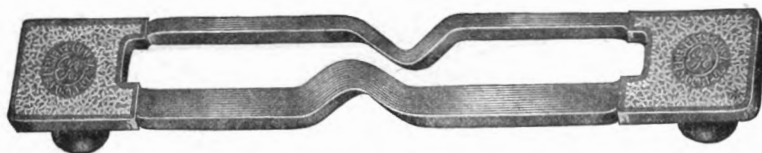


Form A7 Solid Terminal Ribbon Bond



Form AT7 Tubular Terminal Ribbon Bond

Forms A-7 and AT-7 unbalanced, center-tucked bonds having unequally divided conductors and the tucking located in the center of the bond are especially suitable for bonding T rails having greater space below the track bolt than above.



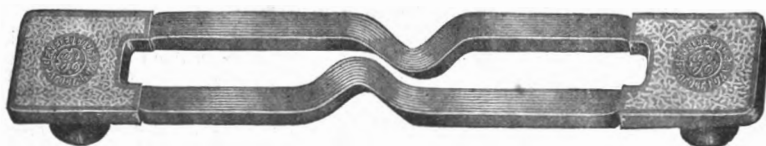
Form A8 Solid Terminal Ribbon Bond



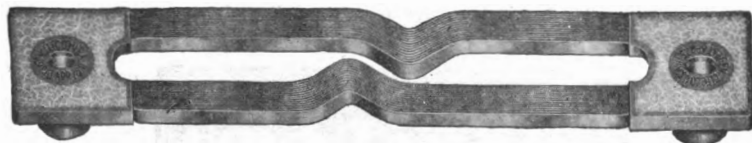
Form AT8 Tubular Terminal Ribbon Bond

Form A-8 bonds are similar to the Form A-7 excepting that the tucking is offset for double bonding. For the standard track bolt drilling, offsetting one inch from the center of the bond will locate the tucking at a point opposite the ends of the rails and avoid interference with the track bolts.

In selecting a ribbon bond it is generally found that only the large girder rails and the larger sizes of T rails provide space for the balanced bond. There are several patented joint plates which provide the necessary clearance for this form of bond on rails of the medium sizes, but ribbon of special width is required.



Form A5 Solid Terminal Ribbon Bond



Form AT5 Tubular Terminal Ribbon Bond

On all sizes of T rails up to 90 lbs. per yard, A. S. C. E. sections with standard joint plates, an unbalanced bond is necessary to obtain proper clearances.

The standard bond ribbon used in all bonds under 250,000 C.M. is 0.19 inch wide by 0.032 inch thick.

RAIL BONDS

FORM A RIBBON BONDS—Concluded

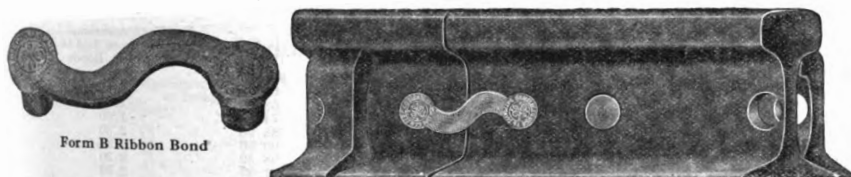


Girder Rail Bonded with Two Form A-5 Ribbon Bonds Spanning Both Inner Bolts

Forms A-5 and AT-5 bonds have conductors equally divided in upper and lower branches and the tucking is located in the center of the bond. They are particularly adapted for single bonding large, girder and T rails. The balanced bond can also be used on ordinary T rails having special joint plates or on many of the patented joints. In double bonding large girder rails with two rows of track bolts, the balanced bond will usually be found to give proper clearances.

FORM B RIBBON BONDS

Form B bonds may be used on rails where the inner track bolts are located so as to permit drilling of the bond holes between the ends of the rails and the first bolt holes.



T Rail Bonded with One Form B Bond

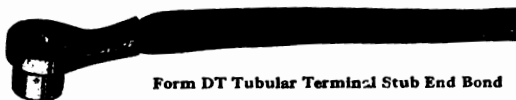
The length of this bond must necessarily be short, but the reverse tuck provides some flexibility. This bond is not recommended for permanent installations, but is useful for temporary work around mines, quarries and similar places, where the rails are frequently shifted and the bond destroyed. It is an efficient bond at low cost for this class of work.

FORMS D AND DT STUB END CABLE BONDS

Stub end cable bonds are useful in bonding the various parts of special track work to the main bond around such special work.



Form D Solid Terminal Stub End Bond

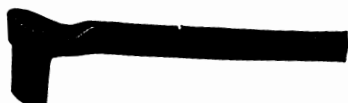


Form DT Tubular Terminal Stub End Bond

A stub end bond has but one terminal and a short length of conductor, usually 12 inches long, but can be supplied in any length.

FORMS E AND ET STUB END SOLID WIRE BONDS

Stub end solid wire bonds also are used for bonding the various parts of special track work to the main bond around such special work.



Form E Solid Terminal Stub End Bond



Form ET Tubular Terminal Stub End Bond

Such a bond has but one terminal and a short length of conductor, usually 12 inches long, but can be supplied in any length.

RAIL BOND PRICES

Stud Terminal Bonds with Solid Copper Terminals and Soldered Bonds with Either Ribbon, Cable or Solid Wire Conductors *—except Bevel Head Foot Bonds and Bonds with Tinned Studs

MFR'S. LIST. SPECIAL DISCOUNTS FOR VARIOUS TYPE BONDS ON APPLICATION

Conductor	Diam. Terminal in Ins.	Schedule Lengths and List Prices per 100 Bonds									
		4 In. Bonds	5 In. Bonds	6 In. Bonds	7 In. Bonds	8 In. Bonds	9 In. Bonds	10 In. Bonds	11 In. Bonds	12 In. Bonds	13 In. Bonds
0	$\frac{1}{4}$	\$40.00	\$41.50	\$43.00	\$44.50	\$46.00	\$47.50	\$49.00	\$50.60	\$52.20	\$53.80
0	$\frac{5}{16}$	42.50	44.00	45.50	47.00	48.50	50.00	51.50	53.10	54.70	56.30
0	$\frac{3}{8}$	45.00	46.50	48.00	49.50	51.00	52.50	54.00	55.60	57.20	58.80
0	$\frac{7}{16}$	50.50	52.10	53.70	55.30	56.90	58.50	60.10	61.70	63.30	65.00
000	$\frac{1}{2}$	54.20	56.00	58.00	61.40	63.80	66.20	68.60	71.10	73.60	76.10
000	$\frac{5}{8}$	56.20	58.60	61.00	63.40	65.80	68.20	70.60	73.10	75.60	78.10
0000	$\frac{3}{4}$	56.50	59.00	61.50	64.00	66.50	69.00	71.50	74.00	76.50	79.00
0000	$\frac{7}{8}$	59.00	61.50	64.00	66.50	69.00	71.50	74.00	76.50	79.00	81.50
250,000	$\frac{1}{4}$	62.00	65.00	68.00	71.00	74.00	77.00	80.00	83.00	86.00	89.00
250,000	$\frac{5}{16}$	67.00	70.00	73.00	76.00	79.00	82.00	85.00	88.00	91.00	94.00
275,000	$\frac{3}{8}$	65.10	68.80	72.50	76.30	80.00	83.80	87.50	91.30	95.00	98.80
275,000	$\frac{7}{16}$	70.10	73.80	77.50	81.30	85.00	88.80	92.50	96.30	100.00	103.80
300,000	$\frac{1}{2}$	68.80	72.80	76.80	80.80	84.80	88.80	92.80	96.80	100.80	104.80
300,000	$\frac{5}{8}$	73.80	77.80	81.80	85.80	89.80	93.80	97.80	101.80	105.80	109.80
325,000	$\frac{3}{4}$		77.00	81.50	86.00	90.50	95.00	100.00	104.50	109.00	113.50
325,000	$\frac{7}{8}$		82.00	86.50	91.00	95.50	100.00	104.50	109.00	113.50	118.00
350,000	$\frac{1}{4}$		80.00	85.00	90.00	95.00	100.00	105.00	110.00	115.00	120.00
350,000	$\frac{5}{16}$		85.00	90.00	95.00	100.00	105.00	110.00	115.00	120.00	125.00
375,000	$\frac{3}{8}$		88.60	93.80	99.00	104.30	109.50	114.80	120.10	125.40	130.70
375,000	$\frac{7}{16}$		93.60	98.80	104.00	109.30	114.50	119.80	125.10	130.40	135.70
400,000	$\frac{1}{2}$			97.00	103.00	109.00	115.00	121.00	127.00	133.00	139.00
400,000	$\frac{5}{8}$			102.00	108.00	114.00	120.00	126.00	132.00	138.00	144.00
425,000	$\frac{3}{4}$			101.00	107.00	113.00	119.00	125.00	131.00	137.00	143.00
425,000	$\frac{7}{8}$			106.00	112.00	118.00	124.00	130.00	136.00	142.00	148.00
450,000	$\frac{1}{4}$			116.50	122.00	128.00	134.00	140.00	146.00	152.00	158.00
450,000	$\frac{5}{16}$			110.00	116.00	122.00	128.00	134.00	140.00	146.00	152.00
500,000	$\frac{3}{8}$			120.00	127.50	135.00	142.50	150.00	157.50	165.00	172.50
500,000	$\frac{7}{16}$			123.00	130.50	138.00	145.50	153.00	160.50	168.00	175.50
1,000,000	$\frac{1}{2}$				200.00	215.00	230.00	245.00	260.00	275.00	290.00

Conductor	Diam. Terminal in Ins.	14 In. Bonds	15 In. Bonds	16 In. Bonds	17 In. Bonds	18 In. Bonds	For Each Additional Inch Over 18 Inches Add to List of 18 In. Bonds
0	$\frac{1}{4}$	\$55.40	\$57.00	\$58.70	\$60.40	\$62.10	\$1.50
0	$\frac{5}{16}$	57.90	59.50	61.20	62.90	64.60	1.50
0	$\frac{3}{8}$	61.40	63.10	64.90	66.70	68.50	1.80
0	$\frac{7}{16}$	66.90	68.60	70.40	72.20	74.00	1.80
000	$\frac{1}{2}$	78.60	81.10	83.70	86.30	88.90	2.30
000	$\frac{5}{8}$	80.60	83.10	85.70	88.30	90.90	2.30
0000	$\frac{3}{4}$	84.90	87.40	90.00	92.60	95.20	2.70
0000	$\frac{7}{8}$	87.40	90.00	92.60	95.20	97.80	2.70
250,000	$\frac{1}{4}$	95.00	99.00	103.00	107.00	111.00	3.20
250,000	$\frac{5}{16}$	100.00	104.00	108.00	112.00	116.00	3.20
275,000	$\frac{3}{8}$	104.00	108.50	113.00	117.50	122.00	3.40
275,000	$\frac{7}{16}$	109.00	113.50	118.00	122.50	127.00	3.40
300,000	$\frac{1}{2}$	111.50	116.50	121.50	126.50	131.50	3.80
300,000	$\frac{5}{8}$	120.00	125.00	130.00	135.00	140.00	3.80
325,000	$\frac{3}{4}$	125.00	130.50	136.00	141.50	147.00	4.40
350,000	$\frac{7}{8}$	127.50	133.50	139.50	145.50	151.50	4.40
350,000	$\frac{1}{4}$	132.50	138.50	144.50	150.50	156.50	4.60
375,000	$\frac{5}{16}$	138.30	144.50	150.80	157.00	163.30	4.90
375,000	$\frac{3}{8}$	143.30	149.50	155.80	162.00	168.30	4.90
400,000	$\frac{7}{16}$	147.00	153.60	160.00	166.50	173.00	5.30
400,000	$\frac{1}{2}$	152.00	158.50	165.00	171.50	178.00	5.30
425,000	$\frac{5}{8}$	151.00	158.00	165.00	172.00	179.00	5.70
425,000	$\frac{3}{4}$	156.00	163.00	170.00	177.00	184.00	5.70
450,000	$\frac{7}{8}$	157.00	164.50	172.00	179.50	187.00	6.00
500,000	$\frac{1}{4}$	162.00	169.50	177.00	184.50	192.00	6.00
500,000	$\frac{5}{16}$	180.00	187.50	195.00	202.50	210.00	7.00
500,000	$\frac{3}{8}$	183.00	190.50	198.00	205.50	213.00	7.00
1,000,000	$\frac{1}{2}$	305.00	320.00	335.00	350.00	365.00	14.00

TWIN STUD TERMINAL BONDS

Twin terminal bonds are measured from a point in the center of a line drawn through the center of the two studs to the same point in the other terminal when bond is straight and extended.

The list price of twin terminal bonds is based on the largest size terminal scheduled for bond of equivalent cross section and length.

Conductor Section	Length in Inches	Net Wt. in Lbs. per 100	List Price per 100
00	7	61	\$55.30
0000	7	85	66.50
0000	$7\frac{1}{2}$	$87\frac{1}{2}$	67.75
0000	8	90	69.00
0000	$9\frac{1}{2}$	$97\frac{1}{2}$	73.50
250,000	8	118	79.00
300,000	8	128	89.80
350,000	$7\frac{1}{2}$	$138\frac{1}{2}$	97.50
350,000	8	143	100.00

Form C Foot Bonds

Add to schedule list price the following:

Up to and including 350,000 cir. mils. \$20 list per 100.

Over 350,000 cir. mils. including 500,000 cir. mils. \$25 list per 100.

Over 500,000 cir. mils. \$30 list per 100.

Bonds with Tinned Studs

For tinning any standard type stud terminal bond, including twin stud, add \$3 list per 100 bonds.

Bonds with Extra Large Terminal Cap

Those having soldering in addition to compression, add \$7 list per 100 bonds for stud of $\frac{3}{8}$ inch diameter and smaller; for those having terminal diameters larger than $\frac{3}{8}$ inch, add \$10 list.

Railway Material

RAIL BONDS

Separate Bond Terminals

Separate bond terminals are furnished drilled and tinned for soldering to the conductor, which may be scrap trolley wire or feeder cable. They are useful in bonding special work where many different distances are to be spanned. Form K-1 terminals have shanks parallel to the web of the rail while the shanks of the Form K-2 terminals are at right angles to the web of the rail.



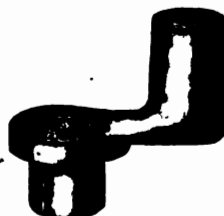
**Form K-2
Solid Separate Terminal**



Form K-1 Solid Separate Terminal



Form KT-1 Tubular Separate Terminal



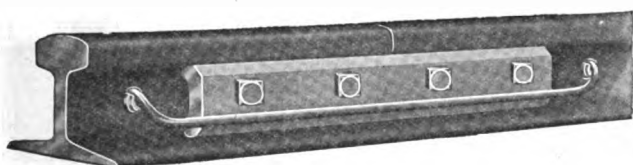
**Form KT-2
Tubular Separate Terminal**

Dimensions of Separate Terminals

Conductor Section	Dimensions of Stud in Inches		Drilling Shank	Conductor Section	Dimensions of Stud in Inches		Drilling Shank
	Diameter	Length			Diameter	Length	
0	1/4	3/4	1/4	400,000 C.M.	1	1 1/2	1/4
00	3/8	3/4	1/4	450,000 C.M.	1	1 1/2	1/4
000	3/8	3/4	1/4	500,000 C.M.	1	1 1/2	1/4
0000	3/8	3/4	1/4				
00000	3/8	3/4	1/4				
250,000 C.M.	3/8	3/4	1/4				
300,000 C.M.	3/8	3/4	1/4				
350,000 C.M.	1	1 1/2	1/4				



No. 17315



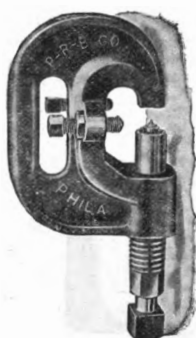
Application of Channel Pins

Channel Pins

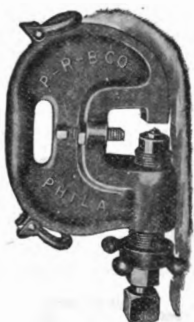
Channel pins are not recommended for permanent bonding, but are occasionally useful for temporary work. They are made with a straight groove deep enough to avoid cutting the wire in driving. The pins are taper pointed and slightly larger than the hole, so that when driven they envelop the wire and make a solid joint. The pins are made of soft steel, copper coated.

List No.	Diameter of Pin in Inches	Diameter of Hole in Inches in Which Pins Fit	Size of Wire	Approx. Net Weight in Lbs. per 100	List Price per 1000
134175	1/4	1/4	6	20	\$10.00
17225	3/8	3/8	4	25	10.00
17224	3/8	3/8	0	46	16.00
134176	3/8	3/8	0	50	16.00
134177	3/8	3/8	0	108	18.00
134178	3/8	3/8	00	40	16.00
134179	3/8	3/8	00	50	16.00
17315	1	1 1/2	00	100	18.00
134180	1	1 1/2	00	108	18.00
134181	1	1 1/2	000	40	16.00
17553	1	1 1/2	0000	70	18.00
134182	1	1 1/2	0000	78	18.00

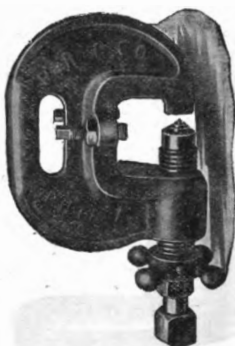
RAIL BOND COMPRESSORS



No. 68935



No. 103485



No. 61041

Double Screw Compressors

All of the Double Screw compressors are of the same design, and differ only in size and the amount of pressure they exert. The distribution of the metal in the frame is such as to make the machines strong and substantial, and as light as is practicable.

After the terminal has been inserted in the hole and the compressor mounted on the rail, the inner screw is centered in the depression in the bond terminal. The outer screw is then drawn up with the hand wheel until it rests against the rail web, thus holding the machine rigid and drawing the bond head up tight against the opposite side of the web. Compression is then effected with the wrench on the inner screw.

The end of the compressing screw is so designed that the hole in the rail must be completely filled with copper before the terminal can be riveted or button-headed over the hole.

The handwheel may be detached easily and discarded when work is to be done in limited space, as over ties, as the outer screw is provided with a hexagonal end to take a wrench.

The compressing power of these machines is from 20 to 30 tons.

List No. 68935 is designed to take the lighter rails up to 40 pounds. It has a vertical adjusting screw to center the compressing screw in the depression in the bond terminal. Power exerted, 15 tons.

All compressors are furnished with operating wrench. Extra wrenches may be ordered by List Number.

List No.	Used With	Diameter of Terminal up to	Top of Jaw to Center of Screw	Approx. Net Weight in Lbs. Each	List Price Each
61040	T rails, 5 ins. and under	$\frac{3}{4}$ in.	$3\frac{3}{4}$ ins.	51	\$50.00
103485	T rails, 5 ins. and under	$1\frac{1}{8}$ ins.	$3\frac{3}{4}$ ins.	68	70.00
61041	T and girder rails, 7 ins. and under	$\frac{7}{8}$ in.	$4\frac{3}{4}$ ins.	82	60.00
61042	T and girder rails, 9 ins. and under	$\frac{7}{8}$ in.	7 ins.	110	70.00
103486	T and girder rails, 9 ins. and under	$1\frac{1}{8}$ ins.	7 ins.	122	80.00
68935	T rails, 30 to 40 lbs.	$\frac{3}{4}$ in.	$2\frac{1}{2}$ ins.	30	45.00

WRENCHES FOR COMPRESSORS

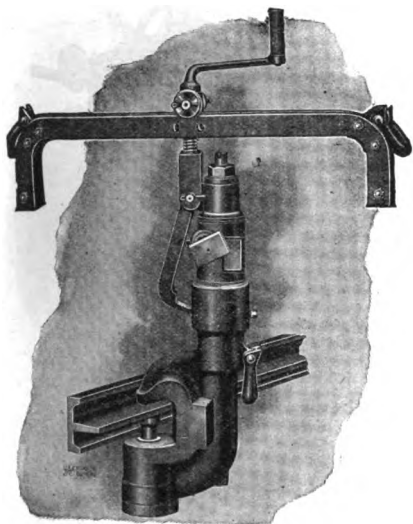
68936	24 in. wrench for compressor No. 68935	6	\$4.00
61180	40 in. wrench for compressors Nos. 61040, 61041, and 61042	13	6.00
103487	42 in. wrench for compressors Nos. 103485 and 103486	15	7.00

EXTRA PARTS OF SCREW COMPRESSORS

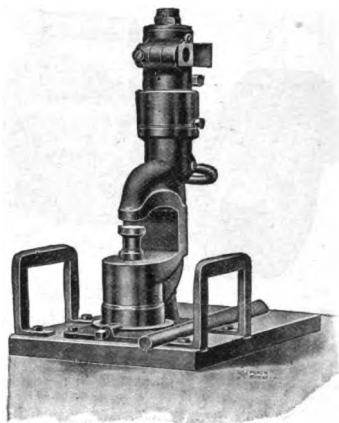
104243	Inner screw only for compressors List Nos. 61041 and 61042	6	\$24.00
104244	Outer screw only for compressors List Nos. 61041 and 61042	4	20.00
103488	Inner screw only for compressor List No. 61040	5	21.00
103491	Outer screw only for compressor List No. 61040	3	18.00
103489	Inner screw only for compressor List No. 103485	8	24.00
103492	Outer screw only for compressor List No. 103485	5	20.00
104363	Inner screw only for compressor List No. 103486	10	27.00
104364	Outer screw only for compressor List No. 103486	7	22.00
103490	Inner screw only for compressor List No. 68935	5	19.00
103493	Outer screw only for compressor, List No. 68935	3	16.00
103494	Frame only for compressor List No. 61040	40	19.00
103495	Frame only for compressor List No. 103485	52	26.00
103496	Frame only for compressor List No. 61041	71	26.00
103497	Frame only for compressor List No. 61042	99	36.00
103498	Frame only for compressor List No. 103486	106	40.00
103499	Frame only for compressor List No. 68935	22	17.00
103500	Handwheel only for compressors List Nos. 61040, 61041, 61042	3	4.00
140966	Handwheel only for compressors List Nos. 103485, 103486	.....	.....

Compressor List No. 68935 has no provision for handwheel.

BOND COMPRESSORS



No. 40299



No. 49298

Hydraulic Conductor Bond Compressors

For Use in Manhole

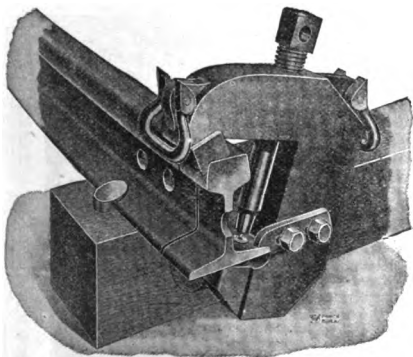
This compressor is designed for compressing the bond terminals in underground conductor rails after they are set in position in conduit.

List No.	Description	List Price Each
40299	Hydraulic Conductor Bond Compressor, weight 110 lbs., capacity 15 tons	\$350.00

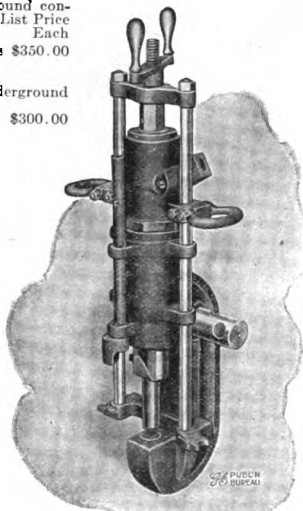
For Use in Underground Conduit Work

This tool is designed for compressing bond terminals in conductor rails for underground contact systems.

40298	Hydraulic Conductor Bond Compressor, weight 110 lbs., capacity 15 tons.	\$300.00
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No. 40294



No. 40296

Screw Compressors for Foot Bond

This compressor is used for installing the Form C Beveled Head Foot Bond. The bond holes are drilled or punched at right angles to the upper surface of the foot of the rail.

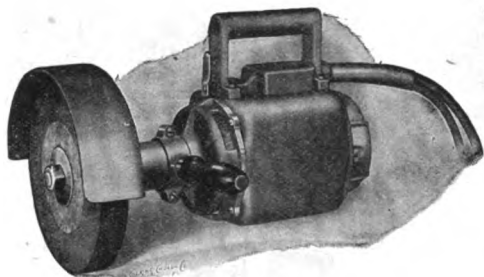
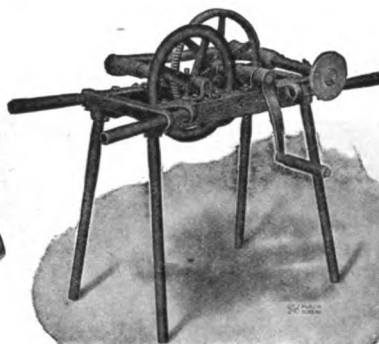
List No.	Description	List Price Each
40294	Foot Bond Screw Compressor, weight 80 lbs.	\$90.00

Hydraulic Foot Bond Compressor

It is intended for the installation of Form C Beveled Head Foot Bonds. The holes in the rail are tapered with the large aperture at the top; the bond terminals are inserted from beneath the rail, and compressed backward against the taper, forming an absolutely watertight and flush joint, and a perfect contact.

40296	Hydraulic Conductor Bond Compressor, weight 135 lbs., capacity 35 tons.	\$400.00
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Delivery F. O. B. Factory, Schenectady, N. Y.

RAIL BONDS. INSTALLATION TOOLS

Electric Grinder

Rail Grinding Machine
Duntley Portable Electric Grinder
For 460 to 600 Volt Circuits

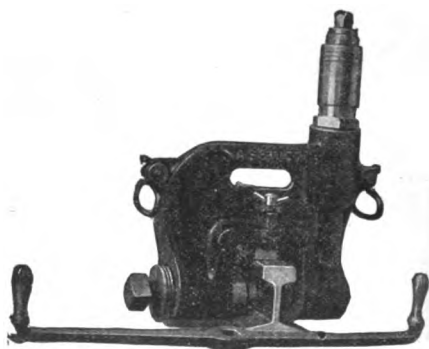
For grinding rails for bonds, either soldered or otherwise fastened.

 The grinder carries an emery wheel 8 inches in diameter, and $\frac{3}{8}$ inch face. The speed of the tool is 3900 R.P.M. and the weight complete is 28 lbs. It is regularly equipped with an 8 inch in diameter by $\frac{5}{8}$ inch face emery wheel, and two 20 feet lengths of cable attached to the grinder. The switch is mounted on the machine within easy reach of the hand.

List No.	Description	Wt.	Each
103477	Portable Electric Grinder	28 lbs.	\$180.00
	Extra wheels 6 in. in diameter, $1\frac{1}{4}$ inch face, $\frac{3}{8}$ in. hole	6 lbs.	2.30

Hand Power Grinding Machine

103478	Grinding machine with 5 ft. flexible shaft	156 lbs.	\$80.00
103479	Flexible shaft only, 5 ft. long	35 lbs.	36.00
103480	Emery wheel only, $\frac{5}{8}$ x 8 ins	4 lbs.	1.50
103481	Carborundum wheel only, $\frac{3}{8}$ x 8 ins	4 lbs.	2.50


No. 40295

No. 108051
Hydraulic Foot Bond Punch

List No.	Description	Wt.	List Price Each
40295	Hydraulic Foot Bond Punch, 100 tons	180 lbs.	\$450.00

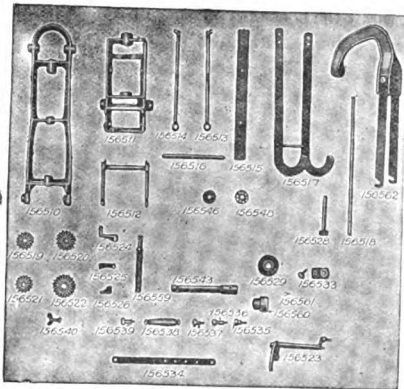
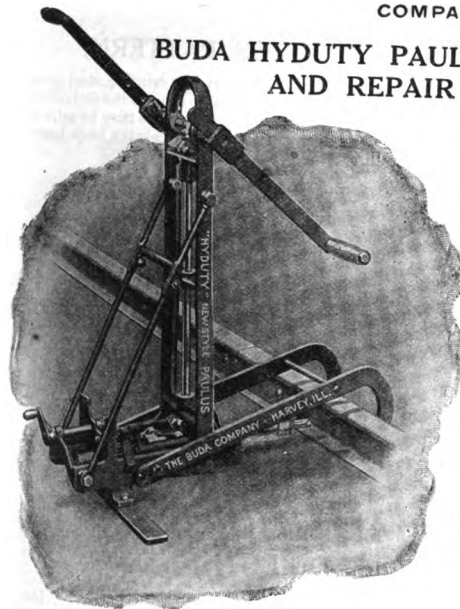
Screw Hydraulic Web Bond Compressor

108051	Hydraulic Web Bond Compressor for T rails up to 100 lbs. per yd	115 lbs.	\$190.00
108482	Hydraulic Web Bond Compressor for girder rails up to 7 ins. high	160 lbs.	220.00
108483	Hydraulic Web Bond Compressor for girder rails up to 9 ins. high	190 lbs.	260.00

Delivery F. O. B. Factory, Schenectady, N. Y.

Railroad Material

BUDA HYDUTY PAULUS TRACK DRILL AND REPAIR PARTS



Repair Parts

Paulus Track Drill

Buda Hyduty Paulus Track Drill

The Paulus Track Drill has proved to be a most satisfactory hand-operated upright machine for drilling rails. It is provided with an automatic feeding device that requires no attention. A dog connecting ratchet on the feed screw is operated by an eccentric which is put in motion by the revolving spindle and results in as coarse a feed as is consistent with the best results from a point of view of time and of safety to the bit. Spindle takes drills with round straight shanks.

List No.	Description	Approx. Net Weight in Lbs.	List Price Each
156508	Paulus track drill for T rails	75	\$45.00
156509	Paulus track drill for girder rails	80	50.00

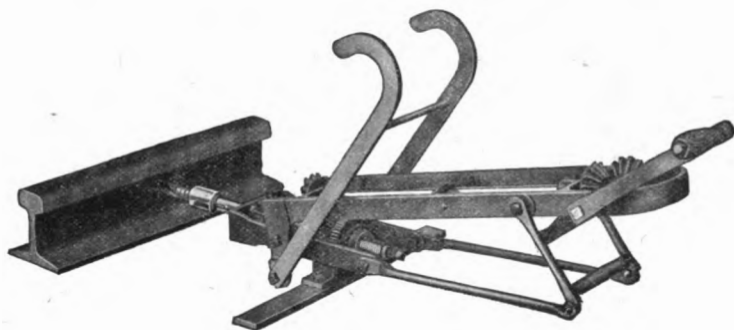
Repair Parts Buda Hyduty Track Drill

List No.	Description	List Price Each	List No.	Description	List Price Each
156510	Upper frame	\$10.00	156538	Crank handle with bolt and nut	
156511	Lower frame	9.00		No. 156549	\$0.24
156512	Upper back bone brace	1.70	156539	Screw for rocker arm	.12
156513	Lower back bone brace	1.70	156540	Wingnut	.12
156514	Lower back bone brace	1.70	156541	Pawl pin	.12
156515	Foot plate	1.10	156542	Rocker shaft pin	.12
156516	Crank shaft	1.70	156543	Standard spindle, complete	7.00
156517	Rail hook, complete, for No. 156508	2.80	156544	Screw for ball bearing thrust shield	.12
156518	Vertical shaft	1.70	156545	Spindle retaining key	.24
156519	Upper gear (crank shaft)	1.10	156546	Thrust ball races	1.40
156520	Upper gear (vertical shaft)	1.10	156547	3/4 in. steel ball, per 100	7.00
156521	Lower vertical shaft gear	.80	156548	Ball retainer with 9 balls	1.80
156522	Lower eccentric gear	1.50	156549	Bolt and nut for crank handle	.12
156523	Rocker shaft, new style	2.20	156550	Crank shaft key, No. 21 Whitney	.12
156524	Quick return handle	.56	156551	Pawl shield bolt	.12
156525	Ratchet feed dog	.56	156552	Ball oiler	.24
156526	Pawl shield	.24	156553	1/2 x 1 1/2 in. machine bolt, per 100	7.00
156527	Bushing for lower frame	.80	156554	1/2 x 3/4 in. set screw, per 100	7.00
156528	Quick return pinion and shaft	1.70	156555	3/8 x 1 in. bolt for back bone brace per 100	7.00
156529	Ratchet wheel	2.80	156556	Key for vertical gears, per 100	.04
156530	Key for eccentric gear	.12	156557	Crank pin	4.50
156531	Key for feed screw	.12	156558	Feed screw	.56
156532	Cam roller	.34	156559	Ball bearing thrust shield	.12
156533	Crank hub and thumbscrew	1.10	156560	Set screw for standard spindle	8.00
156534	Crank bar, adjustable	.90	156561	Girder rail hook and connecting links complete, for No. 156509	
156535	Screw for back brace	.24			
156536	Screw for back brace to boxes	.24			
156537	Screw for upper box to hooks	.24			

Delivery F. O. B. Factory, Schenectady, N. Y.

LOVEJOY TRACK DRILL (PAULUS PATTERN)

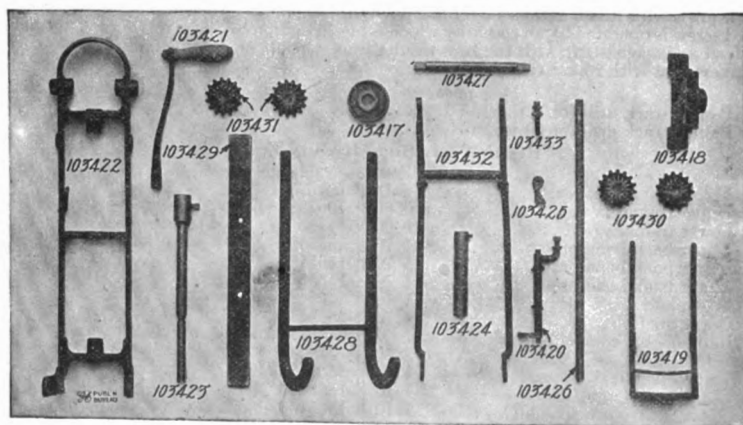
This track drill is substantially built and well adapted to hard usage. It has crucible steel gears and forged steel hooks. The hooks are shaped to permit drilling of holes as close as $\frac{1}{2}$ inch to the end of the rail. and are adjustable lengthwise to extend over a Weber joint or a guard rail. The hooks may be adjusted to the height of the rail by a set screw. To clear the track it is necessary only to break the back brace and throw the hooks backward. Spindle takes drills with round straight shanks.



Lovejoy Track Drill

Lovejoy Track Drill

List No.	Description	Approximate Net Weight in Lbs., Each	List Price Each
103415	Lovejoy Track Drill for T rail.....	60	\$36.00
103416	Lovejoy Track Drill for girder rail.....	100	37.00



Repair Parts

REPAIR PARTS FOR LOVEJOY TRACK DRILL (PAULUS PATTERN)

List No.	Description	List Price Each	List No.	Description	List Price Each
103417	Ratchet wheel.....	\$2.50	103426	Vertical shaft.....	\$2.0
103418	Housing for ratchet wheel.....	3.00	103427	Crank shaft.....	1.5
103419	Lower frame.....	3.00	*103428	Rail hooks.....	2.1
103420	Rocker shaft.....	1.50	103429	Foot plate.....	1.0
103421	Two cranks.....	2.00	103430	Two upper gears.....	2.0
103422	Upper frame.....	5.00	103431	Two lower gears.....	2.0
103423	Spindle.....	5.00	103432	Back brace.....	2.5
103424	Feed screw.....	2.50	103433	Set screw.....	.2
103425	Ratchet feed dog.....	.50			

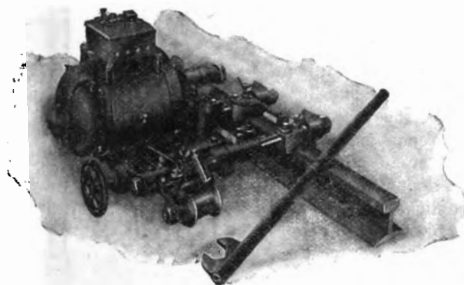
*Style of rail, T or girder, must be specified.

Delivery F. O. B. Factory, Schenectady, N. Y.

Railway Material

RAIL DRILLING MACHINES

Motor Drills

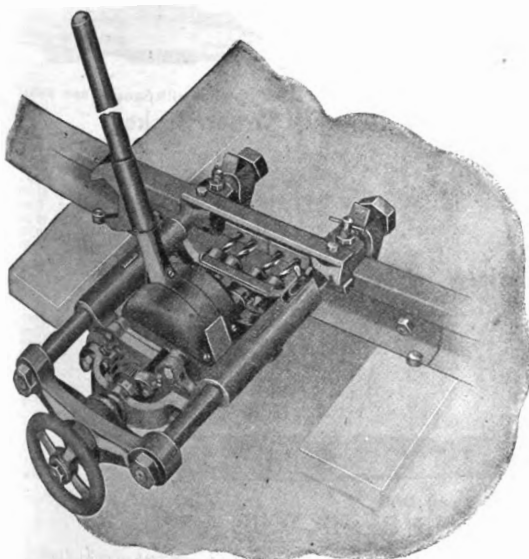


Double-Twin Drill Operated by Electric Motor

The motor is extremely light and compact, and it will operate directly on a 500 volt trolley circuit. The internal windings are thoroughly well protected and insulated, and the armature shaft is geared direct to the drill spindles. A device, not shown, for correctly and easily sharpening the drills can be attached to the motor.

List No.	Description	Wt. in Lbs.	List Price Each
103471	Motor-operated double-twin spindle drill....	280	\$650.00

Double-Twin Spindle Drill



Double-Twin Spindle Drill

This machine is designed to drill all four holes at one time in the head of T rails for the Twin Stud Terminal Bond. The machine is easy to handle and operate, and it works rapidly and accurately. It has a positive automatic feeding device, which can be adjusted within wide limits. The drills are operated by a lever, each stroke of which rotates the drills through a positive mechanism which provides equal rotation for all drill points.

Each spindle is provided with an adjusting sleeve so that each drill may be set independently of the others. This provision offsets uneven wearing or setting of rails and disalignment of rails on curves. Each machine is equipped with a gauge for determining the depth of the holes. Frames can be raised or lowered quickly to bring the holes into their correct positions. The machines are attached to the rails and operated without disturbing rail joints. The drill points are held rigidly in the machine and seldom break or chip. For the same reason the desired holes may be started without first prick punching the rail.

The levers by which the machines are operated are detachable so that the tools may be removed easily from place to place.

Each drilling machine is equipped with all fittings and one complete set of new drills. Many parts of these machines are interchangeable and small parts may be ordered by mail.

List No.	Description	Approximate Net Wt. in Lbs. Each	List Price Each
103470	Hand-operated double-twin spindle drill.....	125	\$300.00

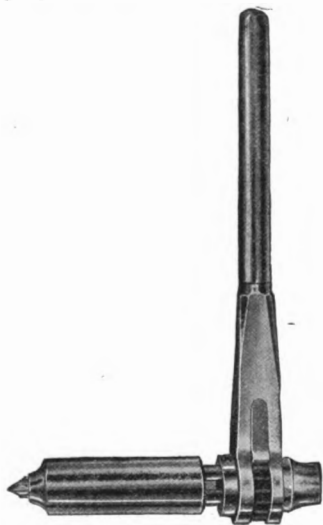
Special Twist Drills

These drills are made especially for the double-twin spindle drill and are uniform in size, being $\frac{1}{2}$ inch in diameter by 6 inches long. The drills give very good results without lubrication if they are properly sharpened.

103472	Special $\frac{1}{2}$ in. twist drill.....	\$0.70
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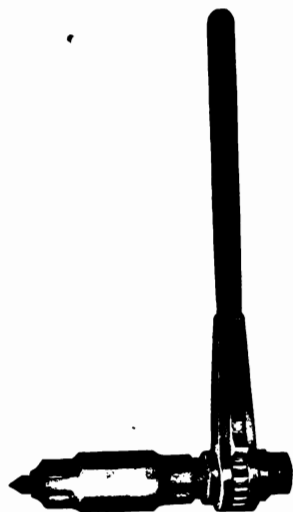
Delivery F. O. B. Factory, Schenectady, N. Y.

TRACK DRILLING AND PUNCHING DEVICES AND ACCESSORIES


Hand Ratchet with Round Taper Socket

Many methods are employed for drilling bond holes in rails. Without definite knowledge of the amount of work and the conditions under which it is to be performed, it is difficult to recommend the style of machine to employ. The intention in compiling this information has been to give data on a complete line of devices generally used for drilling, from the simplest hand ratchet to the more elaborate power drills.

In many cases bond holes are punched or drilled in rails at the rail mills. It is important that such holes be reamed bright before the bond is applied.


Hand Ratchet with Square Taper Socket

Hand Ratchet Drills With Square Taper Socket

List No.	Dimensions			Approx.			List
Round Feed Sleeve	Hex. Feed Sleeve	Length of Handle in Ins.	Length of Head in Ins.	Feed in Ins.	Net Wt. in Lbs. Each	Socket Accommodates	Price Each
103273		10	7½	2½	5	No. 1 sq. taper shank drill up to ¾ in. diam.	\$7.00
103276		12	8½	2½	7	No. 2 sq. taper shank drill ¾ in. to 1 in. diam. ..	9.00
103277		15	9½	3	9¾	No. 2 sq. taper shank drill ½ in. to 1¼ in. diam. ..	10.50
	103279	15	9½	3	10	No. 2 sq. taper shank drill ¾ in. to 1 in. diam. ..	10.50
	103280	17	11½	3½	12½	No. 2 sq. taper shank drill ½ in. to 1¼ in. diam. ..	12.50

Hand Ratchet Drills With Round Taper Socket

List No.	Length of Handle in Ins.	Length of Sleeve in Ins.	Feed in Ins.	Approx. Net Wt. in Lbs.	Takes Morse Round Taper Shank Drill Min. in Ins.	Max. in Ins.	Socket Accommodates	List Price Each
103281	10	7 $\frac{1}{2}$	1 $\frac{3}{4}$	5	$\frac{1}{2}$	$\frac{1}{2}$	(List No. 103285 taper drill sleeve.)	10.50
103282	12	8 $\frac{1}{2}$	1 $\frac{1}{2}$	6 $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	(List No. 103289 flat drill socket.)	10.50
103283	15	9 $\frac{1}{2}$	2 $\frac{1}{4}$	9	$\frac{1}{2}$	1 $\frac{1}{4}$	(List No. 103285 and 103286 taper drill sleeves)	13.20
							(List No. 103290 flat drill socket.)	13.20


Shank Drill

Round Straight Shank Drills

These drills are adapted to the Lovejoy and Paulus drilling machines.

Diameter of shank is $\frac{1}{4}$ inch; length of shank 2 $\frac{1}{2}$ inches; length overall 6 inches; length of twist 3 inches.

List No.	Diameter	List Price Each	List No.	Diameter	List Price Each
126215	$\frac{1}{4}$ ins.	\$0.56	103441	$\frac{1}{4}$ ins.	\$0.78
103434	$\frac{1}{2}$ in.	.60	103442	$\frac{3}{8}$ in.	.82
103436	$\frac{3}{8}$ in.	.68	103446	$\frac{1}{2}$ in.	.98
103438	$\frac{1}{2}$ in.	.72	103450	1 in.	1.22



Round Taper Shank Twist Drills

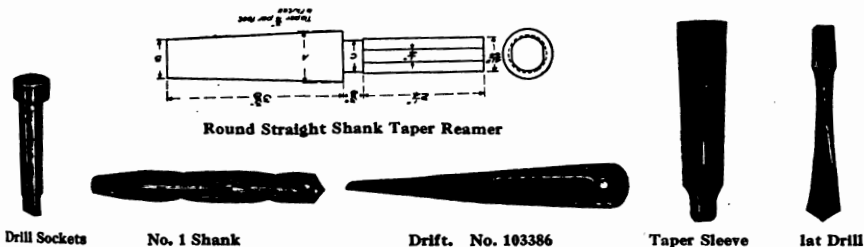
STANDARD OR MORSE TAPER FOR USE WITH HAND RATCHETS

List No.	Taper No.	Diameter	Length Overall	Length Twist	List Price Each
126215	1	$\frac{1}{4}$ ins.	6 $\frac{1}{2}$ ins.	3 $\frac{1}{4}$ ins.	\$0.80
103348	1	$\frac{1}{2}$ ins.	7 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	.92
103350	1	$\frac{3}{8}$ ins.	8 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	1.12
103352	2	$\frac{1}{2}$ ins.	8 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	1.30
103355	2	$\frac{3}{4}$ ins.	9 $\frac{1}{2}$ ins.	5 $\frac{1}{2}$ ins.	1.58
103356	2	$\frac{1}{2}$ ins.	9 $\frac{1}{2}$ ins.	5 $\frac{1}{2}$ ins.	1.72
103360	2	$\frac{3}{4}$ ins.	10 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	2.28
103362	3	$\frac{1}{2}$ ins.	10 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	2.56
103364	3	1 ins.	11 ins.	6 $\frac{1}{2}$ ins.	2.78

Delivery F. O. B. Factory, Schenectady, N. Y.

Railway Material

DRILLS AND REAMERS



Flat Drill Sockets for Hand Ratchet Drills

Flat drill sockets accommodate drills (flat or round) with standard or Morse square taper shank No. 1 or No. 2.
List No. 103289 fits in hand ratchet List No. 103282.
List No. 103290 fits in hand ratchet List No. 103283.

Square Taper Shank Drills (No. 1 Shank)

SHANK 1 1/2 INCHES LONG, TAPERED 1/8 INCH TO 1/4 INCH
For Use with Hand Ratchets

List No.	Diameter	Length Overall	Length Twist	List Price Each
126214	1/8 ins.	5 ins.	2 1/4 ins.	\$1.20
103310	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.28
103311	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.32
103312	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.32
103313	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.38
103314	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.38
103315	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.38
103316	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.42
103317	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.48
103318	1/8 ins.	6 1/2 ins.	4 1/4 ins.	1.52

Square Taper Shank Drills (No. 2 Shank)

For Use with Hand Ratchets

Shank 1 1/2 inches long, tapered 1/8 inch to 1/4 inch.

List No.	Diameter	Length Overall	Length Twist	List Price Each
126214	1/8 ins.	5 ins.	2 1/4 ins.	\$1.20
103329	1/8 ins.	6 1/2 ins.	4 ins.	1.28
103331	1/8 ins.	6 1/2 ins.	4 ins.	1.32
103333	1/8 ins.	6 1/2 ins.	4 ins.	1.38
103336	1/8 ins.	6 1/2 ins.	4 ins.	1.48
103337	1/8 ins.	6 1/2 ins.	4 ins.	1.48
103341	1/8 ins.	7 1/2 ins.	4 1/4 ins.	2.00
103343	1/8 ins.	8 ins.	5 1/4 ins.	2.24
103345	1 ins.	8 1/2 ins.	5 1/4 ins.	2.50

Taper Sleeve for Hand Ratchet Drills

List No.	Taper Inside	Taper Outside	Used with Hand Ratchet Nos.	Takes Standard or Morse Tapered Shank Drills	List Price Each
103285	No. 1	No. 2	103282-103283	1/8 to 1/4 in. diam.	\$1.20
103286	No. 2	No. 3	103283	1/4 to 1/2 in. diam.	1.60

Round Straight Shank Taper Reamers

List No.	Nominal Size	Dimensions in Inches Large End (A)	Small End (B)	List Price Each
125277	1/4	1 1/4	0.354	\$0.90
125278	1/2	1 1/2	0.479	1.00
125279	3/4	1 3/4	0.604	1.20
125280	1	1 7/8	0.729	1.40
125281	1 1/8	2	0.854	1.60

Flat Drills With Standard or Morse Square Taper Shank

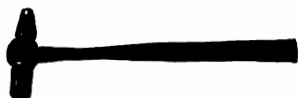
List No. No. 1 Shank	List No. No. 2 Shank	Diameter	
103292	103301	1/8 ins.	On application
103293	103302	1/4 ins.	
103294	103303	3/8 ins.	
	103304	1/2 ins.	
	103305	1 ins.	

Drifts

List No. 103386 drift is used to remove taper drills and sockets from hand ratchets. It is 7 inches long, finished complete and case hardened.

List No.	List Price Each
103386 Drift 7 ins. long.	\$0.36

HAND TOOLS FOR TWIN STUD TERMINAL BONDS



List No. 103476



List No. 103475



List No. 156750

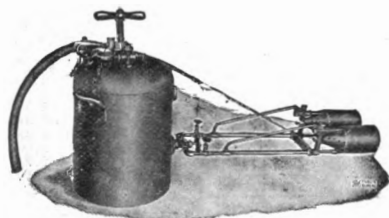


List No. 103473

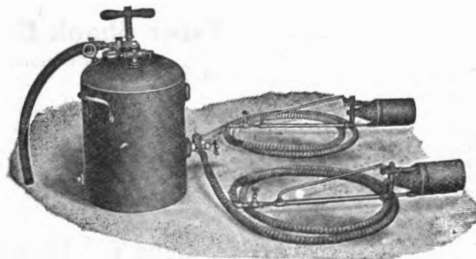
Hand Milling Cutter

The Hand Milling Cutter cuts the small groove in the hole. With a swinging motion that will keep the milling teeth pressed against the sides of the hole, the cutter is rotated several times within the hole. The punch is made of tempered tool steel, and is used to round off and blunt the sharp edge of the hole. The double faced riveting hammer is especially adapted for applying twin stud terminal bonds.

List No.	Description	Approximate Net Weight in Oz., Each	List Price Each
103473	Milling cutter with handle	8	\$1.20
103474	Extra cutter only, for List No. 103473	4	.80
156750	Cutter with shank, for use with carpenter's brace	4	1.20
103475	Dulling punch	3	.60
103476	Riveting hammer	40	2.00
156197	Drift punch	112	2.00



List No. 43689



List No. 43690

Blow Torches

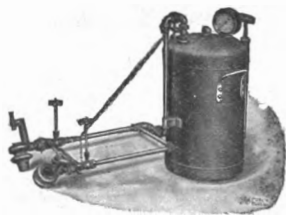
List No. 43689 is a kerosene torch, capacity 15 gallons. It will heat a rail to soldering temperature in one-fourth the time required with gasoline torch. It may be refilled without exhausting the pressure in the tank. List No. 43690 is the same as List No. 43689 except that it has flexible hose instead of pipe connections, adapting it for use on elevated structures, etc.

List No.	Description	Weight in Lbs.	List Price Each
43689	Kerosene torch with pipe connected burners	105	\$130.00
43690	Kerosene torch with flexible hose	115	140.00

Torch

For kerosene burning this machine is equipped with two powerful burners, mounted on a 10 gallon brazed tank, tested at 200 lbs. pressure per square inch. The burners are mounted on swivel joints and are easily adjustable to any position.

For gasoline burning the machine is equipped with a large single burner of great power.



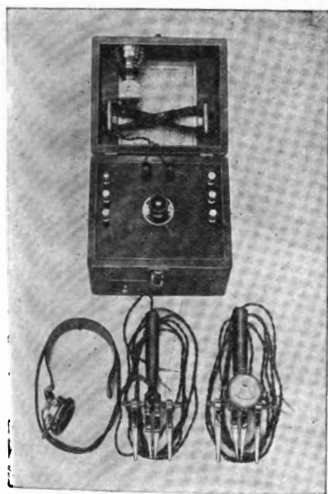
List No. 103482

Railway Material

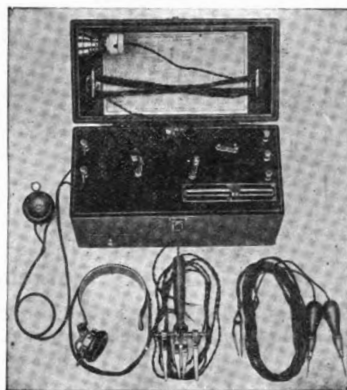
List No.	Description	Weight in Lbs.	List Price Each
43688	Gasoline torch 10 gallons	60	\$72.00
103482	Kerosene torch 10 gallons	75	72.00

Delivery F. O. B. Factory, Schenectady, N. Y.

THE CENTURY FIELD AND ARMATURE TESTERS



New Century Field Tester



The Century Armature Tester

New Century Field Tester

The **New Century Field Tester** is for the special purpose of testing the fields and armatures of the electric railway types of motors. It instantly detects and locates short circuits, and grounds, in both field coils and armatures. When testing fields the readings are obtained by sliding the pointer knot along the scale to the point where two distinctly separate sounds in the receiver become as one. The armature test is a bar to bar test with the telephone receiver and contact fork. This instrument consists essentially of two small transformers with special primary and secondary windings and a sliding scale for registering the adjustment of each. The instrument is mounted in a mahogany box and is made very strong and durable.

List No.	Size	Wgt. Lbs.	List Price Each
323311	New Century Field Tester..... $6\frac{3}{4} \times 8\frac{1}{2} \times 14\frac{1}{4}$ ins.	12	\$160.00

The Century Armature Tester

The armature tester is operated in connection with either alternating or direct current lighting circuits. A hard rubber knob with knurled edge permits changing over from one kind of current to the other. It quickly detects and exactly locates wrong connections, shorts, opens and grounds without raising the leads or disturbing the hoods. We recommend it for power plants, manufacturers of motors and generators and repair shops of every description. It will test any armature that is equipped with a commutator, no matter how small or how large it may be.

List No.	Size	List Price Each
323312	Century Armature Tester..... $7 \times 9 \times 14\frac{1}{2}$ ins.	\$130.00

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse delivery write nearest house.

MISCELLANEOUS APPARATUS

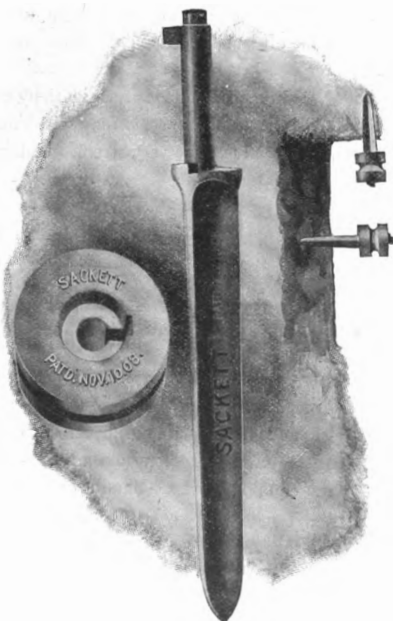


Type "F"

Porcelain Trolley Suspension

This suspension body is of porcelain. High insulation. Yoke malleable iron sherardized Bolt sherardized, easily and quickly adjusted.

	List Price per 100
Straight line hanger, $\frac{5}{8}$ in. bolt.....	\$72.00
Straight line hanger, $\frac{3}{4}$ in. bolt.....	75.00
Single curve hanger, $\frac{5}{8}$ in. bolt.....	124.50
Double curve hanger, $\frac{5}{8}$ in. bolt.....	139.50
Single curve hanger, $\frac{3}{4}$ in. bolt.....	127.50
Double curve hanger, $\frac{3}{4}$ in. bolt.....	142.50



Type "A" Mine Insulator
Railway Material

Wiring Devices

The following are some of the different types of conductors that can be used for telephone and signal wires in mines:

Circular loom cable having conductors of No. 16 B. & S. copper or copper steel wire.

Nos. 12 and 14 B. & S. gauge bare or rubber-covered hard drawn copper wire.

No. 14 B. & S. gauge bare or rubber-covered copper steel wire.

Nos. 10 and 12 B.W.G. BB galvanized iron wire (bare or insulated).

For further information, see Miscellaneous Supplies Bulletin.

Sackett or Type "A" Mine Insulator

The Type "A" Mine Insulator is of the self-locking, self-draining type. The pin is first driven into the roof or wall of mine and insulator is then slipped over end of pin and given a quarter turn, which securely locks it in position. The insulator is white porcelain; the pin is malleable iron and non-breakable.

Price on application.

ELECTROSE INSULATORS

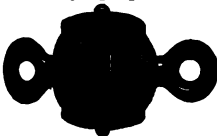
Electrose Standard Globe Strain Insulators

The No. 17221 has $\frac{1}{2}$ inch, and the Nos. 3322 and 17235 have $\frac{3}{4}$ inch malleable iron terminals.

List No.	Diameter	Breaking Strength	Terminals	List Price per 100
17221	2 $\frac{1}{4}$ ins.	3000 lbs.	Standard eyes	\$38.50
3322	2 $\frac{1}{2}$ ins.	4500 lbs.	Standard eyes	46.20
17235	2 $\frac{1}{2}$ ins.	4500 lbs.	Standard eye and clevis	61.60



No. 17221



No. 95231

Electrose W. E. Type Strain Insulators

Made in three sizes, namely, 2 $\frac{1}{4}$ inch diameter, 2 $\frac{3}{4}$ inch diameter, and 3 inch diameter of body. The 2 $\frac{1}{4}$ inch size has $\frac{1}{2}$ inch malleable iron terminals, the 2 $\frac{3}{4}$ inch has $\frac{3}{4}$ inch malleable iron terminals, and the 3 inch has $\frac{1}{2}$ inch malleable iron terminals. The 2 $\frac{1}{4}$ inch has a breaking strength of 3000 lbs., the 2 $\frac{3}{4}$ inch size has a breaking strength of 6000 lbs., and the 3 inch has a breaking strength of 8000 lbs.

List No.	Diam. Ins.	Terminals	List Price per 100	List No.	Diam. Ins.	Terminals	List Price per 100
95231	2 $\frac{1}{4}$	$\frac{1}{2}$ in. eye	\$44.00	100687	2 $\frac{1}{4}$	$\frac{1}{2}$ in. eye and $\frac{1}{2}$ in. clevis	\$85.80
95232	2 $\frac{3}{4}$	$\frac{3}{4}$ in. eye	55.00	100690	2 $\frac{3}{4}$	$\frac{3}{4}$ in. eye and $\frac{3}{4}$ in. stud	85.80
95233	2 $\frac{3}{4}$	$\frac{3}{4}$ in. eye and $\frac{3}{4}$ in. clevis	70.40	95255	2 $\frac{3}{4}$	$\frac{3}{4}$ in. eye and $\frac{3}{4}$ in. socket	85.80
95132	2 $\frac{3}{4}$	$\frac{3}{4}$ in. eye and $\frac{3}{4}$ in. stud	70.40	95140	3	$\frac{1}{2}$ in. eye	92.40
95133	2 $\frac{3}{4}$	$\frac{3}{4}$ in. eye and $\frac{3}{4}$ in. socket	70.40	95141	3	$\frac{1}{2}$ in. eye and $\frac{1}{2}$ in. clevis	108.90
95134	2 $\frac{3}{4}$	$\frac{3}{4}$ in. stud at each end	73.70	95142	3	$\frac{1}{2}$ in. eye and $\frac{1}{2}$ in. stud	104.50
95135	2 $\frac{3}{4}$	$\frac{3}{4}$ in. socket at each end	73.70	95143	3	$\frac{1}{2}$ in. eye and $\frac{1}{2}$ in. socket	104.50
95138	2 $\frac{3}{4}$	$\frac{3}{4}$ in. stud and $\frac{3}{4}$ in. socket	73.70	95144	3	$\frac{1}{2}$ in. stud at each end	113.30
95136	2 $\frac{3}{4}$	$\frac{3}{4}$ in. clevis and $\frac{3}{4}$ in. stud	79.72	95145	3	$\frac{1}{2}$ in. socket at each end	113.30
95137	2 $\frac{3}{4}$	$\frac{3}{4}$ in. clevis and $\frac{3}{4}$ in. socket	79.72	95146	3	$\frac{1}{2}$ in. stud and $\frac{1}{2}$ in. clevis	121.00
95139	2 $\frac{3}{4}$	$\frac{3}{4}$ in. clevis at each end	95.70	95147	3	$\frac{1}{2}$ in. socket and $\frac{1}{2}$ in. clevis	121.00
100685	2 $\frac{3}{4}$	$\frac{3}{4}$ in. eye and $\frac{3}{4}$ in. eye	77.00	95149	3	$\frac{1}{2}$ in. clevis at each end	125.40



No. 4700

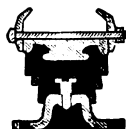
Electrose Insulated Turnbuckles

One eye is heavily insulated with electrose insulation.

List No.	Description	List Price per 100	List No.	Description	List Price per 100
4700	$\frac{1}{2}$ x 6 in., plain	\$123.75	4706	$\frac{3}{8}$ x 9 in., plain	\$170.50
4701	$\frac{1}{2}$ x 6 in., galvanized	137.50	4707	$\frac{3}{8}$ x 9 in., galvanized	192.50
4702	$\frac{1}{2}$ x 8 in., plain	144.10	4708	$\frac{1}{2}$ x 12 in., plain	181.50
4703	$\frac{1}{2}$ x 8 in., galvanized	163.90	4709	$\frac{1}{2}$ x 12 in., galvanized	203.50
4704	$\frac{1}{2}$ x 9 in., plain	143.00	4710	$\frac{3}{8}$ x 12 in., plain	198.00
4705	$\frac{1}{2}$ x 9 in., galvanized	159.50	4711	$\frac{3}{8}$ x 12 in., galvanized	225.50



Regular Type
Nos. 9006-9012



No. 9001



Overhead Type
No. 9003



Trench Type
No. 9005

Electrose Third-rail Insulators

Electrose Third-rail Insulators have been designed along lines that fully meet the requirements of modern railway practice. They possess the highest electrical and mechanical values. The regular and N. Y. C. types are made up of two separate parts securely locked together. The overhead and trench types are made up in one piece.

We are prepared to quote promptly on special types of third-rail insulators.

No.	Type	Height to Base of Rail	Width of Rail Support	Width of Base	Length of Base	List Price per 100
9006	Regular for 16 lb. rail	3 ins.	2 $\frac{1}{2}$ ins.	2 ins.	4 $\frac{1}{2}$ ins.	\$170.50
9007	Regular for 25 lb. rail	3 ins.	3 ins.	2 $\frac{3}{4}$ ins.	5 ins.	217.80
9008	Regular for 30 lb. rail	3 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	3 ins.	5 $\frac{1}{2}$ ins.	253.00
9009	Regular for 45 lb. rail	4 ins.	3 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.	290.40
9010	Regular for 60 lb. rail	4 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	4 ins.	7 ins.	326.70
9011	Regular for 80 lb. rail	5 ins.	5 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	7 $\frac{1}{2}$ ins.	363.00
9012	Regular for 100 lb. rail	5 $\frac{1}{2}$ ins.	5 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	8 ins.	453.20
9001	N. Y. C. for 80 lb. rail	5 ins.	5 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	4 $\frac{1}{2}$ ins.	53.20

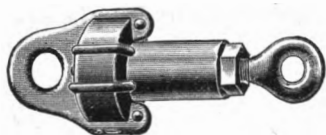
Notes: Bases can be furnished in various heights.

No. 9003 illustrates one of our types of overhead third-rail insulators (under contact); diameter of hood 7 $\frac{1}{2}$ ins., height 3A ins., diameter of stud $\frac{3}{4}$ ins.

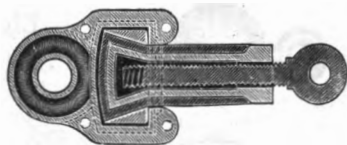
No. 9005 is provided with a pinhole adapted for receiving the cement for securing the pin into operative position; also furnished with threaded pinhole so that the insulator may be screwed on to a threaded metal pin, thereby avoiding the use of cement. Diameter 4 $\frac{1}{2}$ ins., overall height 4 $\frac{3}{4}$ ins.

Delivery F. O. B. Brooklyn, N. Y. For warehouse deliveries write nearest house.

ELECTROSE INSULATORS



Regular Type Brooklyn Strain



Extra and Special Heavy Brooklyn Strain

Electrose Regular Type Brooklyn Strain Insulators

Equipped with $\frac{3}{4}$ inch drop forged steel eyebolts. The maximum take-up is $3\frac{1}{2}$ inches.
 Prices for these insulators with bronze metal parts on application.

List No.	Description	List Price per 100
17228	Malleable iron body, japanned	\$112.20
17223	Malleable iron body, galvanized	132.00
100749	Same as 17223 with clevis terminal	159.50

Electrose Brooklyn Strain Insulators

EXTRA HEAVY AND SPECIAL HEAVY (PATENTED)

Equipped with $\frac{3}{4}$ inch drop forged steel eyebolts. Maximum take-up is $3\frac{1}{2}$ inches.
 Prices for these insulators with bronze metal parts on application.

List No.	Description	List Price per 100
28855	Malleable iron body, japanned, extra heavy	\$206.35
28856	Malleable iron body, galvanized, extra heavy	237.05
100755	Same as 28856 with clevis terminal, extra heavy	269.50
28858	Malleable iron body, japanned, special heavy	275.00
28859	Malleable iron body, galvanized, special heavy	311.30

No. 31995
Side GrooveNo. 31997
Top and Side GrooveNo. 32712
Screw Top
(Patented)No. 32740
Clamp TopNo. 95237
Tie Top (Patented)No. 100793
Armored Type for
Heavy Corner Strains

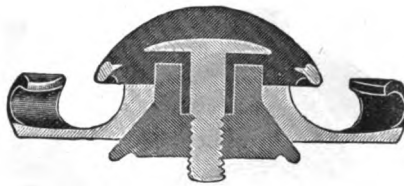
Electrose Feed Wire Insulators

List No.	Description	List Price per 100
31995	Solid composition, for 4/0 wire, $\frac{3}{4}$ in. side groove	\$77.00
31996	Solid composition, for 500000 C.M. wire, 1 in. side groove	77.00
31997	Solid composition, for 750000 C.M. wire, $1\frac{1}{4}$ in. top and $1\frac{1}{2}$ in. side groove	88.00
31998	Solid composition, for 1000000 C.M. wire, $1\frac{1}{2}$ in. top and $1\frac{1}{2}$ in. side groove	88.00
32712	Malleable iron and composition for 4/0 wire	137.50
32713	Malleable iron and composition for 500000 C.M. wire	137.50
32714	Malleable iron and composition for 750000 C.M. wire	165.00
32715	Malleable iron and composition for 1000000 C.M. wire	165.00
32740	Malleable iron and composition for 4/0 wire	96.25
32741	Malleable iron and composition for 500000 C.M. wire	96.25
32742	Malleable iron and composition for 750000 C.M. wire	121.00
32743	Malleable iron and composition for 1000000 C.M. wire	121.00
95237	Malleable iron and composition for 4/0 wire	96.25
95238	Malleable iron and composition for 500000 C.M. wire	96.25
95239	Malleable iron and composition for 750000 C.M. wire	121.00
95240	Malleable iron and composition for 1000000 C.M. wire	121.00
100793	Malleable iron and composition for 4/0 wire	96.25
100794	Malleable iron and composition for 500000 C.M. wire	96.25
100795	Malleable iron and composition for 750000 C.M. wire	121.00
100796	Malleable iron and composition for 1000000 C.M. wire	121.00

ELECTROSE INSULATOR ACCESSORIES



No. 94424



No. 94424. Sectional View

Electrose "Ideal" Locking Cap and Cone (PATENTED)

The "Ideal" cap is provided with a heavy malleable iron protecting ring thoroughly imbedded in the electrose composition. This prevents the cap from breaking if carelessly installed and protects the cap from injury from blows of the trolley pole. The metal ring also permits the suspension to be readily disconnected and removed, when desired, without injury to the cap. The cone is threaded and when in position it locks the cap, suspension body and cone together and effectually prevents the line from dropping by the unscrewing of the cap, due to vibration. Both the Ideal cap and cone are interchangeable with all standard suspensions of this type. The Ideal cap can be quickly installed by the use of an ordinary monkey or regular cap and cone wrench.

List No.	Description	List Price per 100
94424	Ideal cap and cone, $\frac{5}{8}$ in. stud.	\$40.25
94425	Ideal cap and cone, $\frac{3}{4}$ in. stud.	47.30
94426	Ideal cap only, $\frac{5}{8}$ in. stud.	32.45
94427	Ideal cap only, $\frac{3}{4}$ in. stud.	38.50
94428	Ideal cone only, $\frac{5}{8}$ or $\frac{3}{4}$ in. stud.	8.80
94464	Wrench for installing Ideal cap and cone.	66.00



No. 16925



No. 16926



No. 95236



No. 17207

Electrose Regular Cap and Cone

Many years of service have proven the reliability of this form of suspension. The grade of electrose insulation employed for caps and cones is guaranteed to withstand the highest temperatures encountered in actual service. It is hard, tough and strong and has a highly polished surface. The bolt is made of malleable iron.

List No.	Description	List Price per 100
16925	Cap for $\frac{5}{8}$ in. stud.	\$25.57
16926	Cone for $\frac{5}{8}$ in. stud.	8.80
16200	Cap for $\frac{3}{4}$ in. stud.	31.63
16201	Cone for $\frac{3}{4}$ in. stud.	8.80

Electrose Insulated Bolts

Studs are drop forged steel.

No. 17207 is the standard length size. No. 95236 is $\frac{1}{2}$ inch shorter, and is designed for use in car barns, mines, bridges, etc., where head room is limited.

List No.	Description	List Price per 100
17207	$\frac{5}{8}$ in. stud, regular length bolt.	\$30.80
95256	$\frac{3}{4}$ in. stud, regular length bolt.	36.30
95236	$\frac{5}{8}$ in. stud, short length bolt.	30.80
95259	$\frac{3}{4}$ in. stud, short length bolt.	36.30

ELECTROSE WIRE SUSPENSIONS

 No. 95006
 Mine Hanger

 No. 94461
 Mine Hanger

 No. 95001. Mine Hanger
 1½ inches in Depth
 Extra Heavy Malleable Iron Shells

List No.	Description
95006	¾ in. stud, japanned
95008	¾ in. stud, galvanized
95008	Extra heavy malleable iron shells.
	1½ inches from top to ear contact surface.

MINE HANGER NO. 95006
 Description

List Price
per 100
\$57.50
75.35

List No.	Description
94461	¾ in. stud, japanned
94462	¾ in. stud, galvanized
94462	Extra heavy malleable iron shells.
	1½ inches from top to ear contact surface.

MINE HANGER NO. 94461
 Description

List Price
per 100
\$63.25
91.30

List No.	Description
95001	¾ in. stud, japanned
95002	¾ in. stud, galvanized
95003	¾ in. stud, japanned
95004	¾ in. stud, galvanized

MINE HANGER NO. 95001
 Description

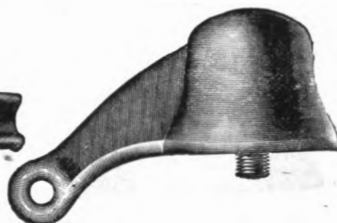
List Price
per 100
\$66.00
91.30
72.05
97.34



No. 31940. Barn Hanger



No. 95017. Straight Line Hanger



No. 31932. Single Curve

List No.	Description
31940	¾ in. stud, japanned
31941	¾ in. stud, galvanized
31942	¾ in. stud, japanned
31943	¾ in. stud, galvanized
31943	Have extra heavy malleable iron shells.

BARN HANGER NO. 31940
 Description

List Price
per 100
\$57.75
75.35
63.80
63.80

List No.	Description
95017	¾ in. stud, japanned
95018	¾ in. stud, japanned
95019	¾ in. stud, galvanized
95020	¾ in. stud, galvanized

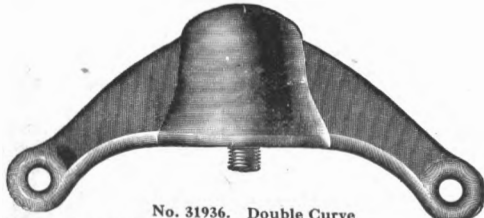
STRAIGHT LINE HANGER NO. 95017
 Description

List Price
per 100
\$57.75
63.80
75.35
81.40

List No.	Description
31932	¾ in. stud, japanned
31933	¾ in. stud, galvanized
31934	¾ in. stud, japanned
31935	¾ in. stud, galvanized
31935	Extra heavy malleable iron shells.

SINGLE CURVE HANGER NO. 31932
 Description

List Price
per 100
\$66.00
96.80
72.05
70.40



No. 31936. Double Curve

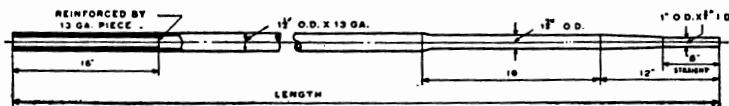
DOUBLE CURVE HANGER NO. 31936

List No.	Description
31936	¾ in. stud, japanned
31937	¾ in. stud, galvanized
31938	¾ in. stud, japanned
31939	¾ in. stud, galvanized

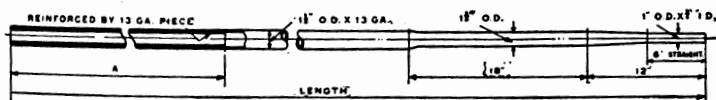
List Price
per 100
\$79.75
121.55
85.80
127.60

Delivery F. O. B. Brooklyn, N. Y. For warehouse deliveries write nearest house.
 Railway Material

STANDARD SHELBY TROLLEY POLES



Standard "A" Pole



Standard "B" Pole

Shelby Trolley Poles

These poles are made of high-grade seamless steel tubing. Prior to the last cold drawing operation the material is given a special heat treatment which leaves the grain in the finest condition. The elastic limit of the material in the finished pole is from 60,000 to 70,000 lbs. per square inch. Both Standard A and B poles are reinforced at the butt with No. 13 gauge tubing and differ only in the length of this reinforcement. Standard A pole is suitable for all standard service. Standard B is designed to meet the most severe conditions and is approximately 50 per cent. stronger and 20 per cent. heavier than the A pole.

Standard "A" Poles

List No.	Length Over All	Length of Reinforcement	Approx. Wt.	List Price Each
820000	11 ft. 0 ins.	16 ins.	17 lbs.	\$2.20
820001	11 ft. 6 ins.	16 ins.	17 3/4 lbs.	2.20
820002	12 ft. 0 ins.	16 ins.	18 1/2 lbs.	2.40
820003	12 ft. 6 ins.	16 ins.	19 1/4 lbs.	2.70
820004	13 ft. 0 ins.	16 ins.	20 lbs.	2.70
820005	13 ft. 6 ins.	16 ins.	20 3/4 lbs.	3.00
820006	14 ft. 0 ins.	16 ins.	21 1/2 lbs.	3.00
820007	14 ft. 6 ins.	16 ins.	22 1/4 lbs.	3.30
820008	15 ft. 0 ins.	16 ins.	23 lbs.	3.30

Standard "B" Poles

List No.	Length Over All	Length of Reinforcement	Approx. Wt.	List Price Each
820009	11 ft. 0 ins.	4 ft. 1 in.	21 lbs.	\$2.60
820010	11 ft. 6 ins.	4 ft. 3 1/2 ins.	22 lbs.	2.60
820011	12 ft. 0 ins.	4 ft. 6 ins.	23 lbs.	2.80
820012	12 ft. 6 ins.	4 ft. 8 1/2 ins.	24 lbs.	3.30
820013	13 ft. 0 ins.	4 ft. 10 1/2 ins.	25 lbs.	3.30
820014	13 ft. 6 ins.	5 ft. 1 1/2 in.	26 lbs.	3.60
820015	14 ft. 0 ins.	5 ft. 3 ins.	27 lbs.	3.60
820016	14 ft. 6 ins.	5 ft. 6 ins.	28 lbs.	3.90
820017	15 ft. 0 ins.	5 ft. 8 1/2 ins.	29 lbs.	3.90

SECTIONAL POLES

Tubular Steel Poles

Tubular steel trolley poles are made up of two or more sections of standard or extra heavy steel tubing. The diameters of sections given refer to the nominal inside diameters of standard pipe in accordance with the table given below.

Three section poles are generally recommended for trolley line construction. Two section poles are used for electric light telephone and telegraph work.

Ground line protecting sleeves consist of a length of pipe, usually 24 inches long, one size larger than the lower section of the pole. These sleeves are shrunk around the portion of the pole on a line with the ground, and greatly increase the life of the poles by preventing corrosion at what is invariably the first point to give way.

Special poles can be furnished in any length and made up of any standard sections to order.

Prices on iron poles depend upon market conditions and will be supplied upon application.

STANDARD WEIGHT TUBING

Diameter Nominal Inside	Diameter Actual Inside	Diameter Actual Outside	Thickness of Wall	Wt. per Foot
2½ ins.	2.469 ins.	2.875 ins.	.203 ins.	5.793 lbs.
3 ins.	3.068 ins.	3.500 ins.	.216 ins.	7.575 lbs.
3½ ins.	3.548 ins.	4.000 ins.	.226 ins.	9.109 lbs.
4 ins.	4.026 ins.	4.500 ins.	.237 ins.	10.790 lbs.
4½ ins.	4.056 ins.	5.000 ins.	.247 ins.	12.538 lbs.
5 ins.	5.047 ins.	5.563 ins.	.258 ins.	14.617 lbs.
6 ins.	6.065 ins.	6.625 ins.	.280 ins.	18.974 lbs.
7 ins.	7.023 ins.	7.625 ins.	.301 ins.	23.544 lbs.

EXTRA HEAVY WEIGHT TUBING

Diameter Nominal Inside	Diameter Actual Inside	Diameter Actual Outside	Thickness of Wall	Wt. per Foot
2½ ins.	2.323 ins.	2.875 ins.	.276 ins.	7.661 lbs.
3 ins.	2.900 ins.	3.500 ins.	.304 ins.	10.252 lbs.
3½ ins.	3.364 ins.	4.000 ins.	.318 ins.	12.505 lbs.
4 ins.	3.826 ins.	4.500 ins.	.337 ins.	14.983 lbs.
4½ ins.	4.290 ins.	5.000 ins.	.355 ins.	17.611 lbs.
5 ins.	4.813 ins.	5.563 ins.	.375 ins.	20.778 lbs.
6 ins.	5.761 ins.	6.625 ins.	.432 ins.	28.573 lbs.
7 ins.	6.625 ins.	7.625 ins.	.500 ins.	38.048 lbs.

Tubular Steel Sectional Poles

Standard tubular steel poles for trolley wire suspension are made up of three sections of standard or extra heavy steel tubing. The safe load given is the maximum side strain that may be applied near the top without permanent deflection, based upon the poles being set 6 feet in the ground.

28 FOOT, THREE SECTION, STANDARD WEIGHT

List No.	Bottom Section	Nominal Inside Diameter	Middle Section	Top Section	Safe Load	Approx. Wt. Without Sleeve	Approx. Wt. With Sleeve
800140	4 ins.	3 ins.	3 ins.	2½ ins.	261 lbs.	282.003 lbs.	312.003 lbs.
800141	5 ins.	4 ins.	4 ins.	3 ins.	524 lbs.	384.086 lbs.	422.086 lbs.
800142	6 ins.	5 ins.	5 ins.	4 ins.	690 lbs.	508.591 lbs.	555.591 lbs.
800143	7 ins.	6 ins.	6 ins.	5 ins.	1033 lbs.	644.312 lbs.	702.312 lbs.
800144	8 ins.	7 ins.	7 ins.	6 ins.	1367 lbs.	792.624 lbs.	860.624 lbs.
800145	9 ins.	8 ins.	8 ins.	7 ins.	1828 lbs.	951.468 lbs.	1032.468 lbs.
800146	10 ins.	9 ins.	9 ins.	8 ins.	2517 lbs.	1137.367 lbs.	1229.367 lbs.

28 FOOT, THREE SECTION, EXTRA HEAVY

List No.	Bottom Section	Nominal Inside Diameter	Middle Section	Top Section	Safe Load	Approx. Wt. Without Sleeve	Approx. Wt. With Sleeve
800147	4 ins.	3 ins.	3 ins.	2½ ins.	352 lbs.	387.424 lbs.	429.424 lbs.
800148	5 ins.	4 ins.	4 ins.	3 ins.	604 lbs.	540.397 lbs.	598.397 lbs.
800149	6 ins.	5 ins.	5 ins.	4 ins.	956 lbs.	749.668 lbs.	825.658 lbs.
800150	7 ins.	6 ins.	6 ins.	5 ins.	1460 lbs.	1009.543 lbs.	1096.543 lbs.
800151	8 ins.	7 ins.	7 ins.	6 ins.	2000 lbs.	1288.758 lbs.	1316.758 lbs.
800152	9 ins.	8 ins.	8 ins.	7 ins.	2530 lbs.	1409.108 lbs.	1507.108 lbs.
800153	10 ins.	9 ins.	9 ins.	8 ins.	3300 lbs.	1586.654 lbs.	1707.654 lbs.

30 FOOT, THREE SECTION, STANDARD WEIGHT

List No.	Bottom Section	Nominal Inside Diameter	Middle Section	Top Section	Safe Load	Approx. Wt. Without Sleeve	Approx. Wt. With Sleeve
800154	4 ins.	3 ins.	3 ins.	2½ ins.	238 lbs.	297.153 lbs.	327.153 lbs.
800155	5 ins.	4 ins.	4 ins.	3 ins.	480 lbs.	405.666 lbs.	443.666 lbs.
800156	6 ins.	5 ins.	5 ins.	4 ins.	629 lbs.	537.825 lbs.	584.825 lbs.
800157	7 ins.	6 ins.	6 ins.	5 ins.	941 lbs.	682.260 lbs.	769.260 lbs.
800158	8 ins.	7 ins.	7 ins.	6 ins.	1245 lbs.	839.712 lbs.	937.712 lbs.
800159	9 ins.	8 ins.	8 ins.	7 ins.	1665 lbs.	1008.576 lbs.	1118.576 lbs.
800160	10 ins.	9 ins.	9 ins.	8 ins.	2293 lbs.	1205.181 lbs.	1326.181 lbs.

30 FOOT, THREE SECTION, EXTRA HEAVY

List No.	Bottom Section	Nominal Inside Diameter	Middle Section	Top Section	Safe Load	Approx. Wt. Without Sleeve	Approx. Wt. With Sleeve
800161	4 ins.	3 ins.	3 ins.	2½ ins.	321 lbs.	407.928 lbs.	449.928 lbs.
800162	5 ins.	4 ins.	4 ins.	3 ins.	550 lbs.	570.363 lbs.	628.363 lbs.
800163	6 ins.	5 ins.	5 ins.	4 ins.	870 lbs.	791.214 lbs.	867.214 lbs.
800164	7 ins.	6 ins.	6 ins.	5 ins.	1330 lbs.	1066.689 lbs.	1153.689 lbs.
800165	8 ins.	7 ins.	7 ins.	6 ins.	1664 lbs.	1294.854 lbs.	1392.854 lbs.
800166	9 ins.	8 ins.	8 ins.	7 ins.	2303 lbs.	1495.884 lbs.	1605.884 lbs.
800167	10 ins.	9 ins.	9 ins.	8 ins.	3000 lbs.	1684.110 lbs.	1805.110 lbs.

35 FOOT, THREE SECTION, STANDARD WEIGHT

List No.	Bottom Section	Nominal Inside Diameter	Middle Section	Top Section	Safe Load	Approx. Wt. Without Sleeve	Approx. Wt. With Sleeve
800182	4 ins.	3 ins.	3 ins.	2½ ins.	195 lbs.	342.801 lbs.	372.802 lbs.
800183	5 ins.	4 ins.	4 ins.	3 ins.	391 lbs.	467.882 lbs.	505.882 lbs.
800184	6 ins.	5 ins.	5 ins.	4 ins.	515 lbs.	620.154 lbs.	667.154 lbs.
800185	7 ins.	6 ins.	6 ins.	5 ins.	770 lbs.	786.483 lbs.	844.483 lbs.
800186	8 ins.	7 ins.	7 ins.	6 ins.	1019 lbs.	967.892 lbs.	1035.892 lbs.
800187	9 ins.	8 ins.	8 ins.	7 ins.	1362 lbs.	1162.395 lbs.	1243.395 lbs.
800188	10 ins.	9 ins.	9 ins.	8 ins.	1374 lbs.	1389.091 lbs.	1510.091 lbs.

35 FOOT, THREE SECTION, EXTRA HEAVY

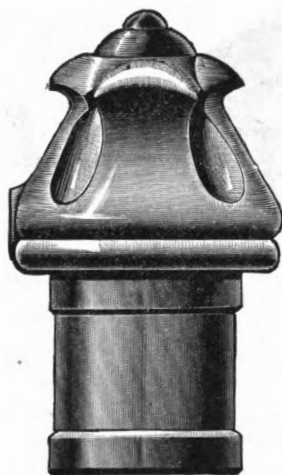
List No.	Bottom Section	Nominal Inside Diameter	Middle Section	Top Section	Safe Load	Approx. Wt. Without Sleeve	Approx. Wt. With Sleeve
800189	4 ins.	3 ins.	3 ins.	2½ ins.	262 lbs.	470.790 lbs.	512.790 lbs.
800190	5 ins.	4 ins.	4 ins.	3 ins.	450 lbs.	657.932 lbs.	715.932 lbs.
800191	6 ins.	5 ins.	5 ins.	4 ins.	713 lbs.	912.694 lbs.	988.694 lbs.
800192	7 ins.	6 ins.	6 ins.	5 ins.	1087 lbs.	1230.184 lbs.	1317.184 lbs.
800193	8 ins.	7 ins.	7 ins.	6 ins.	1486 lbs.	1491.639 lbs.	1589.639 lbs.
800194	9 ins.	8 ins.	8 ins.	7 ins.	1885 lbs.	1723.504 lbs.	1833.504 lbs.
800195	10 ins.	9 ins.	9 ins.	8 ins.	2451 lbs.	1940.383 lbs.	2061.383 lbs.

Note: Unless otherwise specified, poles without sleeves will be shipped. Prices on application.

IRON POLE TOPS



Pole Top, Type D



Pole Top, Type F

Pole Top, to Slip over Outside Pole. Type "D"

List No.		Approx. Wt. per 100	List Price Each
1160	For 3 in. pipe.....	1000 lbs.	\$1.23
1161	For 4 in. pipe.....	1200 lbs.	1.50
1162	For 4½ in. pipe.....	1400 lbs.	1.75
1163	For 5 in. pipe.....	1700 lbs.	2.18
1164	For 6 in. pipe.....	2200 lbs.	2.74
1165	For 7 in. pipe.....	3000 lbs.	3.73

Pole Top, to Slip Inside Pole. Type "F"

List No.		Approx. Wt. per 100	List Price Each
1172	For 3 in. pipe.....	700 lbs.	\$0.87
1173	For 4 in. pipe.....	1300 lbs.	1.75
1174	For 4½ in. pipe.....	1500 lbs.	1.86
1175	For 5 in. pipe.....	1700 lbs.	2.24
1176	For 6 in. pipe.....	2600 lbs.	3.24
1177	For 7 in. pipe.....	3300 lbs.	4.10



Insulator Pin



Pole Wheel Guard

Feeder Wire Insulator Pin

(Malleable Iron)

List No.		Approx. Wt. per 100	List Price Each
1129	1½ in. solid iron pin.....	275 lbs.	\$0.35

Pole Wheel Guards

1235	Wheel guards for 4 in. pipe.....	2000 lbs.	\$2.38
1236	Wheel guards for 5 in. pipe.....	2000 lbs.	2.50
1237	Wheel guards for 6 in. pipe.....	2000 lbs.	3.60
1238	Wheel guards for 7 in. pipe.....	2700 lbs.	3.73
1239	Wheel guards for 8 in. pipe.....	3400 lbs.	4.36

Western Electric COMPANY

POLE LINE MATERIAL



No. 1143
To Slip Inside Pole



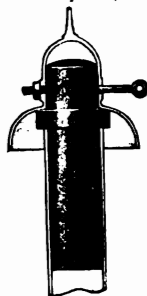
No. 1155
To Slip Over Pole



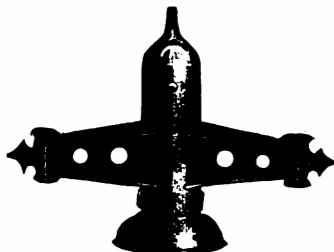
No. 1149
To Slip Inside Pole with
Screw for Insulator

Iron Pole Tops

List No.	Description	Approx. Weight per 100	List Price Each	List No.	Description	Approx. Weight per 100	List Price Each
1143	For 4 in. pole (inside).....	310	\$0.40	1158	For 6 in. pole (over).....	1400	\$1.75
1145	For 5 in. pole (inside).....	475	.59	1149	For 4 in. pole (with pin)...	450	.56
1146	For 6 in. pole (inside).....	625	.82	1151	For 5 in. pole (with pin)...	500	.62
1155	For 4 in. pole (over).....	900	1.13	1152	For 6 in. pole (with pin)...	525	.65
1157	For 5 in. pole (over).....	1200	1.50				



No. 1197
Insulated Type Complete with
Wood Plug, Insulator Pin
and Eye Bolt



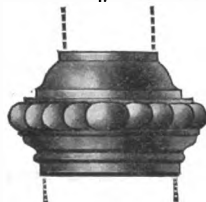
No. 1203
With Feeder Arm, Wood Plug
and Eye Bolt

Iron Pole Tops

List No.	Description	Approx. Weight per 100	List Price Each	List No.	Description	Approx. Weight per 100	List Price Each
1197	For 4 in. pole.....	1650	\$2.80	1203	For 4 in. pole.....	4600	\$7.42
1199	For 5 in. pole.....	1750	2.80	1205	For 5 in. pole.....	4700	7.42
1200	For 6 in. pole.....	3525	5.22	1206	For 6 in. pole.....	6800	10.30
				1207	For 7 in. pole.....	6900	10.30



No. 1210



No. 1229



No. 1220

Iron Pole Joint Collars

List No.	Description	Approx. Weight per 100	List Price Each	List No.	Description	Approx. Weight per 100	List Price Each
1210	Collar 4 x 3 in. pipe.....	200	\$0.25	1232	Collar 6 x 5 in. pipe.....	900	\$1.12
1211	Collar 5 x 4 in. pipe.....	300	.38	1233	Collar 7 x 6 in. pipe.....	1100	1.37
1212	Collar 6 x 5 in. pipe.....	400	.47	1220	Collar 4 x 3 in. pipe.....	500	.62
1213	Collar 7 x 6 in. pipe.....	450	.56	1222	Collar 5 x 4 in. pipe.....	700	.87
1229	Collar 4 x 3 in. pipe.....	525	.65	1223	Collar 6 x 5 in. pipe.....	1000	1.25
1231	Collar 5 x 4 in. pipe.....	600	.75	1224	Collar 7 x 6 in. pipe.....	1300	1.62

Railway Material

SPRING COTTERS



Manufacturers' List. Special Discounts on Application

List No.	Size	Quantity in Pkgs.	Wt. per 1000		List Price per 1000	List No.	Size	Quantity in Pkgs.	Wt. per 1000		List Price per 1000
			Lbs.	Oz.					Lbs.	Oz.	
820144	$\frac{1}{8}$ x $\frac{1}{8}$	1000	1	7	\$3.50	820211	$\frac{1}{8}$ x $1\frac{1}{4}$	500	17	14	\$20.80
820145	$\frac{1}{8}$ x $\frac{3}{8}$	1000	2	0	4.15	820212	$\frac{1}{8}$ x $1\frac{1}{2}$	500	20	5	23.60
820146	$\frac{1}{8}$ x $\frac{1}{2}$	1000	2	3	4.80	820313	$\frac{1}{8}$ x $1\frac{3}{4}$	500	20	14	26.40
820147	$\frac{1}{8}$ x 1	1000	2	5	4.80	820214	$\frac{1}{8}$ x 2	250	25	3	29.20
820148	$\frac{1}{8}$ x $1\frac{1}{4}$	1000	2	12	5.45	820215	$\frac{1}{8}$ x $2\frac{1}{4}$	250	27	10	32.00
820149	$\frac{1}{8}$ x $1\frac{1}{2}$	1000	3	9	6.10	820216	$\frac{1}{8}$ x $2\frac{1}{2}$	250	30	1	34.80
820150	$\frac{1}{8}$ x $1\frac{3}{4}$	1000	4	1	6.75	820217	$\frac{1}{8}$ x $2\frac{3}{4}$	250	32	8	37.60
820151	$\frac{1}{8}$ x 2	1000	4	10	7.40	820218	$\frac{1}{8}$ x 3	250	34	15	40.40
820152	$\frac{1}{8}$ x $2\frac{1}{2}$	1000	2	1	4.00	820219	$\frac{1}{4}$ x 1	500	17	13	20.00
820153	$\frac{1}{8}$ x $\frac{3}{4}$	1000	2	12	4.75	820220	$\frac{1}{4}$ x $1\frac{1}{4}$	500	20	8	23.50
820154	$\frac{1}{8}$ x 1	1000	3	5	5.50	820221	$\frac{1}{4}$ x $1\frac{1}{2}$	500	23	0	27.00
820155	$\frac{1}{8}$ x $1\frac{1}{2}$	1000	4	12	7.00	820222	$\frac{1}{4}$ x $1\frac{3}{4}$	500	26	8	30.50
820156	$\frac{1}{8}$ x $1\frac{3}{4}$	1000	5	1	7.75	820223	$\frac{1}{4}$ x 2	250	29	0	34.00
820157	$\frac{1}{8}$ x 2	1000	6	2	8.50	820224	$\frac{1}{4}$ x $2\frac{1}{4}$	250	32	8	37.50
820158	$\frac{1}{8}$ x $\frac{1}{2}$	1000	2	12	5.00	820225	$\frac{1}{4}$ x $2\frac{1}{2}$	250	35	0	41.00
820159	$\frac{1}{8}$ x $\frac{3}{4}$	1000	3	10	5.85	820226	$\frac{1}{4}$ x $2\frac{3}{4}$	250	36	4	44.50
820160	$\frac{1}{8}$ x 1	1000	4	0	6.70	820227	$\frac{1}{4}$ x 3	250	40	2	48.00
820161	$\frac{1}{8}$ x $1\frac{1}{2}$	1000	5	9	8.40	820228	$\frac{1}{4}$ x $3\frac{1}{4}$	250	43	1	51.50
820162	$\frac{1}{8}$ x $1\frac{3}{4}$	1000	6	0	9.25	820229	$\frac{1}{4}$ x $3\frac{1}{2}$	250	46	0	55.00
820163	$\frac{1}{8}$ x 2	1000	7	3	10.10	820230	$\frac{1}{4}$ x $3\frac{3}{4}$	250	48	15	58.50
820164	$\frac{1}{8}$ x $2\frac{1}{4}$	500	9	0	10.95	820231	$\frac{1}{4}$ x 4	150	51	13	62.00
820165	$\frac{1}{8}$ x $2\frac{1}{2}$	500	9	12	11.80	820232	$\frac{5}{16}$ x 1	500	29	8	32.50
820166	$\frac{5}{16}$ x $\frac{1}{2}$	1000	3	10	6.00	820233	$\frac{5}{16}$ x $1\frac{1}{4}$	250	34	1	37.50
820167	$\frac{5}{16}$ x $\frac{3}{4}$	1000	4	10	7.00	820234	$\frac{5}{16}$ x $1\frac{1}{2}$	250	38	0	42.50
820168	$\frac{5}{16}$ x 1	1000	5	10	8.00	820235	$\frac{5}{16}$ x $1\frac{3}{4}$	250	44	0	47.50
820169	$\frac{5}{16}$ x $1\frac{1}{2}$	1000	6	12	10.00	820236	$\frac{5}{16}$ x 2	250	47	13	52.50
820170	$\frac{5}{16}$ x $1\frac{3}{4}$	1000	8	10	11.00	820237	$\frac{5}{16}$ x $2\frac{1}{4}$	250	52	6	57.50
820171	$\frac{5}{16}$ x 2	500	10	0	12.00	820238	$\frac{5}{16}$ x $2\frac{1}{2}$	250	57	10	62.50
820172	$\frac{5}{16}$ x $2\frac{1}{4}$	500	10	10	13.00	820239	$\frac{5}{16}$ x $2\frac{3}{4}$	250	61	9	67.50
820173	$\frac{5}{16}$ x $2\frac{1}{2}$	500	12	0	14.00	820240	$\frac{5}{16}$ x 3	200	67	0	72.50
820174	$\frac{5}{16}$ x $\frac{1}{2}$	1000	4	6	7.00	820241	$\frac{5}{16}$ x $3\frac{1}{4}$	200	70	11	77.50
820175	$\frac{5}{16}$ x $\frac{3}{4}$	1000	5	10	8.15	820242	$\frac{5}{16}$ x $3\frac{1}{2}$	150	75	5	82.50
820176	$\frac{5}{16}$ x 1	1000	7	0	9.30	820243	$\frac{5}{16}$ x $3\frac{3}{4}$	150	79	14	87.50
820177	$\frac{5}{16}$ x $1\frac{1}{4}$	1000	8	5	10.45	820244	$\frac{3}{8}$ x 1	100	84	7	92.50
820178	$\frac{5}{16}$ x $1\frac{1}{2}$	1000	9	5	11.60	820245	$\frac{3}{8}$ x $1\frac{1}{2}$	Bulk	60	..	72.00
820179	$\frac{5}{16}$ x $1\frac{3}{4}$	1000	9	13	12.75	820246	$\frac{3}{8}$ x $1\frac{3}{4}$	Bulk	66	..	79.20
820180	$\frac{5}{16}$ x 2	500	10	14	13.90	820247	$\frac{3}{8}$ x 2	Bulk	70	..	86.40
820181	$\frac{5}{16}$ x $2\frac{1}{4}$	500	13	8	15.05	820248	$\frac{3}{8}$ x $2\frac{1}{4}$	Bulk	78	..	93.60
820182	$\frac{5}{16}$ x $2\frac{1}{2}$	500	14	0	16.20	820249	$\frac{3}{8}$ x $2\frac{1}{2}$	Bulk	84	..	100.80
820183	$\frac{3}{8}$ x $\frac{1}{2}$	1000	5	8	8.00	820250	$\frac{3}{8}$ x $2\frac{3}{4}$	Bulk	91	..	108.00
820184	$\frac{3}{8}$ x $\frac{3}{4}$	1000	6	11	9.30	820251	$\frac{3}{8}$ x 3	Bulk	95	..	115.20
820185	$\frac{3}{8}$ x 1	1000	8	1	10.60	820252	$\frac{3}{8}$ x $3\frac{1}{4}$	Bulk	103	..	122.40
820186	$\frac{3}{8}$ x $1\frac{1}{4}$	1000	9	7	11.90	820253	$\frac{3}{8}$ x $3\frac{1}{2}$	Bulk	109	..	129.60
820187	$\frac{3}{8}$ x $1\frac{1}{2}$	1000	11	1	13.20	820254	$\frac{3}{8}$ x $3\frac{3}{4}$	Bulk	116	..	136.80
820188	$\frac{3}{8}$ x $1\frac{3}{4}$	1000	12	3	14.50	820255	$\frac{3}{8}$ x 4	Bulk	123	..	144.00
820189	$\frac{3}{8}$ x 2	500	14	0	15.80	820256	$\frac{7}{16}$ x $1\frac{3}{4}$	Bulk	108	..	108.00
820190	$\frac{3}{8}$ x $2\frac{1}{4}$	500	15	6	17.10	820257	$\frac{7}{16}$ x 2	Bulk	118	..	119.50
820191	$\frac{3}{8}$ x $2\frac{1}{2}$	500	16	12	18.40	820258	$\frac{7}{16}$ x $2\frac{1}{4}$	Bulk	128	..	131.00
820192	$\frac{7}{16}$ x $\frac{3}{4}$	1000	8	0	11.10	820259	$\frac{7}{16}$ x $2\frac{1}{2}$	Bulk	138	..	142.50
820193	$\frac{7}{16}$ x 1	1000	9	5	12.80	820260	$\frac{7}{16}$ x $2\frac{3}{4}$	Bulk	148	..	154.00
820194	$\frac{7}{16}$ x $1\frac{1}{4}$	1000	10	10	14.50	820261	$\frac{7}{16}$ x 3	Bulk	159	..	165.50
820195	$\frac{7}{16}$ x $1\frac{1}{2}$	1000	13	8	16.20	820262	$\frac{7}{16}$ x $3\frac{1}{4}$	Bulk	169	..	177.00
820196	$\frac{7}{16}$ x 2	500	16	8	19.60	820263	$\frac{7}{16}$ x $3\frac{1}{2}$	Bulk	180	..	188.50
820197	$\frac{7}{16}$ x $2\frac{1}{4}$	500	17	10	21.30	820264	$\frac{7}{16}$ x $3\frac{3}{4}$	Bulk	189	..	200.00
820198	$\frac{7}{16}$ x $2\frac{1}{2}$	500	20	0	23.00	820265	$\frac{7}{16}$ x 4	Bulk	198	..	211.50
820199	$\frac{7}{16}$ x $2\frac{3}{4}$	500	21	2	24.70	820266	$\frac{7}{16}$ x 5	Bulk	239	..	257.50
820200	$\frac{7}{16}$ x 3	250	22	14	26.40	820267	$\frac{1}{2}$ x 2	Bulk	150	..	148.50
820201	$\frac{7}{16}$ x $\frac{3}{4}$	1000	10	0	12.00	820268	$\frac{1}{2}$ x $2\frac{1}{4}$	Bulk	161	..	163.50
820202	$\frac{7}{16}$ x 1	1000	12	0	14.00	820269	$\frac{1}{2}$ x $2\frac{1}{2}$	Bulk	175	..	178.50
820203	$\frac{7}{16}$ x $1\frac{1}{4}$	1000	12	14	16.00	820270	$\frac{1}{2}$ x $2\frac{3}{4}$	Bulk	189	..	193.50
820204	$\frac{7}{16}$ x $1\frac{1}{2}$	1000	15	10	18.00	820271	$\frac{1}{2}$ x 3	Bulk	200	..	208.50
820205	$\frac{7}{16}$ x 2	500	20	8	22.00	820272	$\frac{1}{2}$ x $3\frac{1}{4}$	Bulk	213	..	223.50
820206	$\frac{7}{16}$ x $2\frac{1}{4}$	500	22	10	24.00	820273	$\frac{1}{2}$ x $3\frac{1}{2}$	Bulk	225	..	238.50
820207	$\frac{7}{16}$ x $2\frac{1}{2}$	500	24	11	26.00	820274	$\frac{1}{2}$ x $3\frac{3}{4}$	Bulk	238	..	253.50
820208	$\frac{7}{16}$ x $2\frac{3}{4}$	250	26	13	28.00	820275	$\frac{1}{2}$ x 4	Bulk	250	..	268.50
820209	$\frac{7}{16}$ x 3	250	28	14	30.00	820276	$\frac{1}{2}$ x 5	Bulk	300	..	328.50
820210	$\frac{1}{2}$ x 1	500	15	7	18.00	820277	$\frac{1}{2}$ x 6	Bulk	350	..	388.50

KALAMAZOO TROLLEY HARPS

Malleable Iron Harps

These harps are made of high-grade malleable iron and possess great strength combined with minimum weight. In their design all sharp corners and projections have been eliminated.



No. 1



No. 2



No. 3



No. 4

NOS. 1, 2, 3 AND 4 HARPS

List No.	Width Between Washers	Diameter of Axle Pin	Maximum Diameter of Wheel	Approximate Weight Lbs.	List Price Each
1	1½ ins.	⅝ in.	6 ins.	2½ lbs.	\$1.55
2	1½ ins.	⅝ in.	6 ins.	3 lbs. 9 oz.	1.55
3	1½ ins.	⅝ in.	6 ins.	3½ lbs.	1.55
4	2 ins.	⅝ in.	6 ins.	3 lbs.	2.30

¾ inch pins for 1, 2 and 4 harps can be furnished on special order.



No. 5



No. 6



No. 8

NOS. 5, 6 AND 8 HARPS

List No.	Width Between Washers	Diameter of Axle Pin	Maximum Diameter of Wheel	Approximate Weight Lbs.	List Price Each
5	1½ ins.	½ in.	5 ins.	2¾ lbs.	\$1.24
6	3 ins.	½ in.	5½ ins.	3 lbs.	1.55
8	1½ ins.	½ in.	4 ins.	2½ ins.	1.24

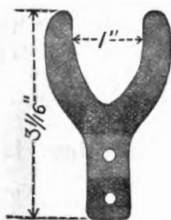
⅝ inch pins for 5, 6 and 8 harps can be furnished on special order.

Railway Material

TROLLEY HARP ACCESSORIES



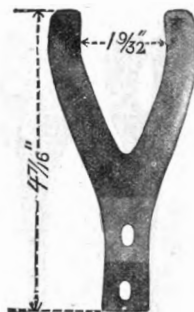
No. 218



No. 214



Showing Arrangement of Springs
and Washers in Detail



No. 219

Springs and Washers

KALAMAZOO TROLLEY HARP SPRINGS

List No.	Used with Harps Nos.	Height	Width	List Price per 100	List No.	Used with Harps Nos.	Height	Width	List Price per 100
218	3-5-6	3 1/16 ins.	1 1/16 ins.	\$16.25	219	1-2-4	4 7/16 ins.	1 3/32 ins.	\$16.25
214	8	3 1/8 ins.	1 in.	16.25					



No. 126



No. 129



No. 125



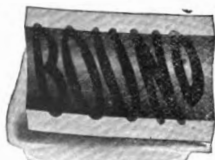
No. 130



No. 133

KALAMAZOO TROLLEY HARP WASHERS

List No.	Ext. Diam.	Int.	Used with Harps Nos.	List Price per 100	List No.	Ext. Diam.	Int.	Used with Harps Nos.	List Price per 100
126	1 1/4 ins.	1 1/8 ins.	.....	\$6.25	130	1 1/8 ins.	1 1/8 ins.	3-5-6-8	\$6.25
129	1 1/8 ins.	1 1/8 ins.	5-6-8	6.25	133	1 1/8 ins.	1 1/8 ins.	1-2-4	6.25
125	1 1/4 ins.	1 1/8 ins.	.....	2.50					



Trade Mark, Reg. U. S. Pat. Off. Serial No. 81982

Trolley Wheel Bushings

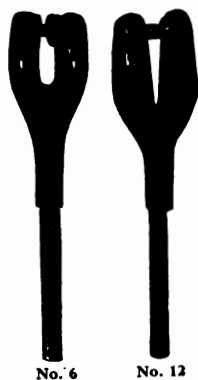
These graphite bushings are made of special bearing metal and the graphite inserted in grooves by a patented process. They are self-lubricating and do not require oil or grease. Packed 50 in a box.

List No.	Bore	Outside Diam.	Length	Approx. Wt. per 100	List Price Each	List No.	Bore	Outside Diam.	Length	Approx. Wt. per 100	List Price Each
820033	1/2 in.	3/8 in.	1 1/2 ins.	16	\$0.20	820036	3/4 in.	1 1/8 ins.	1 1/2 ins.	20	\$0.40
820034	5/8 in.	1 in.	1 1/2 ins.	19	.25	820037	3/4 in.	1 1/8 ins.	2 ins.	28	.45
820035	5/8 in.	1 in.	2 ins.	25	.30						

TROLLEY HARPS

Union Standard Trolley Harps

Union Standard Trolley Harps are made of malleable iron and furnished with a $\frac{3}{4}$ inch diameter cold rolled steel shank.



List No.	Width Between Washers	Diameter Axle Pin	Max. Diameter of Wheel	List Price Each
6	1 $\frac{1}{4}$ ins.	$\frac{1}{2}$ in.	4 $\frac{3}{4}$ ins.	On Application
12	2 ins.	$\frac{5}{8}$ in.	6 ins.	

NOTE.—Kalamazoo wheels can be used with above harps.

Union Standard Trolley Harp Parts

Contact Springs

Contact springs are made of phosphor bronze.

List No.	Description	List Price per 100
820049	For $\frac{1}{2}$ in. axle...	On
820050	For $\frac{3}{8}$ in. axle...	Appl.

Contact Washers

Contact washers are made of hard copper of correct dimensions.

List No.	Description	List Price per 100
820051	For $\frac{1}{2}$ in. axle...	On
820052	For $\frac{3}{8}$ in. axle...	Appl.

CONTACT SPRING RIVETS AND COTTER PINS

List No.	Description	List Price per Lb.	List No.	Description	List Price per 100
820053	Contact Spring Rivets....	On application	820054	Spring Cotter Pins.....	On Application



Holland Mine Harp

The Holland Mine Harp

The Holland Mine Harp has proved its ability to stand the severe tests of mine service. Note the contact to carry the current away from the bearing thus increasing life of trolley wheel. The current is taken from the harp through a cable connection which is cast a part of the harp, having one large opening with two set screws. The pole sleeve is long and is made in such a manner that the pole is firmly held and reinforced.

List No.	Mfr. Type	Width Between Washers	Diameter Axle Pin	Max. Diam. of Wheel	Wt., Each Lbs.	List Price Each
820055	Mine	1 $\frac{1}{2}$ ins.	$\frac{1}{2}$ in.	5 ins.	4	\$4.86

Kalamazoo Mine or Larry Harp

For 6 In. Wheels

No. 7—2 inch hole in shank. 1 $\frac{1}{2}$ inches between washers. $\frac{5}{8}$ inch cold rolled steel pin. Washer No. 130. Spring No. 218.

List No.	Description	List Price Each
7	Brass Mine or Larry Harp.....	\$3.00



Mine Harp

Railway Material

Holland Trolley Grease

List No.	Description	List Price per Lb.	List No.	Description	List Price per Lb.
820057	10 lb. cans.....	\$0.30	820059	50 lb. cans.....	\$0.20
820058	25 lb. cans.....	.24	820060	Bbls. and half bbls.....	.12

KALAMAZOO TROLLEY WHEELS

The Kalamazoo Trolley Wheel is made of pure lake copper, treated by a special process which gives it the quality of softness combined with a remarkable degree of toughness. The result is a wheel which has extraordinary durability and yet which causes no injury or wear upon the overhead wire. In this wheel there is not an ounce of scrap brass, of which the common brass wheel is composed, nor any of the common alloys so easily affected by the arc drawn from the wire. Only pure ingot metal is used, which produces only a high-grade wheel. The oiling device is something entirely novel and insures thorough lubrication, thus effecting a great saving in bushings.

STANDARD TYPES



No. 7—"U" Groove



No. 8—"V" Groove



No. 9—Deep Groove

List No.	Outside Diameter	Width Flange	Length of Hub	Diameter of Pin	Depth of Groove	Style of Groove	Wt. Each Lbs.	List Price Each
7	4 ins.	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	U	2	\$1.65
8	4 ins.	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	V	2	1.65
9	4 ins.	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	$\frac{1}{2}$ in.	$\frac{7}{8}$ in.	Extra Deep	2 $\frac{1}{4}$	1.65



No. 5—"V" Groove



No. 15—"U" Groove

List No.	Outside Diameter	Width Flange	Length of Hub	Diameter of Pin	Depth of Groove	Style of Groove	Wt. Each Lbs.	List Price Each
5	5 ins.	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	V	2 $\frac{3}{4}$	\$2.80
15	5 ins.	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	U	2 $\frac{3}{4}$	2.80

Any of the above wheels can be furnished with $\frac{5}{8}$ inch bushings if desired.



No. 1—"V" Groove



No. 2—"U" Groove

List No.	Outside Diameter	Width Flange	Length of Hub	Diameter of Pin	Depth of Groove	Style of Groove	Wt. Each Lbs.	List Price Each
1	6 ins.	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	V	3 $\frac{3}{4}$	\$3.90
2	6 ins.	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	U	3 $\frac{3}{4}$	3.90

The above high speed wheels can be furnished with $\frac{3}{4}$ inch bushings if desired.

KALAMAZOO TROLLEY WHEELS

High Speed Types



No. 3—Deep Groove



No. 4—Wide Groove

List No.	Outside Diameter	Width Flange	Length of Hub	Diameter of Pin	Depth of Groove	Style of Groove	Wt. Each Lbs.	List Price Each
3	6 ins.	1½ ins.	1½ ins.	⅝ in.	1 in.	Deep	3¾ lbs.	\$2.98
4	6 ins.	1⅞ ins.	2 ins.	⅝ in.	1 in.	Extra Wide	4½ lbs.	3.48

The above can be furnished with ⅜ inch bushings if desired.



No. 10—Medium Groove



No. 14—Deep Groove



No. 17—Medium Groove

List No.	Outside Diameter	Width Flange	Length of Hub	Diameter of Pin	Depth of Groove	Style of Groove	Wt. Each Lbs.	List Price Each
*10	5¾ ins.	1½ ins.	3 ins.	½ in.	¾ in.	Medium	4¾ lbs.	\$3.72
14	6 ins.	1⅞ ins.	2 ins.	⅝ in.	⅞ in.	Deep	4¼ lbs.	3.40
17	5¾ ins.	1½ ins.	2 ins.	*⅝ in.	⅞ in.	Medium	4 lbs.	3.48

No. 10 wheel will be furnished with ⅝ in. pin when specified.



No. 18—Large Groove



No. 19—Medium Groove



No. 22—Medium Groove

List No.	Outside Diameter	Width Flange	Length of Hub	Diameter of Pin	Depth of Groove	Style of Groove	Wt. Each Lbs.	List Price Each
18	6 ins.	2 ins.	2 ins.	¾ in.	1¼ ins.	Ext. Large	6 lbs.	\$3.48
19	5¾ ins.	1½ ins.	2 ins.	⅝ in.	⅞ in.	Medium	4¼ lbs.	3.48
22	6 ins.	1⅞ ins.	2 ins.	⅝ in.	¾ in.	Medium	5 lbs.	3.48

Railroad Material

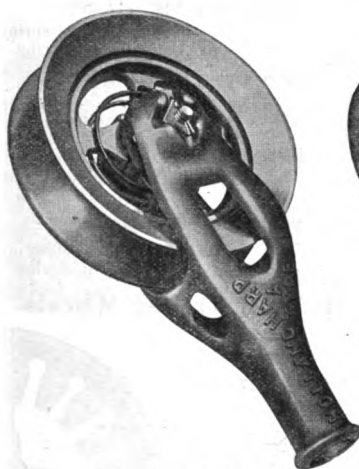
HOLLAND TROLLEY HARPS

The harps illustrated below possess a special feature over ordinary harps in that the current is taken from the side of the wheel through the inside of the harp instead of through the hub and bearing. The contacting surfaces are large and durable. The harps are reversible and have a trolley rope fastening on each side. They are designed to absolutely prevent any fouling of the wire when being handled by the operator.

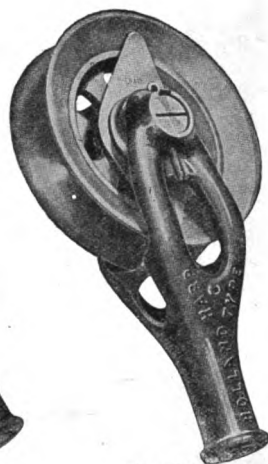
The axle can be filled with lubricant through one end if desired without removing the axle or hub or any screws.



Type "B"



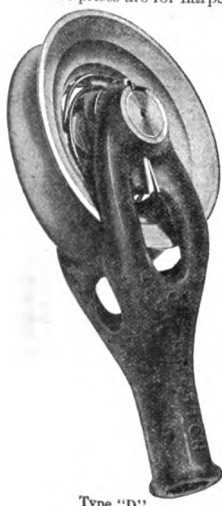
Type "A"



Type "C"

List No.	Mfr. Type	Width Between Washers	Diameter Axle Pin	Max. Diam. Wheel	Wt., Each Lbs.	List Price Each
820082	A	1½ ins.	1 in.	6 ins.	2	\$2.00
820083	B	1½ ins.	1 in.	5 ins.	3½	2.20
820084	C	1½ ins.	1 in.	6 ins.	2	2.00

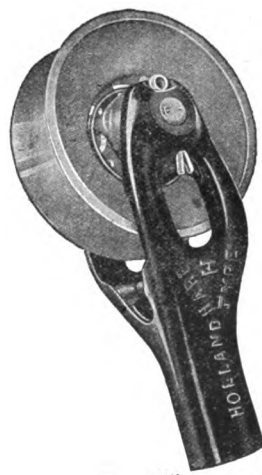
Above prices are for harps only, and do not include trolley wheels.



Type "D"



Type "F"



Type "H"

List No.	Mfr. Type	Width Between Washers	Diameter Axle Pin	Max. Diam. Wheel	Wt., Each Lbs.	List Price Each
820085	D	1½ ins.	1 in.	5 ins.	2	\$1.60
820086	F	1½ ins.	¾ in.	4½ ins.	1½	1.50
820087	H	1½ ins.	½ in. solid	4½ ins.	1½	1.50

Above prices are for harps only, and do not include trolley wheels.

HOLLAND TROLLEY HARP ACCESSORIES
FOR TYPE "A" HARPS

List No.	Description	List Price Each	List No.	Description	List Price Each
3	Bearing.....	\$0.30	6	Contact spring.....	\$0.15
5	Renewable washer.....	.03	7	Contact ring.....	.15

FOR TYPE "B" HARPS

13	Bearing.....	\$0.75	16	Contact spring.....	\$0.15
15	Renewable washer.....	.03	17	Contact ring.....	.15

FOR TYPE "C" HARPS

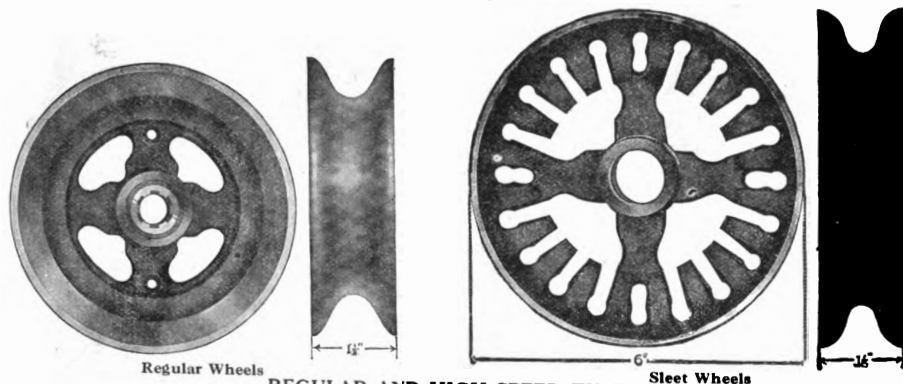
23	Bearing.....	\$0.75	26	Contact spring.....	\$0.15
25	Reversible washer.....	.03	27	Contact ring.....	.15

FOR TYPE "D" HARPS

47	Bearing.....	\$0.75	46	Contact spring.....	\$0.15
45	Renewable washer.....	.03	47	Contact ring.....	.15

FOR TYPE "F" HARPS

53	Bearing.....	\$0.60	56	Contact spring.....	\$0.15
55	Renewable washer.....	.03	57	Contact ring.....	.15

Holland Trolley Wheels


Regular Wheels

Sleet Wheels

REGULAR AND HIGH SPEED TYPES

REGULAR AND HIGH SPEED TYPES							
List No.	Size of Hub				Bore	Groove	List Price Each
	Diam.	Length	Diam.				
1	6 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	V	\$3.00
4	6 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	V	3.24
15	6 ins.	1 1/2 ins.	1 1/2 ins.		1 in.	V	3.24
23	6 ins.	1 1/4 ins.	1 3/4 ins.		7/8 in.	V	3.00
37	6 ins.	1 1/2 ins.	1 1/2 ins.		1 in.	Special B Wheel	3.24
2	5 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	V	2.16
3	5 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	V	2.40
17	5 ins.	1 3/8 ins.	1 1/2 ins. (3 spoke)		1 in.	V	2.40
18	5 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	V	2.52
31	5 ins.	1 3/8 ins.	1 1/2 ins.		3/4 or 1 in.	V	2.40
5	4 1/2 ins.	1 3/8 ins.	1 1/2 ins.		3/4 in.	V	2.16
19	4 1/2 ins.	1 3/4 ins.	1 1/2 ins.		3/4 in.	V	2.16
6	4 ins.	1 in.	1 1/2 ins.		3/4 in.	V	1.92
7	6 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	U	3.00
13	6 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	U	3.24
8	6 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	U	3.00
14	5 ins.	1 3/8 ins.	1 1/2 ins.		1 in.	U	2.40

Above wheels are made for hollow axle and 1 1/2 in. axle

Above wheels are made for hollow axle 1 inch, 7/8 inch, 3/4 inch to be filled with lubricant.

SLEET WHEELS

List No.	Size of Hub				Bore	List Price Each
	Diam.	Length	Diam.	Diam.		
32	6 ins.	1 3/8 ins.	1 1/2 ins.	1 1/2 ins. or 2 ins.	To order	\$3.00
31	5 ins.	1 3/8 ins.	1 1/2 ins.	1 1/2 ins.	To order	2.40
11	4 ins.	1 3/8 ins.	1 1/2 ins.	1 1/2 ins.	To order	2.04

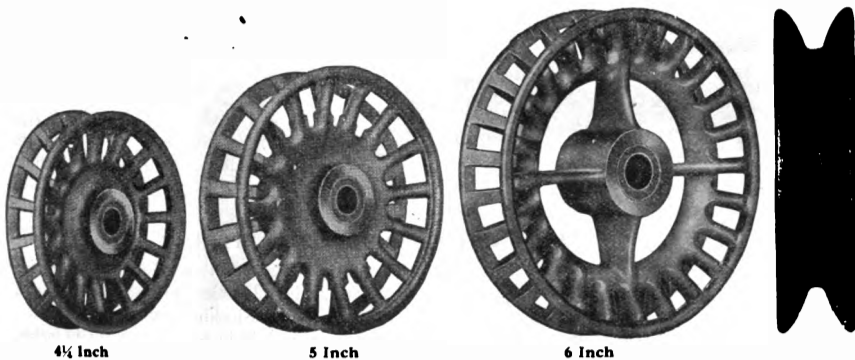
Can be made for 1 inch, 7/8 inch, 3/4 inch hollow bearing, or with 3/4 inch, 5/8 inch or 1/2 inch graphite bushing.

Railway Material

SLEET CUTTERS

Standard Sleet Wheels

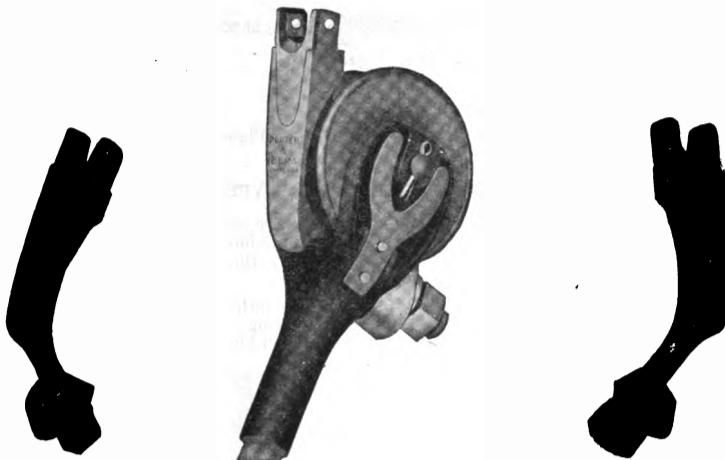
These wheels are substituted for regular trolley wheels when wires are covered with sleet. They are the latest improved type, the spokes or ribs forming the wall of the groove, intermeshing at the bottom, thus securing the greatest possible efficiency.



List No.	Outside Diam.	Width of Flange	Length of Hub	Diam. of Bushing	Depth of Groove	Wt., Each Lbs.	List Price per 100
4	4 1/4 ins.	1 3/8 ins.	1 1/2 ins.	1/2 in.	7/8 in.	1 7/8	\$149.50
4-A	4 1/4 ins.	1 3/8 ins.	1 1/2 ins.	5/8 in.	7/8 in.	1 7/8	156.40
5	5 ins.	1 3/8 ins.	1 1/2 ins.	1/2 in.	1 in.	2 1/2	230.00
5-A	5 ins.	1 3/8 ins.	1 1/2 ins.	5/8 in.	1 in.	2 1/2	236.90
6	6 ins.	1 3/8 ins.	1 1/2 ins.	1/2 in.	1 in.	3 1/4	360.00
6-A	6 ins.	1 3/8 ins.	1 1/2 ins.	5/8 in.	1 in.	3 1/4	384.00

Matthews' "O.K." Sleet Cutters

The Matthews "O.K." Sleet Cutter is a practical device for removing sleet from the trolley wire. It may be used without removing the wheel. It consists of a Y shaped malleable iron casting, fitted to which is a soft brass contact lug, which is fastened by means of ordinary copper rivets. This lug when worn may be easily replaced. In attaching, the lower part of the sleet cutter is set against the harp and under the wheel and is clamped firmly thereto by means of an iron lug, washer and nut, as shown in the illustration.



List No.	Description	List Price Each
1	For 5 or 6 in. wheels.....	\$1.30
2	For 4 in. wheels.....	1.10
..	Brass lugs (fit either size).....	.40

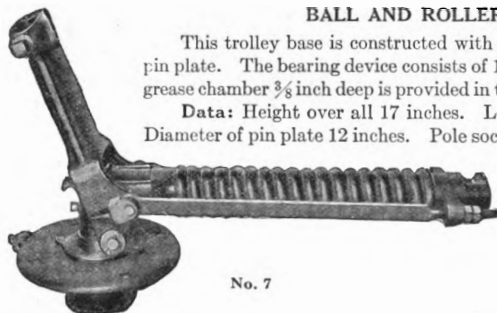
HOLLAND TROLLEY BASES
BALL BEARING TYPE NO. 5


This trolley base is designed for city and light interurban service. Four large oil holes or grease chambers are provided for lubrication. The base is sensitive and free acting and is provided with locking down device. It will take quick and sharp curves.

Data: Height extended $3\frac{1}{2}$ inches. Length—normal 38 inches. Extended 48 inches. Radius of swing $31\frac{1}{2}$ inches. Diameter of base $12\frac{1}{4}$ inches. Bearings $7\frac{1}{8}$ inches. Pole socket $9\frac{1}{2}$ inches. Weight 90 lbs. Tension 10 to 50 lbs. Bearings—22 one-inch balls.

List No.	Description	List Price Each
5	Holland ball bearing base....	\$40.00

No. 5

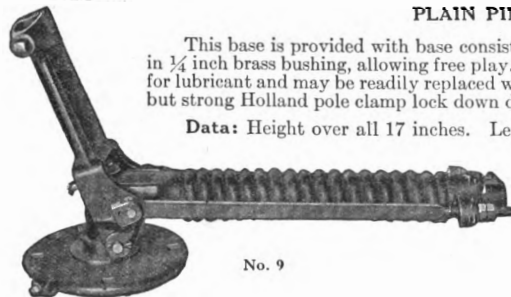
BALL AND ROLLER BEARING TYPE NO. 7


This trolley base is constructed with a sub-base the same as the Holland anti-friction pin plate. The bearing device consists of 15 hardened steel rollers and $8\frac{3}{4}$ inch balls, and a grease chamber $\frac{3}{8}$ inch deep is provided in the base. Simple locking down device.

Data: Height over all 17 inches. Length—normal 28 inches. Extended 40 inches. Diameter of pin plate 12 inches. Pole socket 10 inches. Side rods $1 \times \frac{1}{2}$ inches. Weight 110 lbs. Tension 10 to 50 lbs.

List No.	Description	List Price Each
7	Ball and roller bearing base...	\$36.00

No. 7

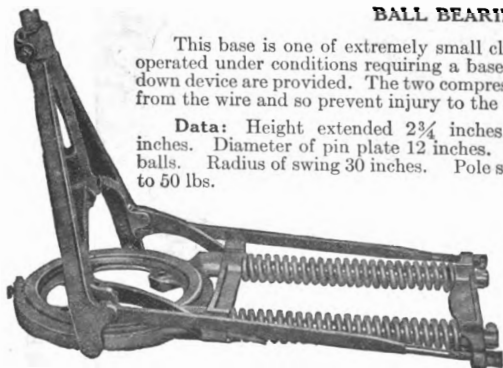
PLAIN PIN TYPE NO. 9


This base is provided with base consisting of a hardened cold rolled steel pin encased in $\frac{1}{4}$ inch brass bushing, allowing free play. The bushing is provided with numerous holes for lubricant and may be readily replaced when worn. The base is furnished with a simple but strong Holland pole clamp lock down device, strong spring and side rods.

Data: Height over all 17 inches. Length—normal 28 inches. Extended 40 inches. Diameter of pin plate 12 inches. Radius of swing 22 inches. Pole socket 10 inches. Weight 95 lbs. Tension 10 to 50 lbs.

List No.	Description	List Price Each
9	Plain pin type base.....	\$30.00

No. 9

BALL BEARING TYPE NO. 4


This base is one of extremely small clearance and is especially adapted for railways operated under conditions requiring a base of minimum clearance. Pole clamp and lock down device are provided. The two compression springs act as a cushion if trolley is thrown from the wire and so prevent injury to the base.

Data: Height extended $2\frac{3}{4}$ inches. Length—normal 40 inches. Extended 54 inches. Diameter of pin plate 12 inches. Bearing $13\frac{3}{8}$ inches, consisting of 42 one-inch balls. Radius of swing 30 inches. Pole socket 12 inches. Weight 120 lbs. Tension 10 to 50 lbs.

List No.	Description	List Price Each
4	Holland ball bearing base....	\$44.00

No. 4

HOLLAND TROLLEY BASES



No. 3

BALL BEARING TYPE NO. 3

This base is the most substantial offered to the trade, and is especially adapted for the heaviest service. It is single acting and reversible, the fulcrum being arranged to give full tension at working point, but little tension as pole approaches horizontal. The bearing consists of forty-two one-inch balls and is self-cleaning, dust and water promptly working out at the bottom.

Data: Height, extended, 7 inches. Diameter, base, 16 inches; bearing, $13\frac{1}{2}$ inches; pole socket, 24 inches; weight 100 lbs; tension 15 to 50 pounds.

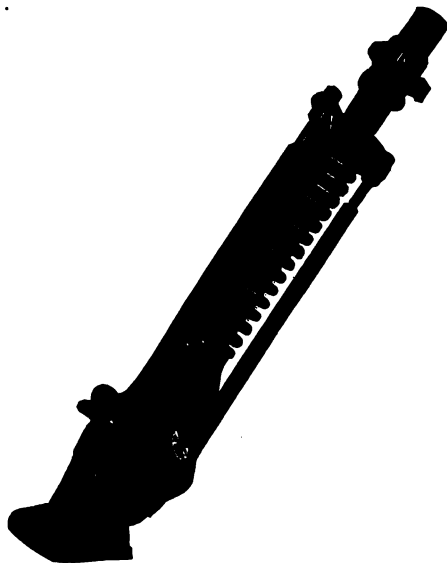
List No.	Description	List Price Each
3	Holland Ball Bearing Base...	\$44.00

MINE BASE NO. 18

This base is used on mine cars and on bonding and track machine cars for street railways. The base is made either with angle fastening plate (as shown) for attachment at side of car, or with flat plate base for top of car. When ordering, type of fastening plate should be specified.

Data: Height, extended, 7 inches; diameter, fastening plate, 8 inches; pin plate, 12 inches; weight 95 pounds.

List No.	Description	List Price Each
18	Holland Mine Base.....	\$36.00



No. 18

ANTI-FRICTION PIN PLATE NO. 24

The Holland Anti-friction Pin Plate is a sub-base to be used with standard Nos. 1, 3, 5, 6 and 8, converting an ordinary base into a ball bearing base at less than half the cost of a new base. It has fifteen hardened steel rollers and eight $\frac{3}{4}$ inch balls. The current is taken directly from the surface of the base and does not pass through the bearings. Lubricant is stored in a covered chamber of sufficient size to hold a six months' supply.

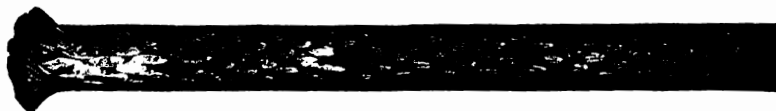
List No.	Description	List Price Each
24	Holland Pin Plate, complete.	\$14.00

Railway Material



No. 24

TROLLEY CORD AND FITTINGS



Samson Spot Waterproofed Cord

This trolley rope is the highest grade, being constructed of extra quality yarn, tightly braided, and thoroughly waterproofed by a special process. It is uniform in size and smoothly finished. It will not stretch, shrink, or swell like ordinary trolley cord, and is particularly recommended for use with trolley catchers and retrievers. It is furnished in coils of approximately 1200 feet.

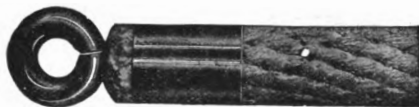
List No.	Diameter Inches	Approx. Lbs. per Coil	List Price per Lb.	List No.	Diameter Inches	Approx. Lbs. per Coil	List Price per Lb.
6	$\frac{1}{8}$	18	\$0.75	10	$\frac{1}{8}$	48	\$0.75
7	$\frac{3}{16}$	23	.75	12	$\frac{3}{16}$	66	.75
8	$\frac{1}{4}$	30	.75	14	$\frac{1}{4}$	90	.75
9	$\frac{5}{16}$	38	.75	16	$\frac{1}{2}$	115	.75



Samson "Massachusetts" Weatherproofed Cord

This cord is the same general construction as Samson Spot cord, being tightly woven and braided, but is manufactured from a slightly lighter yarn. It is thoroughly waterproofed and has a smooth, hard and uniform exterior. It is furnished in coils of approximately 1200 feet.

6	$\frac{1}{8}$	18	\$0.60	10	$\frac{1}{8}$	48	\$0.60
7	$\frac{3}{16}$	23	.60	12	$\frac{3}{16}$	66	.60
8	$\frac{1}{4}$	30	.60	14	$\frac{1}{4}$	90	.60
9	$\frac{5}{16}$	38	.60	16	$\frac{1}{2}$	115	.60



Ferrules and Eyes



Rope Coupling



Socket Snap

Ferrules and Eyes

List No.	Description	List Price per Doz.
12	Ferrules and eyes to fit No. 12 cord.....	\$0.75
	To fit other sizes prices on application.	

Rope Couplings

Rope couplings are made of steel, drilled and fitted with pins which rivet the couplings firmly to the cord. They are made with a special thread for braided cord.

List No.	Diameter	List Price per Doz. Pairs	List No.	Diameter	List Price per Doz. Pairs
10	$\frac{1}{8}$	\$5.25	20	$\frac{3}{4}$	\$13.50
12	$\frac{1}{2}$	6.00	24	$\frac{1}{8}$	19.50
14	$\frac{3}{8}$	7.50	28	1	27.00
16	$\frac{1}{2}$	9.00	32	$1\frac{1}{8}$	33.00

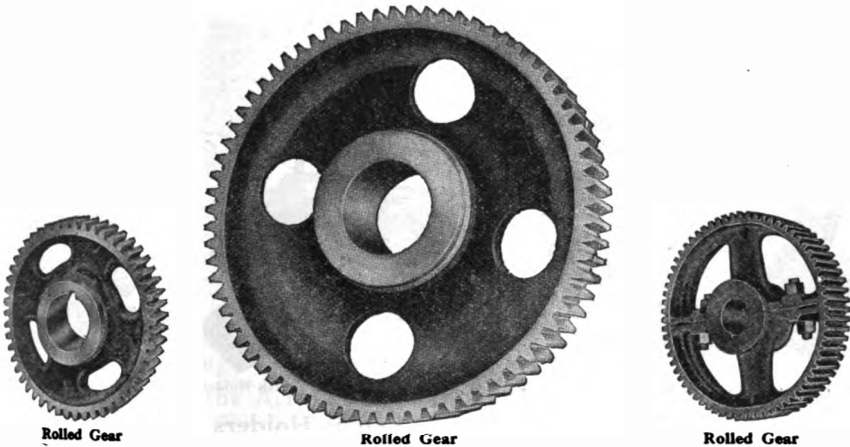
Socket Snaps

These snaps are especially designed for easy and secure attachment to the solid braided cords. Suitable in size for No. 10 or No. 12 cord.

List No.	Description	List Price per Doz.
80296	Socket snaps for Nos. 10 and 12, tinned or japanned, with screws.....	\$1.80

Railway Material

GEARS FOR RAILWAY MOTORS



Cast and Forged Gears

The following listed gears are for both General Electric and Westinghouse motors. Special care is taken to see that the specifications, as issued by the Committee of Maintenance of the American Street Railway Association, are rigidly adhered to.

Cast Steel Gears. These are cast at a selected steel foundry, where special heats are made for gear castings. They are practically free from blow holes; thickness of teeth is carefully checked by gauge, and every gear is run in both directions in a testing machine. Gears for use with motors of 75 H.P. capacity and over are made of a higher carbon content than is generally used, and afterward annealed in special annealing ovens. By this means higher physical properties are obtained and all shrinkage strains eliminated. To insure full strength in the spokes of solid gears, ribs are cast in the sides, and a general endeavor has been made to so distribute the metal that all parts of the gear are as nearly of one thickness as is possible.

Rolled or Forged Gears. Made from homogeneous forged blanks by an improved process which insures for this type of gear high physical characteristics and freedom from piping and segregation. The inherent advantages of this process are impossibility of blow holes, sand spots or shrink strains, and relatively high physical characteristics resulting from the rolling operation.

Gears are offered in the following grades:

- Grade D. Rolled or forged steel solid gears, untreated.
- Grade F. Rolled or forged steel solid gears, oil treated.
- Grade K. Rolled or forged steel solid gears, armorized.
- Grade L. Cast steel split or solid gears, armorized.

Untreated cast steel, split or solid gears do not have grade letter.

Prices on application.



Railway Motor Pinion



Gear Cases

Railway Motor Pinions

The listed pinions are for both General Electric and Westinghouse motors. Special care is taken to see that the specifications, as issued by the Committee of Maintenance of the American Street Railway Association are rigidly adhered to.

Pinions are manufactured with the same careful attention to detail as the gears.

Pinions are listed in three grades.

Grade H. Oil treated. Recommended for use with motors up to 75 H.P. capacity. While the prices of these pinions are only slightly in advance of the common untreated ones, the wearing qualities and physical characteristics are far in excess of same.

Grade F. Oil tempered and specially recommended for all motors of 75 H.P. capacity and over. They are noted for their long life, high physical characteristics, and great toughness, the oil treatment considerably increasing both the physical properties and toughness.

Grade K. Armorized pinions for use with armorized gears.

Note: Unless otherwise specified, orders for pinions for motors smaller than 75 H.P. will be filled with Grade H, and for motors of 75 H.P. or over with Grade F.

Prices on application.

G. E. Malleable Iron Gear Cases

The gear cases are malleable iron castings with supporting brackets cast together with one or both halves. Owing to the thin section of the cases and the relatively heavy section of the supporting brackets the production of castings for these cases is a difficult matter and requires a high degree of perfection of foundry practice. The greatest care is exercised in the inspection of all castings in order to insure freedom from shrinkage, cracks in the supporting brackets, and distortion of shells.

The various cases are designated by List Nos. and also by symbol or drawing List Nos. All gear cases have stamped upon them either a symbol No. (as DE-6) or a drawing List No. (as DL-37902), and any gear case may be readily identified by reference to the List No. corresponding to the symbol or drawing List No. stamped on it.

A table is shown which gives the maximum gear teeth and maximum pinion teeth which the case will accommodate and the related bulb diameter of the gear with which it may be used.

Prices on application.

153671A
Railway Material

RAILWAY MOTOR PARTS



Yoke Complete With Brush Holders



Yoke Complete With Brush Holders

Right Hand Stud
With Brush HolderRight and Left Hand
Brush Holder Support

Railway Motor Brush Holders

These brushes are of carefully selected maple thoroughly waterproofed.



Copper Segment



Copper Segment



Bearing Lining



Bearing Lining

Motor Commutator Segments

Commutator segments are made of hard drawn copper bars and the finest homogenous amber mica, from which all flint and other hard substances found in the natural mica have been removed.

Armature Bearing Linings

For G. E. Motors

In the design of railway motors for various classes of service, different types of bearing linings have been employed. In some cases the choice of type has been determined by the necessity for economy of space or other features of machine design; in others, operating conditions require a given type, but wherever possible the choice of one type or another is left to the customer as his operating conditions may indicate.

Thus where size of axle permits, axle linings for most motors are made both in Babbitt and bronze, and every effort is made to meet the requirements of service under all conditions.

BRASS LININGS

Brass or bronze linings are made of compositions which have been thoroughly tested during many years of service. Much cheaper linings can be made by the employment of cheaper mixtures. In fact, brass linings can be made for almost any price.

LUMEN LININGS

Lumen linings are made from a special patented alloy. It is a very excellent material for use under certain conditions, having in a certain degree the anti-friction qualities of Babbitt metal combined with sufficient strength to allow its use without a supporting shell where the housing allows room for sufficient thickness.

BABBITT LININGS

Babbitt linings are iron shells filled with Standard Railway Babbitt Metal.

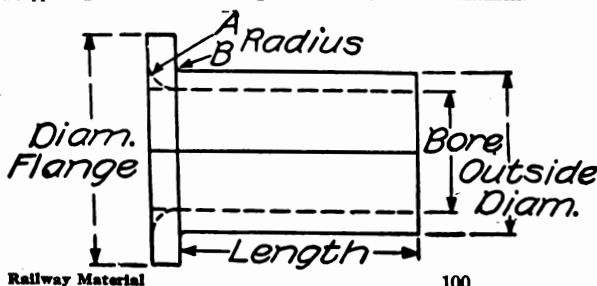
BRASS AND BABBITT LININGS

Brass and Babbitt linings are bronze shells with a facing of Babbitt metal $\frac{1}{4}$ inch thick sweated to the brass. The shells are provided with dovetail grooves with which the Babbitt engages, and which serve to anchor it securely.

Axle linings with radius "A" are used with axles having larger diameter in gear fit than in motor axle bearings.

Axle linings with radius "B" are used with axle brackets which have angle rounded between bore and face.

Prices on application.



RAILWAY MOTOR PARTS



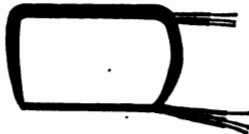
Cross Section GE-80 Field Coil



Armature Coil



Heat Proof Field Coil



Heat Proof Armature Coil



Mummy Coil

Motor Armature Coils for GE Motors

These armature coils are perfectly interchangeable, and fit accurately in the slot, which is necessary to avoid either abrasion in winding or destructive vibration in service.

The slot portion of all armature coils is molded in steam heated presses to exact dimensions and in no other way is it possible to provide against vibration in the slot and consequent deterioration of the insulation in service.

Except in bar wound coils for certain of the larger motors in which mica is employed, the insulation of the complete coil is accomplished by the use of varnished cambric manufactured expressly for the purpose.

Deltabeston Heat-proof Armature Coils

Heat-proof coils are wound with pure asbestos covered Deltabeston magnet wire and impregnated with a special compound having a melting point so high that it is not softened or affected by the maximum temperature reached by the coils in service.

The method of manufacturing gives an all-asbestos insulating medium of great mechanical strength and toughness, high dielectric strength and one which is practically unaffected under the severest operating conditions. Coils are of the correct dimensions to fit accurately in the core slots and have a decided advantage over cotton coils, in that they will not shrink in service, thus avoiding vibration in the slot and consequent deterioration or breaking down. Every armature coil is subjected to a number of tests before leaving the factory, and coils failing to pass all of these are immediately rejected. This method of inspection assures the customer of the receipt of perfect coils only.

Deltabeston Heat-proof Field Coils

Heat-proof coils are wound with pure asbestos covered Deltabeston magnet wire and impregnated with a special compound having a melting point so high that it is not softened or affected by the maximum temperature reached by the coils in service.

The method of manufacturing gives an all-asbestos insulating medium of great mechanical strength and toughness, high dielectric strength, and one which is practically unaffected under the severest operating conditions. Coils are of the correct dimensions to fit accurately, and have a decided advantage over cotton coils, in that they will not shrink in service, thus avoiding vibration and consequent deterioration or breaking down. Every field coil is subjected to a number of tests before leaving the factory, and coils failing to pass all of these are immediately rejected. This method of inspection assures the customer of the receipt of perfect coils only.

Motor Field Coils

For GE Motors

In the manufacture of wire wound field coils each turn is properly seated so as to avoid a burnout as a result of abrasion of the insulation by vibration.

The insulation of all wire wound coils consists of a special asbestos and cotton covering; the insulation between turns of ribbon wound coils is asbestos paper, so laminated as to prevent any danger of short circuit between turns by reason of impurities in the asbestos.

All coils, unless otherwise noted in the tables, are further protected by being impregnated, while in a vacuum, with an asphaltum compound which penetrates all the interstices of the winding, hermetically sealing the coil against the entrance of moisture and so improving its thermal conductivity that the heat generated is rapidly dissipated, thus considerably increasing the capacity of the coil.



Operating Handle Type



Operating Wheel Type



Reversing Handle



Contact Finger



Contact Finger

Controller Handles

For Type K Controllers

Controller handles are made from a special brass alloy or malleable iron forgings—depending on conditions of operation. Each handle has a List No. stamped or cast on it, to assist customers in ordering.

Contact Fingers

For Type K Controllers

Single Fingers

Many of these controller fingers have their List No. stamped upon them. Where this is impossible, fingers having the same List No. are assembled in a package and a tag giving List Nos. is attached.

INTRODUCTORY

Mica in its natural state possesses high insulating qualities, great thermal resistance and mechanical strength, but it lacks flexibility, and homogeneity. Micanite retains the virtues and overcomes the drawbacks of the original mica.

Micanite is obtained by dividing and subdividing the laminae of mica down to films of minute thickness, and then re-assembling these into a consistent whole. These exceedingly thin films of raw mica are stuck together by an insulating cement with the application of heat and pressure, the amount of cement, heat or pressure varying according to the exact quality of material it is desired to obtain.

The mica which we furnish can be classified under two general terms—white and amber; each possessing superior qualities for particular applications. The white is mined in India and the amber in Canada. In each country the Mfr. maintains organizations for the purpose of insuring the best selection of mica in the rough and for securing the greatest skill in the splitting of the laminae. The greatest vigilance is exercised in excluding all foreign matter from the mica films. Even after they are received in the factory the services of several men are required for the sole purpose of inspecting the mica as it passes before them on slow moving vibrating screens. The assembling of the laminae into sheets, the making of plate, tubes, commutator segments and rings and the innumerable articles of special shape and form, involving an infinity of detail, are subject to the most rigid inspection at each stage of manufacture.

Micanite Commutator Insulation

The first application of Micanite was for commutator segments. It was developed for that express purpose; not altogether from an economical point of view, but to provide a material possessing more plasticity than the raw mica, which was universally employed at that time.

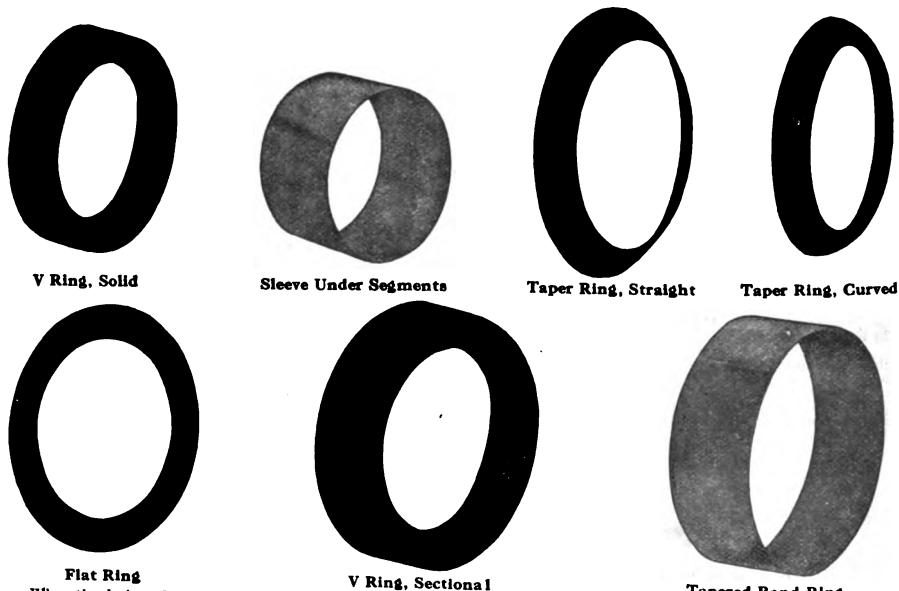
If Micanite segments are cut to size from plate by our customers, a foot power cutter, bookbinder's shears or tinmith's shears, are poor tools to use. The edge of the Micanite is liable to be bruised. This may result in the dragging of the copper over the Micanite when the commutator is turned up in the lathe. Short circuits, or "near" short circuits, are often caused in this manner. The best tool is a fine toothed band saw with moderate set. All segments made to templet in the factory are cut in this manner.

After assembling the copper and Micanite segments with the aid of the usual clamp rings fitted with screws or with tapered compression rings, bake the assembled segments before turning the V part. Tighten moderately before baking. Bake long enough to bring every part of the assembled segments to a temperature of 350 degrees F. to 400 degrees F. Then tighten the commutator gradually as it cools, making it solid when nearly cold.

Micanite Commutator Rings

We furnish commutator rings, from the size required for the smallest fan motor, to the largest generator.

To facilitate description we illustrate below the most prevailing types. Some manufacturers prefer rings made up of separate parts, i.e., the taper ring fitted into the band ring. We advocate this method if sufficient distance is allowed between the apex of the metal ring follower, and the bottom of the V in the copper bars. This method also has the advantage in most cases of eliminating the cost of special molds, and that orders can be filled with greater promptitude. Separately fitted rings can be conveniently made up to 30 inches diameter. For larger commutators we advocate sectional V rings. These sectional V rings are made up of half thicknesses with the joints staggered.



V Ring, Solid

Sleeve Under Segments

Taper Ring, Straight

Taper Ring, Curved

Flat Ring

V Ring, Sectional

Tapered Band Ring

When the design of a commutator does not permit sufficient distance between the apex of the follower and the bottom of the V, we advocate the use of a solid V ring. We can furnish solid V rings up to 35 inches in diameter, but the molds for the larger diameters are very expensive. Ordinarily we do not advocate solid V rings of a larger diameter than 20 inches. For larger diameters it is economical to adopt the sectional V rings.

Empire Materials

"Empire" is the trade name given to the various oiled insulating materials prepared by the Mica Insulator Company. These materials include insulating cloth, paper, linen, silk and tape; and the word Empire may be understood to mean that only the most carefully prepared fabric is used as the carrier of the oil, and only the purest and cleanest oil used as the dielectric with which the fabric is coated.

The papers and cloths which we employ have been developed at very great expense and are prepared especially for us. The cloths are woven from long fibered yarn to give the highest tensile strength. They are given a special singeing and calendaring to remove all nap, and thereby reduce to a minimum the possibility of the oil film on the surface being penetrated by the cotton fibers. The cloth and paper are simply to serve as carriers for the oil film, and to give it mechanical strength. Their texture is such that there is also a thorough impregnation of the material by the oil. The insulation is provided by the oil. The oil is subjected to special treatment, which converts it, when dried, into a substance of great mechanical strength and tenacity, flexibility, long life, high specific resistance to both heat and electricity, and very high disruptive strength.

Railway Material

INDIA MICANITE PLATE

NO. 1 INDIA MICANITE PLATE

For Molding

No. 1 India Micanite Plate is made of very thin films of India mica cemented together with pure shellac and carefully surfaced to a uniform thickness.

When heated it becomes flexible and in that condition can readily be formed into such shapes as conical and band rings for commutators, troughs for armature slots, spools for magnets, and the thinner sheets rolled into tubes. Upon cooling it regains its rigidity. It is also used for flat work where high temperature is not a factor, such as transformer insulation, etc.

It is not intended for insulation between the copper bars of commutators, and must not be used for that purpose.

For commutator bar insulation we furnish special Micanite Plate.

Stock Thicknesses of 18 x 36 Inch No. 1 Plate

List No.	Thickness Inches	Approx. Lbs. per Sheet	Aver. Punct. Voltage	List Price per Lb.	List No.	Thickness Inches	Approx. Lbs. per Sheet	Aver. Punct. Voltage	List Price per Lb.
1200	.010	.503	9540	\$2.38	1207	.040	2.17	38160	\$1.90
1201	.015	.748	14310	2.38	1208	.045	2.25	42930	1.90
1202	.020	.946	19080	2.38	1209	$\frac{1}{8}$	2.42	44645	1.90
1203	.025	1.21	23850	1.90	1210	.050	2.64	47700	1.90
1204	.030	1.53	28620	1.90	1213	$\frac{1}{4}$	3.32	59625	1.90
1205	$\frac{1}{8}$	1.64	29765	1.90	1216	$\frac{3}{8}$	4.92	89390	1.90
1206	.035	1.68	33390	1.90	1217	$\frac{1}{2}$	6.22	119250	1.90

No. 1 Plate in standard size 18 x 36 inch sheets can be furnished of any special thickness at following prices:

.025 in. thick or over \$1.90 per lb. .024 in. thick or under \$2.38 per lb.

Sheets of special size or shape at slight increase over above prices.

NO. 11 INDIA MICANITE PLATE

For Molding

No. 11 India Micanite Plate is made of the same quality of India mica films and shellac that is used in the No. 1 plate, but is not quite as exact to thickness.

It becomes flexible when heated, is readily molded into form, and is suitable for all general purposes where a slight variation in thickness is permissible, except commutator segments. It is not intended for insulation between the copper bars of commutators.

Stock Thicknesses of 18 x 36 Inch No. 11 Plate

1218	.010	.503	9540	\$2.04	1225	.040	2.17	38160	\$1.60
1219	.015	.748	14310	2.04	1226	.045	2.25	42930	1.60
1220	.020	.946	19080	2.04	1227	$\frac{1}{8}$	2.42	44645	1.60
1221	.025	1.21	23850	1.60	1228	.050	2.64	47700	1.60
1222	.030	1.53	28620	1.60	1231	$\frac{1}{4}$	3.32	59625	1.60
1223	$\frac{1}{8}$	1.64	29765	1.60	1234	$\frac{3}{8}$	4.92	89390	1.60
1224	.035	1.68	33390	1.60	1235	$\frac{1}{2}$	6.22	119250	1.60

No. 11 Plate in standard size 18 x 36 inch sheets can be furnished of any special thickness at following prices:

.025 in. thick or over \$1.60 per lb. .024 in. thick or under \$2.04 per lb.

Sheets of special size or shape at slight increase over above prices.

NO. 2 INDIA MICANITE PLATE

For Commutator Segment Insulation

No. 2 India Micanite Plate is made of very thin films of India mica cemented together with the smallest possible amount of pure shellac, and carefully surfaced to a uniform thickness.

This plate is specially made to be cut into segments for insulating copper bars of commutators, and cannot be molded.

Stock Thicknesses of 18 x 36 Inch No. 2 Plate

1236	.010	.567	9550	\$2.71	1244	.045	2.55	42975	\$1.88
1237	.015	.85	14325	2.71	1245	.05	2.65	44695	1.88
1238	.020	1.13	19100	2.71	1246	.050	2.83	47750	1.88
1239	.025	1.41	23875	1.88	1248	.060	3.4	57300	1.88
1240	.030	1.70	28650	1.88	1249	$\frac{1}{8}$	3.54	59685	1.88
1241	$\frac{1}{8}$	1.76	29800	1.88	1252	$\frac{1}{4}$	5.3	89485	1.88
1242	.035	1.98	33425	1.88	1253	$\frac{3}{8}$	7.05	119375	1.88
1243	.040	2.27	38200	1.88					

No. 2 Plate in standard size 18 x 36 inch sheets can be furnished of any special thickness at following prices:

.025 in. thick or over \$1.88 per lb. .024 in. thick or under \$2.71 per lb.

Sheets of special size or shape at slight increase over above prices.

INDIA AND AMBER MICANITE PLATE

NO. 22 INDIA MICANITE PLATE For Commutator Segment Insulation

No. 22 India Micanite Plate is made of the same quality of India mica films and shellac that is used in the No. 2 Plate.

This plate differs from No. 2 only in that the variation of thickness is not confined to such close limits. In practice it gives admirable service for commutator bar insulation, but cannot be molded.

Stock Thicknesses of 18 x 36 Inch No. 22 Plate

List No.	Approx. Thickness, Inches	Approx. Lbs. per Sheet	Aver. Punct. Voltage	List Price per Lb.	List No.	Approx. Thickness, Inches	Approx. Lbs. per Sheet	Aver. Punct. Voltage	List Price per Lb.
1254	.010	.567	9550	\$2.47	1262	.045	2.55	42975	\$1.72
1255	.015	.85	14325	2.47	1263	$\frac{1}{16}$	2.65	44695	1.72
1256	.020	1.13	19100	2.47	1264	.050	2.83	47750	1.72
1257	.025	1.41	23875	1.72	1266	.060	3.4	57300	1.72
1258	.030	1.70	28650	1.72	1267	$\frac{1}{8}$	3.54	59685	1.72
1259	$\frac{1}{16}$	1.76	29800	1.72	1270	$\frac{1}{8}$	5.3	89485	1.72
1260	.035	1.98	33425	1.72	1271	$\frac{1}{8}$	7.05	119375	1.72
1261	.040	2.27	38200	1.72					

No. 22 Plate in standard size 18 x 36 inch sheets can be furnished of any thickness at following prices:
 .025 in. thick or over.....\$1.72 per lb. .024 in. thick or under.....\$2.47 per lb.

Sheets of special size or shape at slight increase over above prices.

NO. 3 AMBER MICANITE PLATE For Commutator Segment Insulation

No. 3 Amber Micanite Plate is made of very thin films of Canadian amber mica cemented together with pure shellac and carefully surfaced to a uniform thickness. This plate is in every way identical with the No. 2 India Plate, except in the mica. This being Canadian amber, the plate is softer and presents less liability of failure to wear down evenly with the copper. For commutators containing a larger number of bars, or where the insulation is thicker than $\frac{1}{16}$, or where copper bars and brushes are softer than those usually employed, we recommend the use of No. 3 Plate instead of No. 2.

This plate cannot be molded.

Stock Thicknesses of 18 x 36 Inch No. 3 Amber Plate

1272	.020	1.17	16600	\$3.60	1278	.045	2.64	37350	\$3.23
1273	.025	1.47	20750	3.23	1279	$\frac{1}{16}$	2.74	38845	3.23
1274	.030	1.76	24900	3.23	1280	.050	2.94	41500	3.23
1275	$\frac{1}{16}$	1.83	25895	3.23	1282	.060	3.52	49800	3.23
1276	.035	2.05	29050	3.23	1283	$\frac{1}{8}$	3.67	51875	3.23
1277	.040	2.35	33200	3.23					

No. 3 Plate in standard size 18 x 36 inch sheets can be furnished of any special thickness at following prices:

.025 in. thick or over.....\$3.23 per lb. .024 in. thick or under.....\$3.60 per lb.

Sheets of special size or shape at slight increase over above prices.

NO. 33 AMBER MICANITE PLATE For Commutator Segment Insulation

No. 33 Amber Micanite Plate is made of the same quality of Canadian amber mica films and shellac that is used in the No. 3 Plate.

This plate differs from No. 3 only in that the variation in thickness is not confined to such close limits. In practice it gives admirable service for commutator work.

This plate cannot be molded.

Stock Thicknesses of 18 x 36 Inch No. 33 Amber Plate

1284	.020	1.17	16600	\$3.02	1290	.045	2.64	37350	\$2.90
1285	.025	1.47	20750	2.90	1291	$\frac{1}{16}$	2.74	38845	2.90
1286	.030	1.76	24900	2.90	1292	.050	2.94	41500	2.90
1287	$\frac{1}{16}$	1.83	25895	2.90	1294	.060	3.52	49800	2.90
1288	.035	2.05	29050	2.90	1295	$\frac{1}{8}$	3.67	51875	2.90
1289	.040	2.35	33200	2.90					

No. 33 Plate in standard size 18 x 36 inch sheets can be furnished of any special thickness at following prices:

.025 in. thick or over.....\$2.90 per lb. .024 in. thick or under.....\$3.02 per lb.

Sheets of special size or shape at slight increase over above prices.

INDIA MICANITE PLATE AND CLOTH

NO. 4 INDIA MICANITE PLATE

This plate is made for flat work and for purposes where extreme accuracy of thickness is not important. It is suitable for all kinds of bases, round and square washers, and for all kinds of apparatus not subjected to high heat.

Its non-liability to fracture under extreme vibration is a valuable feature for marine work. It does not take a screw thread, but can be drilled and turned.

No. 4 Plate is not furnished thinner than $\frac{1}{8}$ inch.

Stock Thicknesses of 18 x 36 Inch No. 4 Plate

List No.	Approximate Thickness, Inches	Approximate Lbs. per Sheet	Average Punct. Voltage	List Price per Lb.
1296	$\frac{1}{8}$	2.95	50000	\$1.22
1297	$\frac{1}{8}$	4.3	75000	1.22
1298	$\frac{1}{8}$	5.9	100000	1.22
1299	$\frac{1}{8}$	9.85	150000	1.22
1300	$\frac{1}{4}$	13.2	200000	1.22
1301	$\frac{3}{8}$	19.1	300000	1.22
1302	$\frac{1}{2}$	25.7	400000	1.22

No. 4 Plate in standard size 18 x 36 inch sheets can be furnished of any special thickness at following prices:

$\frac{1}{8}$ in. thick or over \$1.22 per lb.

Sheets of special size or shape at slight increase over above prices.

NO. 5 FLEXIBLE MICANITE PLATE

No. 5 Flexible Micanite is made of very thin films of India mica cemented together with a special insulating cement of great flexibility and adhesiveness. This article in many ways presents mica in its most convenient and economical form for electrical insulation. It can be formed or bent to shape without the application of heat.

It is an excellent insulator for armature slots, armature, magnet and commutator cores, transformers, field coils, etc.

It can be stripped up into narrow widths, and when used in conjunction with Linotape makes a most efficient insulation for all kinds of conducting wires and cables.

Stock Thicknesses of 36 x 36 Inch No. 5 Plate

List No.	Approximate Thickness, Inches	Approximate Lbs. per Sheet	Average Punct. Voltage	List Price per Lb.
1303	.005	.575	2940	\$2.24
1304	.010	.967	5880	1.52
1305	.015	1.43	8820	1.58
1306	.020	1.84	11760	1.58
1307	.025	2.24	14700	1.58
1308	.030	2.64	17640	1.58
1309	$\frac{1}{8}$	3.04	18345	1.58
1313	$\frac{1}{8}$	6.03	38755	1.58
1314	$\frac{1}{8}$	12	73500	1.58

No. 5 Plate in standard size 36 x 36 inch sheets can be furnished of any special thickness at following prices:

.015 in. thick or over \$1.58 per lb. .010 to .014 in. thick \$1.52 per lb.

.009 in. thick or under \$2.24 per lb.

Sheets of special size or shape at slight increase over above prices.

NO. 20 MICANITE CLOTH

No. 20 Micanite Cloth is made with 1, 2 or 3 layers of high-grade India mica films, carefully cemented together with overlapping edges into sheet form, the sheet being faced on one side with cotton cloth and on the other side with Japanese paper.

It is an excellent composite insulation, and is often used in conjunction with Empire cloth and paper, fish paper, etc., for transformers, field magnets, armature cores, etc.

In strip form it is an efficient mica insulation for wrapping all sorts of conductors. When applied in this manner it is usual to bind it in position with Linotape or the ordinary friction tape.

Stock Thicknesses of No. 20 Micanite Cloth

List No.	Approximate Thickness, Inches	Layers of Mica	Approximate Lbs. per Roll	List Price per Lb.
1315	.008	1	2.8	\$1.75
1316	.011	2	4.2	1.64
1317	.014	3	5.4	1.60

NO. 21 MICANITE CLOTH

Extra Flexible

No. 21 Micanite Cloth is identical with No. 20 Micanite Cloth except that the material is made with a very thin rubber tissue as a binder between the layers of mica, cloth and paper.

Stock Thicknesses of No. 21 Micanite Cloth

List No.	Approximate Thickness, Inches	Layers of Mica	Approximate Lbs. per Roll	List Price per Lb.
1318	.008	1	2.1	\$2.43
1319	.011	2	3.5	2.25
1320	.014	3	4.7	2.09

INSULATING MATERIAL

NO. 24 MICANITE PAPER

No. 24 Micanite Paper is of the same nature as No. 20 Micanite Cloth except that the material is faced on both sides with Japanese tissue paper instead of cotton cloth, the object being to supply an insulation thinner than Micanite Cloth, but retaining the same thickness of mica film.

Stock Thicknesses of No. 24 Micanite Paper

List No.	Approximate Thickness, Inches	Layers of Mica	Approximate Lbs. per Roll	List Price per Lb.
1321	.005	1	2.1	\$2.00
1322	.008	2	3.3	1.84
1323	.011	3	4.4	1.84

NO. 25 MICANITE PAPER

Extra Flexible

No. 25 Micanite Paper is similar to No. 24 Micanite Paper except that the material is made with a very thin rubber tissue as a binder between the layers of mica, cloth and paper, instead of an oil varnish, which is used as a binder in the No. 24 Micanite Paper.

Stock Thicknesses of No. 25 Micanite Paper

List No.	Approximate Thickness, Inches	Layers of Mica	Approximate Lbs. per Roll	List Price per Lb.
1324	.005	1	1.8	\$2.63
1325	.008	2	3.	2.36
1326	.011	3	4.1	2.17

Any special thickness or size of the above materials made on order.

NO. 26 ROPE PAPER AND MICA

A composite insulation consisting of rope paper faced on one side with two layers of India mica films and tissue paper.

This material has a wide range of utility in the field of moderate voltages and temperatures.

It is furnished in sheets 36 x 36 inches in the following stock thicknesses:—

List No.	Thickness of Raw Paper, Inches	Approximate Finished Thickness, Inches	Layers of Mica	Approximate Oz. per Sheet	List Price per Lb.
1327	.003	.007	2	7½	\$2.24
1328	.005	.010	2	12	1.67
1329	.010	.015	2	15	1.33

NO. 27 PRESSBOARD AND MICA

This material is composed of No. 1 pressboard faced on one side with two overlapping layers of India mica films and tissue paper.

Mechanically the sheet possesses greater rigidity than No. 26 rope paper and mica, otherwise, the insulation is of the same order.

It is furnished in sheets 36 x 36 inches and the following thicknesses are kept in stock:

List No.	Thickness of Raw Pressboard, Inches	Approximate Finished Thickness, Inches	Layers of Mica	Approximate Oz. per Sheet	List Price per Lb.
1330	.007 to .008	.012	2	14½	\$1.52
1331	.012	.017	2	18	1.24
1332	.015	.020	2	21¼	1.14

NO. 29 FISH PAPER AND MICA

This material consists of fish paper faced on one side with two overlapping layers of India mica films and tissue paper. The fish paper employed is also known as Fyberoid, Tarpon Paper, Peerless Paper, etc.

This insulation is recommended when a material stronger than rope paper or pressboard is desired as a base for the mica films.

It is furnished in sheets 36 x 47 inches, and the following thicknesses are kept in stock:

List No.	Thickness of Raw Fish Paper, Inches	Approximate Finished Thickness, Inches	Layers of Mica	Approximate Lbs. per Sheet	List Price per Lb.
1350	.005	.010	2	1.2	\$1.52
1351	.007	.012	2	1.4	1.43
1352	.010	.015	2	1.6	1.29
1353	.015	.020	2	2.	1.14

INSULATING MATERIAL

ROUND MICANITE WASHERS

Micanite Washers are suitable for insulation where excessive heat is not encountered. For grid rheostat and other insulation work where high temperature is to be expected we advocate built-up mica washers.

We manufacture round washers of any size not listed below, and also oval, square or rectangular washers with either round or square holes, etc., etc. Prices on application.

When ordering Round Micanite Washers kindly specify inside diameter desired, as this price list covers round washers of the specified outside diameters irrespective of the inside diameters.

Micanite Washer List Price per 1000

Outside Diam. Inches	List Price		
	$\frac{1}{16}$ Inch Thick	$\frac{1}{8}$ Inch Thick	$\frac{1}{4}$ Inch Thick
$\frac{1}{2}$	\$11.36	\$15.36	\$22.56
$\frac{3}{4}$	11.76	15.56	23.52
$\frac{5}{8}$	12.36	16.32	24.48
$\frac{7}{8}$	12.80	16.80	26.64
1	13.36	17.36	27.20
$1\frac{1}{8}$	13.92	17.92	27.76
$1\frac{1}{4}$	11.44	14.88	24.64
$1\frac{1}{2}$	12.16	15.52	26.08
$1\frac{3}{4}$	12.88	16.24	27.44
$1\frac{7}{8}$	13.60	16.96	28.88
$1\frac{9}{8}$	14.32	17.68	30.24
$1\frac{11}{8}$	15.12	18.48	31.92
$1\frac{13}{8}$	16.00	19.28	33.60
$1\frac{15}{8}$	16.88	20.16	35.28
$1\frac{17}{8}$	17.76	21.04	37.12
$1\frac{19}{8}$	18.72	21.92	39.04
$1\frac{21}{8}$	19.76	22.96	40.96
$1\frac{23}{8}$	20.80	23.92	42.96
$1\frac{25}{8}$	21.84	24.88	44.96
$1\frac{27}{8}$	22.80	26.00	47.12
$1\frac{29}{8}$	24.00	27.20	49.44
$1\frac{31}{8}$	25.20	28.24	51.68
$1\frac{33}{8}$	26.08	29.44	53.92
$1\frac{35}{8}$	27.60	30.48	56.24
2	28.88	31.68	58.80
$2\frac{1}{8}$	30.24	41.04	61.28
$2\frac{1}{4}$	31.52	34.24	63.60
$2\frac{1}{2}$	32.96	35.68	66.56
$2\frac{3}{4}$	34.48	37.12	69.44
$2\frac{1}{2}$	35.92	38.40	72.08
$2\frac{5}{8}$	37.20	39.84	74.88
$2\frac{3}{4}$	38.88	41.44	77.84
$2\frac{7}{8}$	40.56	42.96	80.96
$2\frac{9}{8}$	42.16	44.48	84.08
$2\frac{11}{8}$	43.68	46.00	87.20
$2\frac{13}{8}$	45.28	47.60	90.48
$2\frac{15}{8}$	46.96	49.36	93.76
$2\frac{17}{8}$	49.04	51.04	97.12
$2\frac{19}{8}$	50.56	52.32	100.64
$2\frac{21}{8}$	52.48	54.32	103.76
3	54.32	56.16	107.68

Above list price applies only on orders of 500 and over of a size.

Orders less than 500 of a size but over 200 add 10 per cent. to above list.

Orders less than 200 of a size add 20 per cent. to above list.

INSULATING MATERIAL
BUILT UP MICA WASHERS

These washers are built up with the aid of cement from solid sheet mica stampings to an exact thickness and are recommended for insulation where high degree of heat is encountered, such as in grid rheostats, arc lamps, etc.

**Round Built Up Mica Washers
Price List per 1000**

Size	Thickness			Size	Thickness		
	$\frac{1}{16}$ Inch	$\frac{1}{8}$ Inch	$\frac{1}{4}$ Inch		$\frac{1}{16}$ Inch	$\frac{1}{8}$ Inch	$\frac{1}{4}$ Inch
$\frac{3}{8} \times \frac{1}{8}$	\$6.48	\$9.72	\$16.56	$1\frac{1}{2} \times \frac{1}{16}$	\$9.36	\$16.56	\$29.88
$\frac{1}{4} \times \frac{1}{8}$	6.84	10.08	17.28	$1\frac{1}{2} \times \frac{3}{16}$	8.64	14.76	27.00
$\frac{1}{2} \times \frac{1}{8}$	6.84	10.44	18.00	$1\frac{1}{2} \times \frac{1}{4}$	8.64	14.76	27.36
$\frac{1}{2} \times \frac{1}{16}$	6.84	10.44	17.64	$1\frac{1}{2} \times \frac{3}{8}$	8.28	14.40	20.28
$\frac{1}{2} \times \frac{1}{4}$	6.84	10.44	18.00	$1\frac{1}{2} \times \frac{1}{2}$	8.64	14.76	27.36
$\frac{1}{2} \times \frac{3}{8}$	6.84	10.44	18.00	$1\frac{1}{2} \times \frac{1}{2}$	8.64	14.76	27.00
$\frac{1}{2} \times \frac{1}{2}$	5.04	7.92	12.60	$1\frac{1}{2} \times \frac{3}{4}$	8.64	14.76	27.36
$\frac{5}{8} \times \frac{1}{16}$	7.20	11.16	19.44	$1\frac{5}{8} \times \frac{5}{8}$	10.44	18.72	34.92
$\frac{5}{8} \times \frac{1}{4}$	5.40	8.64	14.04	$1\frac{5}{8} \times \frac{1}{2}$	9.72	17.28	32.04
$\frac{5}{8} \times \frac{3}{8}$	5.40	8.64	14.04	$1\frac{3}{4} \times \frac{3}{8}$	11.88	15.24	38.88
$\frac{5}{8} \times \frac{1}{2}$	5.76	9.36	15.48	$1\frac{3}{4} \times \frac{1}{2}$	11.88	15.24	38.88
$\frac{5}{8} \times \frac{3}{4}$	5.76	9.00	14.76	$1\frac{3}{4} \times \frac{3}{4}$	11.88	15.24	38.16
$\frac{1}{2} \times \frac{1}{4}$	6.12	10.08	16.56	$1\frac{3}{4} \times \frac{1}{2}$	11.52	20.88	36.72
$\frac{1}{2} \times \frac{1}{2}$	6.12	9.72	15.84	$1\frac{3}{4} \times \frac{3}{8}$	10.80	19.44	36.72
$\frac{3}{4} \times \frac{1}{4}$	6.12	9.72	16.20	$1\frac{3}{4} \times \frac{1}{4}$	10.80	19.44	36.00
$\frac{3}{4} \times \frac{1}{2}$	6.12	9.72	15.84	$1\frac{3}{4} \times \frac{1}{2}$	10.44	18.72	35.64
$\frac{3}{4} \times \frac{3}{8}$	6.12	9.72	16.20	$1\frac{3}{4} \times \frac{1}{4}$	10.80	19.44	36.72
$\frac{3}{4} \times \frac{1}{2}$	5.76	9.36	15.84	$1\frac{3}{4} \times \frac{1}{2}$	10.80	19.44	36.72
$\frac{7}{8} \times \frac{1}{16}$	6.48	10.80	18.00	$1\frac{3}{4} \times \frac{3}{8}$	10.44	18.72	35.28
$\frac{7}{8} \times \frac{1}{4}$	6.12	10.44	16.92	$1\frac{3}{4} \times \frac{1}{2}$	10.80	19.44	36.72
$\frac{7}{8} \times \frac{3}{8}$	6.12	10.44	18.00	$1\frac{3}{4} \times \frac{1}{4}$	10.80	19.08	36.00
$\frac{7}{8} \times \frac{1}{2}$	6.48	10.80	18.00	$1\frac{3}{4} \times \frac{1}{2}$	10.80	19.08	36.00
1 x $\frac{1}{16}$	8.64	14.04	25.20	$1\frac{3}{4} \times \frac{3}{8}$	12.96	23.76	45.36
1 x $\frac{1}{4}$	6.84	11.52	19.44	2 x $\frac{1}{16}$	22.68	13.20	82.80
1 x $\frac{1}{8}$	6.84	11.16	19.08	2 x $\frac{1}{8}$	23.40	42.84	82.08
1 x $\frac{3}{8}$	6.84	11.52	19.44	2 x $\frac{1}{4}$	21.96	41.76	81.31
1 x $\frac{1}{2}$	6.48	10.80	18.36	2 x $\frac{3}{8}$	21.60	41.04	79.20
$1\frac{1}{8} \times \frac{1}{16}$	6.84	11.52	20.52	2 x $\frac{1}{2}$	21.96	41.76	81.00
$1\frac{1}{8} \times \frac{1}{8}$	6.84	11.52	20.88	2 x $\frac{1}{4}$	21.60	40.68	78.84
$1\frac{1}{8} \times \frac{3}{8}$	6.84	11.16	19.80	2 x $\frac{1}{2}$	21.96	41.76	81.00
$1\frac{1}{4} \times \frac{5}{8}$	7.92	13.70	25.20	2 x $\frac{1}{4}$	22.32	42.12	82.08
$1\frac{1}{8} \times \frac{1}{2}$	7.20	12.24	22.32	2 x $\frac{1}{2}$	22.32	42.48	82.80
$1\frac{3}{8} \times \frac{1}{4}$	9.00	15.48	27.36	2 x $\frac{3}{8}$	22.68	42.84	83.52
$1\frac{3}{8} \times \frac{3}{8}$	9.00	15.48	27.72	2 x $\frac{1}{2}$	22.32	42.48	82.80
$1\frac{3}{8} \times \frac{1}{2}$	8.64	15.12	28.08	2 x $\frac{1}{4}$	23.76	45.00	87.48
$1\frac{3}{8} \times \frac{3}{4}$	8.64	15.12	27.72	2 x $\frac{1}{2}$	25.20	48.24	93.24
$1\frac{3}{8} \times \frac{1}{2}$	8.64	14.76	27.36	$2\frac{1}{4} \times \frac{1}{8}$	22.68	42.84	83.16
$1\frac{1}{2} \times \frac{3}{8}$	9.72	16.92	30.24	$2\frac{1}{4} \times \frac{1}{4}$	23.04	43.56	84.60
$1\frac{1}{2} \times \frac{1}{2}$	9.72	16.92	30.24	$2\frac{1}{4} \times \frac{1}{2}$	23.40	44.64	87.12
$1\frac{1}{2} \times \frac{3}{4}$	9.56	16.56	29.88	$2\frac{3}{8} \times \frac{3}{8}$	21.96	41.40	80.28

Above list applies only on orders of 500 and over of a size.

Orders less than 500 of a size but over 200 add 10 per cent. to above list.

Orders less than 200 add 20 per cent. to above list.

INSULATING MATERIAL

MICANITE TUBING

We furnish square, oval, hexagonal and other special shaped tubing of any size for special insulating requirements; large round tubing for induction coils, specially treated tubes or bushings for apparatus immersed in oil, special heat-proof bushings rolled without cement for spark plugs, gas engines, etc. Net prices quoted on receipt of specification.

Round Micanite Tubing is manufactured in various grades as follows:

ENTIRE MICANITE TUBING

This tubing is made entirely of Micanite with no paper whatsoever in its construction. It is recommended for high potential work; for apparatus subjected to sufficient heat to render paper objectionable. For sleeves for small commutators; brush holder studs, grid rheostat rods, etc.

A thin covering of paper is applied, when requested, on the outside of the tube to guard against the scaling of the mica when mica washers or metal parts are to be assembled on the tubes. Such covering is less than 2 per cent. of the material.

MICANITE AND RICE PAPER TUBING

This tubing is composed of 85 per cent. Micanite and 15 per cent. paper and is used universally where high-grade insulation is required. The small amount of paper does not materially affect the insulating qualities of the tube. It effects a saving in the cost of manufacture, enabling us to offer this grade at a lower price than the entire Micanite Tubing.

ROUND MICANITE TUBING

List price per foot in lengths of one foot and over.
Lengths under one foot special prices.

Entire Micanite Tubes					Micanite and Rice Paper Tubes				
Inside Diam.	Thickness of Wall				Inside Diam.	Thickness of Wall			
In.	$\frac{1}{8}$ In.	$\frac{1}{4}$ In.	$\frac{3}{8}$ In.	$\frac{1}{2}$ In.	In.	$\frac{1}{8}$ In.	$\frac{1}{4}$ In.	$\frac{3}{8}$ In.	$\frac{1}{2}$ In.
$\frac{1}{8}$	\$0.16	\$0.22	\$0.27	\$0.33	$\frac{1}{8}$	\$0.13	\$0.16	\$0.20	\$0.26
$\frac{1}{4}$.....	.16	.22	.27	.36	$\frac{1}{4}$.....	.13	.18	.22	.29
$\frac{3}{8}$.....	.12	.18	.24	.33	$\frac{3}{8}$.....	.10	.14	.19	.26
$\frac{1}{2}$.....	.13	.21	.28	.38	$\frac{1}{2}$.....	.11	.16	.22	.31
$\frac{5}{8}$.....	.13	.21	.28	.38	$\frac{5}{8}$.....	.11	.16	.23	.32
$\frac{3}{4}$.....	.15	.21	.31	.41	$\frac{3}{4}$.....	.11	.18	.24	.36
$\frac{7}{8}$.....	.15	.24	.34	.47	$\frac{7}{8}$.....	.13	.20	.29	.40
1.....	.16	.26	.36	.51	1.....	.13	.21	.29	.41
$1\frac{1}{8}$.....	.16	.28	.40	.55	$1\frac{1}{8}$.....	.14	.22	.33	.45
$1\frac{1}{4}$.....	.18	.29	.42	.58	$1\frac{1}{4}$.....	.16	.23	.35	.48
$1\frac{3}{8}$.....	.18	.31	.47	.62	$1\frac{3}{8}$.....	.16	.24	.38	.51
$1\frac{1}{2}$.....	.19	.31	.49	.65	$1\frac{1}{2}$.....	.17	.26	.40	.55
$1\frac{3}{4}$.....	.21	.33	.51	.69	$1\frac{3}{4}$.....	.18	.26	.42	.58
$1\frac{7}{8}$.....	.22	.34	.55	.72	$1\frac{7}{8}$.....	.19	.27	.44	.62
2.....	.24	.36	.59	.80	2.....	.21	.31	.49	.67
$2\frac{1}{8}$.....	.25	.39	.62	.83	$2\frac{1}{8}$.....	.22	.33	.51	.69
$2\frac{1}{4}$.....	.26	.41	.65	.87	$2\frac{1}{4}$.....	.23	.34	.55	.72
$2\frac{3}{8}$.....	.27	.44	.68	.90	$2\frac{3}{8}$.....	.24	.36	.56	.74
$2\frac{1}{2}$.....	.28	.45	.70	.94	$2\frac{1}{2}$.....	.26	.38	.58	.80
$2\frac{5}{8}$.....	.29	.46	.74	1.01	$2\frac{5}{8}$.....	.26	.39	.62	.83
$2\frac{3}{4}$.....	.31	.48	.74	1.05	$2\frac{3}{4}$.....	.28	.40	.64	.87
$2\frac{7}{8}$.....	.31	.49	.77	1.08	$2\frac{7}{8}$.....	.28	.42	.67	.90
$3\frac{1}{8}$.....	.33	.53	.83	1.12	$3\frac{1}{8}$.....	.31	.45	.70	.94
$3\frac{1}{4}$.....	.34	.54	.87	1.16	$3\frac{1}{4}$.....	.47	.72	.98	
$3\frac{3}{8}$.....	.35	.56	.90	1.19	$3\frac{3}{8}$.....	.49	.74	1.01	
$3\frac{1}{2}$.....	.36	.58	.94	1.23	$3\frac{1}{2}$.....	.49	.80	1.05	
$3\frac{5}{8}$.....	.36	.59	.98	1.26	$3\frac{5}{8}$.....	.51	.81	1.08	
$3\frac{3}{4}$.....	.38	.62	.98	1.30	$3\frac{3}{4}$.....	.53	.81	1.08	
$3\frac{7}{8}$.....	.39	.64	1.01	1.34	$3\frac{7}{8}$.....	.54	.85	1.16	
$4\frac{1}{8}$.....	.40	.65	1.08	1.41	$4\frac{1}{8}$.....	.56	.87	1.61	
4.....	.44	.69	1.16	1.44	4.....	.58	.93	1.21	

Above list price applies only on orders of 50 feet and over of a size.

For orders less than 50 feet but over 24 feet add 10 per cent. to list.

For orders less than 24 feet add 20 per cent. to list.

MICANITE AND ASBESTOS TUBING

This tubing is composed of 60 per cent. Micanite and 40 per cent. of asbestos. It is intended for apparatus subjected to moderate heating where a lower priced tube than the Entire Micanite Tubing will answer the requirements. It is used on grid rheostats, resistance boxes, etc.

MICANITE AND ROPE PAPER TUBING

This tubing is composed of 60 per cent. Micanite and 40 per cent. paper. It is recommended for apparatus which is not subjected to enough heat to affect the paper and where the insulating requirements are fully met by a composite material of this kind. This grade has been adopted by many street railway companies for grid rheostat rods.

INSULATING MATERIAL

Round

MICANITE AND ASBESTOS TUBING

and

MICANITE AND ROPE PAPER TUBING

List price per foot in lengths of one foot and over. Lengths under one foot special prices.

Inside Diam., Inches	Thickness of Wall			Inside Diam., Inches	Thickness of Wall		
	$\frac{1}{16}$ Inch	$\frac{1}{8}$ Inch	$\frac{1}{4}$ Inch		$\frac{1}{16}$ Inch	$\frac{1}{8}$ Inch	$\frac{1}{4}$ Inch
$\frac{1}{4}$	\$0.11	\$0.13	\$0.18	$\frac{1}{4}$	\$0.17	\$0.28	\$0.36
$\frac{5}{16}$	.11	.16	.21	$\frac{5}{16}$	.20	.29	.39
$\frac{3}{8}$	.11	.15	.21	$\frac{3}{8}$	.21	.32	.42
$\frac{7}{16}$	.11	.16	.23	$\frac{7}{16}$	.21	.34	.45
$\frac{1}{2}$	.13	.18	.24	$\frac{1}{2}$	.22	.35	.47
$\frac{9}{16}$	.13	.19	.27	$\frac{9}{16}$	.23	.36	.49
$\frac{5}{8}$	.14	.21	.28	$\frac{5}{8}$	.24	.39	.51
$\frac{11}{16}$	.15	.22	.29	$\frac{11}{16}$	.25	.40	.54
$\frac{3}{4}$	.16	.23	.33	$\frac{3}{4}$	.26	.42	.56
$\frac{7}{8}$	.16	.25	.34	$\frac{7}{8}$	.27	.44	.58
$\frac{15}{16}$	.16	.26	.35				

Above list applies only on orders of 50 feet and over of a size.
For orders less than 50 feet but over 24 feet add 10 per cent. to list.
For orders less than 24 feet add 20 per cent. to list.

NO. 6 AND 7 MICANITE PLATES For Electric Heating Appliances

We furnish Micanite Plates to meet the unusual requirements for insulation in electrical heating appliances, using a special cement adapted to withstand a high degree of heat.

No. 6 India Micanite Plate is recommended for devices in which the heating elements attain the ordinary temperatures required for cooking utensils, small disc heaters, domestic flat irons, etc.

No. 7 Amber Micanite Plate will stand a higher degree of heat than No. 6 and should be used in devices where the elements are subjected to higher temperatures than the ordinary.

Prices, etc., on application.

NO. 30 MICANITE PAPER TAPE

This tape consists of a tissue paper faced on one side with one overlapping layer of carefully selected India mica films.

It is extensively used for insulating armature coils and bars in conjunction with Linotape or the ordinary friction tape.

In thickness it runs from .003 to .005 and is put up in rolls containing 100 lineal feet.

The following widths are kept in stock:

List No.	Width, Inches	Approx. Thickness, Inches	Approx. Oz. per Roll	List Price per Lb.
1355	$\frac{3}{4}$ ins.	.003 to .005	3	\$3.13
1356	1	.003 to .005	4	3.13

Other widths made to order.

NO. 32 MICANITE PAPER TAPE

This paper is of the same order as No. 30 Micanite Paper Tape, except that the mica layer is faced on both sides with tissue paper, adding slightly to its thickness and mechanical strength.

In thickness it runs from .005 to .007.

The following widths are kept in stock:

List No.	Width, Inches	Approx. Thickness, Inches	Approx. Oz. per Roll	List Price per Lb.
1357	$\frac{3}{4}$	.005 to .007	4 $\frac{1}{2}$	\$3.13
1358	1	.005 to .007	6	3.13

Other widths made to order.

MISCELLANEOUS APPLICATIONS OF MICANITE

Transformer Insulation

As most transformers of modern construction are immersed in oil, the Micanite used in this line of apparatus is treated to withstand the effect of oil. We have made a specialty of Micanite for this purpose. Unless specially treated, the oil will attack the cement and open up the plate.

Armature Troughs, Molded to Shape

The manufacturer is equipped to mold troughs of various shapes either from entire Micanite, rope paper and mica, fish-paper and mica, or fullerboard and mica. For apparatus of the Siemen & Halske and similar types where the armature winding also serves as commutator bars, they are equipped to bake the troughs so as to furnish them of the same quality as standard commutator plate.

Static Discs

To get best results for static machines, a special grade of mica must be used. Experience has shown that all kinds of white mica are not suitable for this purpose. The manufacturer is very careful in selecting the proper quality and in finishing the discs we take all the necessary precautions to make them run true and well balanced.

Special Micanite Plate for Condensers and Ozonators

For this purpose, they produce a plate from selected India mica containing the proper proportion of cement and treated to withstand as much as possible the moisture in the atmosphere which such apparatus appears very readily to attract.

MICANITE COMMUTATOR INSULATION

For Traction Motors of G. E. Type

List No.		G. E. 50	Quantity per Set	List Price
10978	Segments (India).....		105 per 100	\$23.92
11029	Segments (amber).....		105 per 100	33.20
17156	Taper ring, curved.....		2 each	.96
11030	Tapered band ring.....		2 each	.88
17486	Sleeve under segments.....		1 each	.40
G. E. 51				
10979	Segments (India).....		111 per 100	\$13.28
14529	Segments (amber).....		111 per 100	17.84
55791	Taper ring, straight.....		2 each	1.32
55793	Tapered band ring (narrow).....		1 each	1.20
55792	Tapered band ring (wide).....		1 each	1.35
55794	Sleeve under segments.....		1 each	1.00
55821	Flat ring.....		1 each	.36
G. E. 52—A FORM 1 AND 2				
14530	Segments (India).....		87 per 100	\$9.44
55779	Segments (amber).....		87 per 100	12.32
14542	Taper ring, curved.....		2 each	.76
14540	Tapered band ring (narrow).....		1 each	.76
14541	Tapered band ring (wide).....		1 each	.84
14543	Sleeve under segments.....		1 each	.40
14591	Flat ring.....		1 each	.36
G. E. 53—A				
52987	Segments (India).....		111 per 100	\$8.32
52988	Segments (India).....		99 per 100	8.56
52989	Segments (amber).....		111 per 100	11.20
52990	Segments (amber).....		99 per 100	11.20
52992	Taper ring, straight.....		2 each	1.56
52993	Tapered band ring.....		2 each	1.20
52991	Sleeve under segments.....		1 each	1.00
55767	Flat ring.....		1 each	.40
G. E. 54—A				
10930	Segments (India).....		115 per 100	\$6.40
55780	Segments (amber).....		115 per 100	8.56
55795	Taper ring, curved.....		2 each	.88
55797	Tapered band ring (narrow).....		1 each	.80
55796	Tapered band ring (wide).....		1 each	.84
103728	V ring, solid (narrow).....		1 each	1.48
103727	V ring, solid (wide).....		1 each	1.60
55798	Sleeve under segments.....		1 each	.48
55799	Flat ring.....		1 each	.36
G. E. 55—A				
10931	Segments (India).....		141 per 100	\$23.92
50581	Segments (amber).....		141 per 100	29.92
50584	Taper ring, straight.....		2 each	1.88
50586	Tapered band ring (narrow).....		1 each	1.92
50585	Tapered band ring (wide).....		1 each	1.96
50583	Sleeve under segments.....		1 each	2.16
50616	Fillers.....		47 each	.16
50619	L sections.....		1 each	7.20
50614	L rings, pinion end.....		1 each	13.32
50612	Flat ring.....		1 each	.96
G. E. 57—A				
10932	Segments (India).....		99 per 100	\$10.08
10977	Segments (India).....		111 per 100	10.08
50287	Segments (amber).....		99 per 100	13.52
50783	Segments (amber).....		111 per 100	13.52
50289	Taper ring, curved.....		2 each	1.08
119758	Tapered band ring (narrow).....		1 each	.96
50290	Tapered band ring (wide).....		1 each	1.04
50288	Sleeve under segments.....		1 each	.68
50262	Flat ring.....		1 each	.44

MICANITE COMMUTATOR INSULATION For Traction Motors of G. E. Type

G. E. 58—A

List No.		Quantity per Set		List Price
10933	Segments (India).....	99	per 100	\$6.96
10934	Segments (India).....	99	per 100	.....
50448	Segments (amber).....	99	per 100	9.44
50449	Segments (amber).....	99	per 100	.....
50451	Taper ring, curved.....	2	each	1.08
50452	Tapered band ring.....	2	each	.92
50450	Sleeve under segments.....	1	each	.64
50461	Flat ring.....	1	each	.40

G. E. 59, FORM 3 AND 6

10980	Segments (India).....	99	per 100	\$6.32
62464	Segments (amber).....	99	per 100	8.32
109969	Taper ring, curved.....	2	each	1.08
109971	Tapered band ring (narrow).....	1	each	.64
109970	Tapered band ring (wide).....	1	each	.88
109972	Sleeve under segments.....	1	each	.60
109973	Flat ring.....	1	each	.40

G. E. 59, FORM 4

10981	Segments (India).....	99	per 100	\$6.32
62464	Segments (amber).....	99	per 100	8.32
109969	Taper ring, curved.....	2	each	1.08
109971	Tapered band ring (narrow).....	1	each	.64
109974	Tapered band ring (wide).....	1	each	1.04
109972	Sleeve under segments.....	1	each	.60
109973	Flat ring.....	1	each	.40

G. E. 60

10935	Segments (India).....	111	per 100	\$5.20
10936	Segments (India).....	111	per 100	.....
52388	Segments (amber).....	111	per 100	6.96
52389	Segments (amber).....	111	per 100	.....
50451	Taper ring, curved.....	2	each	1.08
52393	Tapered band ring.....	2	each	.84
52392	Sleeve under segments.....	1	each	.64
50461	Flat ring.....	1	each	.40

G. E. 61

10937	Segments (India).....	123	per 100	\$4.56
55786	Segments (amber).....	123	per 100	6.16
55805	Taper ring, straight.....	2	each	1.88
55806	Tapered band ring.....	2	each	1.16
55807	Sleeve under segments.....	1	each	1.12
55808	Flat ring.....	1	each	.72

G. E. 62

10938	Segments (India).....	87	per 100	\$9.44
14531	Segments (amber).....	87	per 100	12.32
14542	Taper ring, curved.....	2	each	.76
14540	Tapered band ring (narrow).....	1	each	.76
14541	Tapered band ring (wide).....	1	each	.84
14543	Sleeve under segments.....	1	each	.40
14591	Flat ring.....	1	each	.36

G. E. 64

Prices on application.

G. E. 65

10982	Segments (India).....	275	per 100	\$24.40
11031	Segments (amber).....	275	per 100	32.40
11032	Taper ring, straight.....	2	each	3.00
11033	Tapered band ring (narrow).....	1	each	3.04
11034	Tapered band ring (wide).....	1	each	4.20
11035	Sleeve under segments.....	1	each	4.56
11036	Flat ring.....	1	each	2.08

G. E. 66—A AND B

10939	Segments (India).....	195	per 100	\$14.40
24876	Segments (amber).....	195	per 100	19.04
24878	Taper ring, curved.....	2	each	2.04
24880	Tapered band ring (narrow).....	1	each	2.16
24879	Tapered band ring (wide).....	1	each	2.32
24877	Sleeve under segments.....	1	each	1.92
24892	L ring.....	1	each	13.32
24899	Shaped mica.....	...	each	7.20
24899	Flat ring.....	1	each	.72

MICANITE COMMUTATOR INSULATION For Traction Motors of G. E. Type

List No.		G. E. 67—A	Quantity per Set		List Price
24966	Segments (India)		111	per 100	\$6.48
55788	Segments (amber)		111	per 100	8.64
55813	Taper ring, curved		2	each	.96
55815	Tapered band ring (narrow)		1	each	.84
55814	Tapered band ring (wide)		1	each	.88
103726	V ring, solid (narrow)		1	each	1.52
103725	V ring, solid (wide)		1	each	1.60
55816	Sleeve under segments		1	each	.48
55817	Flat ring		1	each	.40
G. E. 68					
10983	Segments (India)		155	per 100	\$23.52
10984	Segments (India)		195	per 100	23.52
11037	Segments (amber)		155	per 100	32.00
11038	Segments (amber)		195	per 100	32.00
24878	Taper ring, curved		2	each	2.04
11040	Tapered band ring (narrow)		1	each	2.64
11041	Tapered band ring (wide)		1	each	2.76
11042	Sleeve under segments		1	each	2.00
G. E. 69 (500 VOLT) Prices on Application. G. E. 69 (600 VOLT) Prices on Application. G. E. 70					
10941	Segments (India)		111	per 100	\$7.28
33739	Segments (amber)		111	per 100	9.68
55813	Taper ring, curved		2	each	.96
55814	Tapered band ring		2	each	.88
103726	V ring, solid (narrow)		1	each	1.52
103725	V ring, solid (wide)		1	each	1.60
34086	Sleeve under segments		1	each	.52
34094	Flat ring		1	each	.48
G. E. 73—C AND E					
10942	Segments (India)		117	per 100	\$9.60
24973	Segments (amber)		117	per 100	12.88
32403	Taper ring, curved		2	each	1.80
32405	Tapered band ring (Narrow)		1	each	1.56
32404	Tapered band ring (wide)		1	each	1.68
32402	Sleeve under segments		1	each	1.20
32414	Flat ring		1	each	.40
G. E. 74					
10943	Segments (India)		105	per 100	\$7.20
33737	Segments (amber)		105	per 100	9.60
35203	Taper ring, curved		2	each	1.32
35204	Tapered band ring		2	each	1.12
35202	Sleeve under segments		1	each	.88
35214	Flat ring		1	each	.36
G. E. 75					
11044	Segments (India)		145	per 100	\$7.60
11045	Segments (amber)		145	per 100	10.08
11046	Taper ring, curved		2	each	.96
11047	Tapered band ring (narrow)		1	each	.84
11048	Tapered band ring (wide)		1	each	.88
11049	Sleeve under segments		1	each	.52
11050	Flat ring		1	each	.48
G. E. 76					
11051	Segments (India) .....		...	per 100	\$23.76
11052	Segments (amber) .....		...	per 100	31.76
11053	Taper ring, curved		2	each	2.04
11054	Tapered band ring (narrow)		1	each	2.52
11055	Tapered band ring (wide)		1	each	2.60
11056	Sleeve under segments		1	each	2.20
11057	Flat ring		1	each	.64
G. E. 77					
10944	Segments (India)		99	per 100	\$5.76
36865	Segments (amber)		99	per 100	7.52
109975	Taper ring, curved		2	each	1.08
109977	Tapered band ring (narrow)		1	each	.76
109976	Tapered band ring (wide)		1	each	.80
109978	Sleeve under segments		1	each	.64
109979	Flat ring		1	each	.40

MICANITE COMMUTATOR INSULATION For Traction Motors of G. E. Type

List No.		G. E. 78	Quantity per Set		List Price
10985	Segments (India)		115	per 100	\$6.56
43102	Segments (amber)		115	per 100	8.72
109980	Taper ring, curved		2	each	.96
109981	Tapered band ring		2	each	.88
109982	Sleeve under segments		1	each	.40
109983	Flat ring		1	each	.40
G. E. 79					
10986	Segments (India)		117	per 100	\$3.04
60584	Segments (amber)		117	per 100	3.92
109984	Taper ring, curved		2	each	1.80
109985	Tapered band ring		2	each	1.20
109986	Sleeve under segments		1	each	.92
109987	Flat ring		1	each	.44
G. E. 80					
10948	Segments (India)		111	per 100	\$7.28
33739	Segments (amber)		111	per 100	9.68
55813	Taper ring, curved		2	each	.96
55814	Tapered band ring		2	each	.88
103726	V ring, solid (narrow)		1	each	1.52
103725	V ring, solid (wide)		1	each	1.60
34086	Sleeve under segments		1	each	.52
34094	Flat ring		1	each	.48
G. E. 81					
10949	Segments (India)		115	per 100	\$6.40
43103	Segments (amber)		115	per 100	8.56
55795	Taper ring, curved		2	each	.88
55797	Tapered band ring (narrow)		1	each	.80
55796	Tapered band ring (wide)		1	each	.84
55798	Sleeve under segments		1	each	.48
55799	Flat ring		1	each	.36
G. E. 82					
11058	Segments (India)		...	per 100	\$5.28
11059	Segments (amber)		...	per 100	6.96
11060	Taper ring, curved		2	each	1.08
11061	Tapered band ring (narrow)		1	each	.88
11062	Tapered band ring (wide)		1	each	.92
11063	Sleeve under segments		1	each	.64
11064	Flat ring		1	each	.44
G. E. 84					
Prices on Application.					
G. E. 87					
10950	Segments (India)		129	per 100	\$7.28
43104	Segments (amber)		129	per 100	9.76
46071	Taper ring, curved		2	each	1.20
46073	Tapered band ring (narrow)		1	each	1.00
46072	Tapered band ring (wide)		1	each	1.12
46070	Sleeve under segments		1	each	.84
46081	Flat ring		1	each	.40
G. E. 88					
10987	Segments (India)		111	per 100	\$6.88
100784	Segments (amber)		111	per 100	9.12
100876	Taper ring, curved		2	each	1.08
100878	Tapered band ring (narrow)		1	each	1.00
100877	Tapered band ring (wide)		1	each	1.08
100875	Sleeve under segments		1	each	.72
100879	Flat ring		1	each	.44
G. E. 90					
10951	Segments (India)		145	per 100	\$7.44
43101	Segments (amber)		145	per 100	10.08
55813	Taper ring, curved		2	each	.96
55814	Tapered band ring		2	each	.88
103726	V ring, solid (narrow)		1	each	1.52
103725	V ring, solid (wide)		1	each	1.60
34086	Sleeve under segments		1	each	.52
45344	Flat ring		1	each	.60

MICANITE COMMUTATOR INSULATION

For Traction Motors of G. E. Type

List No.	G. E. 95	Quantity per Set	List Price
10990	Segments (India)	99 per 100	\$2.08
64849	Segments (amber)	99 per 100	2.72
109990	Taper ring, curved	2 each	.96
109991	Tapered band ring (narrow)	1 each	.52
109992	Tapered band ring (wide)	1 each	.64
11065	V ring, solid	2 each	1.20
109993	Sleeve under segments	1 each	.40
109994	Flat ring	1 each	.48

G. E. 96

Prices on Application.

G. E. 97 (500 VOLT)

60587	Segments (India)	145 per 100	\$6.48
60610	Segments (amber)	145 per 100	8.48
110000	Taper ring, curved	2 each	1.80
110002	Tapered band ring (narrow)	1 each	1.36
110001	Tapered band ring (wide)	1 each	1.52
110003	Sleeve under segments	1 each	1.28
110004	Flat ring	1 each	.40
110005	Flat ring	1 each	.56

G. E. 101

10993	Segments (India) .....	... per 100	...
11066	Segments (amber) .....	... per 100	...
11067	Taper ring, straight	2 each	\$2.12
11068	Tapered band ring (narrow)	1 each	2.24
11069	Tapered band ring (wide)	1 each	2.80
11070	Sleeve under segments	1 each	1.84

G. E. 202

10994	Segments (India)	125 per 100	\$5.92
59152	Segments (amber)	125 per 100	7.68
110006	Taper ring, curved	2 each	.96
110008	Tapered band ring (narrow)	1 each	.84
110007	Tapered band ring (wide)	1 each	.88
103732	V ring, solid (narrow)	1 each	1.52
103731	V ring, solid (wide)	1 each	1.64
110009	Sleeve under segments	1 each	.48
110010	Flat ring	1 each	.40

G. E. 204—A

10995	Segments (India)	145 per 100	\$5.92
61073	Segments (amber)	145 per 100	\$10.48
110011	Taper ring, curved	2 each	1.20
110013	Tapered band ring (narrow)	1 each	1.08
110012	Tapered band ring (wide)	1 each	1.20
103734	V ring, solid (narrow)	1 each	2.32
103733	V ring, solid (wide)	1 each	2.36
110014	Sleeve under segments	1 each	.84
110015	Flat ring	1 each	.40

G. E. 205 A AND B (600-1200 VOLT)

10996	Segments (India)	185 per 100	\$10.32
49738	Segments (amber)	185 per 100	14.00
64319	Taper ring, curved	2 each	1.72
64322	Tapered band ring	2 each	1.92
64316	Sleeve under segments	1 each	1.60
64334	Flat ring	1 each	.40

G. E. 205 A AND B (1200 VOLT)

10997	Segments (India)	205 per 100	\$10.32
64314	Segments (amber)	205 per 100	14.00
64320	Taper ring, curved	2 each	1.72
64324	Tapered band ring (narrow)	1 each	1.80
64323	Tapered band ring (wide)	1 each	2.04
64317	Sleeve under segments	1 each	2.28
64335	Flat ring	1 each	.56

G. E. 205 B (600 VOLT) (OLD)

10998	Segments (India)	125 per 100	\$10.32
64315	Segments (amber)	125 per 100	14.00
64321	Taper ring, curved	2 each	1.72
64326	Tapered band ring (narrow)	1 each	1.68
64325	Tapered band ring (wide)	1 each	1.76
64318	Sleeve under segments	1 each	1.60
64336	Flat ring	1 each	.44

MICANITE COMMUTATOR INSULATION For Traction Motors of G. E. Type

List No.		G. E. 205B (600 VOLT) (NEW)	Quantity per Set		List Price
11071	Segments (India)		123	per 100	\$10.32
100669	Segments (amber)		123	per 100	14.02
64321	Taper ring, curved		2	each	1.72
100687	Tapered band ring (narrow)		1	each	1.56
64326	Tapered band ring (wide)		1	each	1.68
64318	Sleeve under segments		1	each	1.60
100688	Flat ring		1	each	.48
G. E. 207					
100786	Segments (India)		203	per 100	\$17.76
100785	Segments (amber)		203	per 100	23.52
100851	Taper ring, curved		2	each	2.04
100855	Tapered band ring (narrow)		1	each	2.32
100853	Tapered band ring (wide)		1	each	2.76
100849	Sleeve under segments		1	each	2.12
100857	Flat ring		1	each	.64
G. E. 208 Prices on Application.					
G. E. 209					
10073	Segments (India) .....		..	per 100	\$23.36
10074	Segments (amber) .....		..	per 100	31.20
10075	Taper ring, curved		2	each	2.80
10076	Tapered band ring (narrow)		1	each	3.84
10077	Tapered band ring (wide)		1	each	4.20
10078	Sleeve under segments		1	each	4.56
10079	Flat ring		1	each	2.40
G. E. 210					
11001	Segments (India)		125	per 100	\$6.64
10080	Segments (amber)		125	per 100	8.80
110016	Taper ring, curved		2	each	1.20
110018	Tapered band ring (narrow)		1	each	1.12
110017	Tapered band ring (wide)		1	each	1.08
110019	Sleeve under segments		1	each	.72
110020	Flat ring		1	each	.40
G. E. 211					
11002	Segments (India)		67	per 100	\$19.92
11080	Segments (amber)		67	per 100	26.40
24878	Taper ring, curved		2	each	2.04
24880	Tapered band ring (narrow)		1	each	2.16
24879	Tapered band ring (wide)		1	each	2.32
24877	Sleeve under segments		1	each	1.92
24889	Flat ring		1	each	.72
G. E. 211—C Prices on Application.					
G. E. 212					
11003	Segments (India) .....		..	per 100	\$21.92
11081	Segments (amber) .....		..	per 100	26.72
107589	Taper ring, curved		2	each	2.20
107591	Tapered band ring (narrow)		1	each	2.84
107590	Tapered band ring (wide)		1	each	3.24
107588	Sleeve under segments		1	each	2.64
107592	Flat ring		1	each	.64
G. E. 213					
11004	Segments (India)		125	per 100	\$5.92
59152	Segments (amber)		125	per 100	7.68
110006	Taper ring, curved		2	each	.96
110008	Tapered band ring (narrow)		1	each	.84
110007	Tapered band ring (wide)		1	each	.88
103732	V ring, solid (narrow)		1	each	1.57
103731	V ring, solid (wide)		1	each	1.64
110009	Sleeve under segments		1	each	.48
110010	Flat ring		1	each	.40
G. E. 214 Prices on Application.					
G. E. 215 Prices Same as 213.					
G. E. 216					
11007	Segments (India)		125	per 100	\$6.56
61165	Segments (amber)		125	per 100	8.64
108584	Taper ring, curved		2	each	1.08
108586	Tapered band ring (narrow)		1	each	.96
108585	Tapered band ring (wide)		1	each	1.68
103736	V ring sectional (narrow)		1	each	1.80
103735	V ring sectional (wide)		1	each	.64
108583	Sleeve under segments		1	each	.44
108587	Flat ring		1	each	

MICANITE COMMUTATOR INSULATION

For Traction Motors of G. E. Type

List No.		G. E. 217	Quantity per Set	List Price
11008	Segments (India).....	145	per 100	\$5.60
100787	Segments (amber).....	145	per 100	7.44
103085	Taper ring, curved.....	2	each	1.20
103087	Tapered band ring (narrow).....	1	each	1.00
103086	Tapered band ring (wide).....	1	each	1.08
103084	Sleeve under segments.....	1	each	.84
103088	Flat ring.....	1	each	.40
G. E. 218				
11009	Segments (India).....	123	per 100	\$6.40
100788	Segments (amber).....	123	per 100	8.48
103523	Taper ring, curved.....	2	each	1.72
103525	Tapered band ring (narrow).....	1	each	1.48
103524	Tapered band ring (wide).....	1	each	1.68
103522	Sleeve under segments.....	1	each	1.24
103526	Flat ring.....	1	each	.48
G. E. 219				
11010	Segments (India).....	125	per 100	\$6.56
61165	Segments (amber).....	125	per 100	8.64
106584	Taper ring, curved.....	2	each	1.08
108586	Tapered band ring (narrow).....	1	each	.84
108585	Tapered band ring (wide).....	1	each	.96
11105	V ring, solid (narrow).....	1	each	1.68
11106	V ring, solid (wide).....	1	each	1.80
106583	Sleeve under segments.....	1	each	.64
106587	Flat ring.....	1	each	.44
G. E. 603				
11011	Segments (India).....	250	per 100	\$17.44
11018	Segments (India).....	270	per 100	17.44
11082	Segments (amber).....	250	per 100	23.04
11083	Segments (amber).....	270	per 100	23.04
89574	Taper ring, straight.....	2	each	2.20
89576	Tapered band ring (narrow).....	1	each	2.88
89575	Tapered band ring (wide).....	1	each	3.12
89573	Sleeve under segments.....	1	each	2.64
11084	Flat ring.....	1	each	.72
G. E. 605				
11012	Segments (India).....	165	per 100	\$17.76
11013	Segments (India).....	275	per 100	17.76
11014	Segments (India).....	240	per 100	17.76
11085	Segments (amber).....	165	per 100	23.60
11086	Segments (amber).....	275	per 100	23.60
11087	Segments (amber).....	240	per 100	23.60
11088	Taper ring, straight.....	2	each	1.72
11089	Tapered band ring (narrow).....	1	each	2.08
11090	Tapered band ring (wide).....	1	each	2.16
11091	Sleeve under segments.....	1	each	2.16
11092	Flat ring.....	1	each	.64
G. E. 800 RING, FORM 3				
10956	Segments (India).....	130	per 100	\$5.60
17118	Segments (amber).....	130	per 100	7.52
17119	Taper ring, curved.....	2	each	1.20
17120	Tapered band ring (narrow).....	1	each	.84
17121	Tapered band ring (wide).....	1	each	.88
17490	Sleeve under segments.....	1	each	.88
17122	Flat ring (plain).....	1	each	.40
17245	Bead ring.....	1	each	1.24
G. E. 800 DRUM, FORM 4				
10957	Segments (India).....	105	per 100	\$6.48
17155	Segments (amber).....	105	per 100	8.56
17156	Taper ring, curved.....	2	each	.96
17157	Tapered band ring (narrow).....	1	each	.64
17158	Tapered band ring (wide).....	1	each	.84
10958	V ring, solid (narrow).....	1	each	1.48
10959	V ring, solid (wide).....	1	each	1.56
17484	V ring, sectional (narrow).....	1	each	2.04
17485	V ring, sectional (wide).....	1	each	2.24
17486	Sleeve under segments.....	1	each	.40
18090	Flat ring (flanged).....	1	each	1.32
17159	Flat ring (plain).....	1	each	.40
18091	Bead ring.....	1	each	1.35

MICANITE COMMUTATOR INSULATION

For Traction Motors of G. E. Type

List No.		Quantity per Set		List Price
G. E. 800 DRUM, FORM 6				
10960	Segments (India)	105	per 100	\$6.48
19358	Segments (amber)	105	per 100	8.56
17156	Taper rings, curved	2	each	.96
17157	Tapered band ring (narrow)	1	each	.64
17158	Tapered band ring (wide)	1	each	.84
10958	V ring, solid (narrow)	1	each	1.48
10959	V ring, solid (wide)	1	each	1.56
17484	V ring, sectional (narrow)	1	each	2.04
17485	V ring, sectional (wide)	1	each	2.24
17486	Sleeve under segments	1	each	.40
19357	Flat ring (flanged)	1	each	1.32
17151	Flat ring (plain)	1	each	.40
19356	Bead ring	1	each	1.32
G. E. 800 DRUM, FORM 7				
10960	Segments (India)	105	per 100	\$6.48
19358	Segments (amber)	105	per 100	8.56
17156	Taper ring, curved	2	each	.96
17157	Tapered band ring (narrow)	1	each	.64
52986	Tapered band ring (wide)	1	each	.84
17486	Sleeve under segments	1	each	.40
14508	Flat ring (plain)	1	each	.40
G. E. 1000, FORM 1				
10961	Segments (India)	93	per 100	\$7.44
14788	Segments (amber)	93	per 100	9.84
14790	Taper ring, curved	2	each	.76
10962	Tapered band ring (narrow)	1	each	.76
10963	Tapered band ring (wide)	1	each	1.00
14789	Sleeve under segments	1	each	.40
14558	Flat ring	1	each	.34
G. E. 1000, FORM 2				
10964	Segments (India)	93	per 100	\$7.44
14788	Segments (amber)	93	per 100	9.84
14790	Taper ring, curved	2	each	.76
14792	Tapered band ring	2	each	.84
14789	Sleeve under segments	1	each	.40
14558	Flat ring	1	each	.34
G. E. 1000, FORM 3				
10965	Segments (India)	93	per 100	\$7.44
14744	Segments (amber)	93	per 100	9.84
14747	Taper ring, curved	2	each	.76
14706	Tapered band ring (narrow)	1	each	.76
14746	Tapered band ring (wide)	1	each	.80
14773	Sleeve under segments	1	each	.40
14558	Flat ring	1	each	.34
G. E. 1004				
11015	Segments (India) . . . . .	...	per 100	.....
11093	Segments (amber) . . . . .	...	per 100	.....
11094	Taper ring, straight	2	each	\$0.32
11095	Tapered band ring	2	each	.40
G. E. 1014				
11016	Segments (India) . . . . .	...	per 100	.....
11096	Segments (amber) . . . . .	...	per 100	.....
11097	Taper ring, straight	2	each	\$0.52
11098	Tapered band ring	2	each	.48
G. E. 1029				
Prices on Application.				
G. E. 1200, FORMS 1 AND 2				
10966	Segments (India)	105	per 100	\$7.52
18088	Segments (amber)	105	per 100	10.00
17156	Taper ring, curved	2	each	.96
19089	Tapered band ring	2	each	.96
18086	Sleeve under segments	1	each	.60
18090	Flat ring (flanged)	1	each	1.32
G. E. 1500				
11017	Segments (India) . . . . .	...	per 100	.....
11099	Segments (amber) . . . . .	...	per 100	.....
11100	Taper ring, straight	2	each	\$1.32
11101	Tapered band ring	2	each	1.24
11102	Sleeve under segments	1	each	.84

MICANITE COMMUTATOR INSULATION

For Traction Motors of G. E. Type

List No.	G. E. 2000, FORM A	Quantity per Set	List Price
10967	Segments (India).....	141	per 100 \$12.16
18138	Segments (amber).....	141	per 100 18.32
18146	Taper ring, straight.....	2	each 1.88
18139	Tapered band ring.....	2	each 1.60
10968	V ring, solid.....	2	each 2.44
11103	V ring, sectional.....	2	each 2.96
18145	Sleeve under segments.....	1	each 1.44
19384	Ring, under bars, pinion end.....	1	each 3.28
19385	Ring, over bars, pinion end (sectional).....	1	each 4.56
18136	Flat ring (flanged) (connection end).....	1	each 2.16
18144	Flat ring (flanged) bearing end.....	1	each 2.04
19386	Flat ring (commutator end).....	1	each 1.64

C. O. 2001

Prices Same as G. E. 50.

C. O. 2002

Prices Same as G. E. 52A.

C. O. 2003

Prices Same as G. E. 55A.

C. O. 2004

Prices Same as G. E. 58A.

C. O. 2007

Prices Same as G. E. 57A.

Types G. E. Old Style Motors

We furnish Micanite rings and segments for the commutator insulation of the following G. E. Railway Old Style Motors:

L. W. P. 5	} Prices on Application	F. 20, Form 4	} Prices on Application
W. P. 50, Form 1		F. 30, Old Style	
W. P. 50, Form 4		F. 30, Form 4	
W. P. 50, Form 6		S. R. G., Old Style	
W. P. 50, Form 7		No. 6, Edison	
W. P. 30, Form 1		No. 8, Edison	
W. P. 30, Form 4		No. 12, Edison	
W. P. 30, Form 6		No. 14, Edison	
W. P. 30, Form 7		No. 16, Edison	
F. 20, Old Style		No. 6, Sprague	

We furnish Micanite rings and segments for all types G. E. Railway Motors.

Lorain Steel Traction Motors

We furnish Micanite rings and segments for the following types of Lorain Steel Railway Motors:

S M No. 5	} Prices on Application	S M No. 34	} Prices on Application
S M No. 18		S M No. 50	
S M No. 20		S M No. 42	
S M No. 22		S M No. 60	
S M No. 23		S M No. 79	
S M No. 27		C No. 3	
S M No. 28		C No. 3½	
S M No. 29		C No. 4	

Walker Traction Motors

We furnish Micanite rings and segments for the following types of Walker Railway Motors:

No. 4 and 5, 25 H.P.	} Prices on Application	No. 10 S, 50 H.P.	} Prices on Application
58, 25 H.P. Form A and B.		15 S, 75 H.P. Form A and B.	

Allis-Chalmers Traction Motors

We furnish Micanite rings and segments of our manufacture for the following types of Allis-Chalmers Railway Motors.

R 35, 40 H.P.	} Prices on Application	No. 302, 55 H.P.	} Prices on Application
R 50, 50 H.P.		No. 303, 90 H.P.	
R 75, 75 H.P.		No. 304, 60 H.P.	
No. 301, 40 H.P.		No. 501, 50 H.P.	

MICANITE COMMUTATOR INSULATION

For Traction Motors of Westinghouse Type

List No.		WEST. 3	Quantity per Set		List Price
9730	Segments (India)		95	per 100	\$6.64
1075	Segments (amber)		95	per 100	8.88
1818	Taper ring, straight		2	each	1.00
1817	Tapered band ring		2	each	.88
9731	V ring, solid		2	each	2.16
9732	V ring, sectional		2	each	2.56
1819	Flat ring		1	each	.48
1820	Sleeve under segments		1	each	.40
P3	Bead ring		1	each	1.20
WEST. 12					
9733	Segments (India)		95	per 100	\$5.52
964	Segments (amber)		95	per 100	9.92
1818	Taper ring, straight		2	each	1.00
1817	Tapered band ring		2	each	.88
9734	V ring, solid		2	each	2.16
9735	V ring, sectional		2	each	2.56
1819	Flat ring		1	each	.48
1820	Sleeve under segments		1	each	.40
P3	Bead ring		1	each	1.20
WEST. 12-A					
9736	Segments (India)		93	per 100	\$8.16
1758	Segments (amber)		93	per 100	11.20
9737	Taper ring, straight		2	each	.84
9738	Tapered band ring		2	each	1.00
9739	V ring, solid		2	each	1.80
1759	V ring, sectional		2	each	2.16
1820	Sleeve under segments		1	each	.40
WEST. 36					
Prices and List Nos. Same as No. 12-A.					
WEST. 38 AND 38-B					
9740	Segments (India)		135	per 100	\$9.92
1837	Segments (amber)		135	per 100	13.04
9741	Taper ring, straight		2	each	.76
9742	Tapered band ring (narrow)		1	each	.88
9743	Tapered band ring (wide)		1	each	.92
1838	V ring, solid (narrow)		1	each	1.68
9803	V ring solid (wide)		1	each	1.76
2589	Sleeve under segments		1	each	.44
WEST. 46					
Prices on Application.					
WEST. 47, 47-A AND 47-D					
Prices and List Nos. Same as No. 38.					
WEST. 48, 48-A AND 48-E					
Prices and List Nos. Same as No. 12-A.					
WEST. 49 AND 49-D					
6744	Segments (India)		117	per 100	\$7.76
5176	Segments (amber)		117	per 100	10.40
9745	Taper ring, straight		2	each	.68
9746	Tapered band ring (narrow)		1	each	.72
9747	Tapered band ring (wide)		1	each	.84
22161	V ring, solid (narrow)		1	each	1.28
9748	V ring, solid (wide)		1	each	1.40
4324	V ring, sectional (narrow)		1	each	1.68
9749	V ring, sectional (wide)		1	each	1.80
16206	Flat ring		1	each	.60
1820	Sleeve under segments		1	each	.40
WEST. 50-C AND E					
9750	Segments (India)		165	per 100	\$17.92
25841	Segments (amber)		165	per 100	24.76
9751	Taper ring, straight		2	each	2.04
9752	Tapered band ring (narrow)		1	each	2.64
9753	Tapered band ring (wide)		1	each	3.28
9755	V ring, solid (narrow)		1	each	5.04
9754	V ring, solid (wide)		1	each	5.76
25845	V ring, sectional (narrow)		1	each	5.56
25844	V ring, sectional (wide)		1	each	6.24
25843	Sleeve under segments		1	each	1.24

WEST. 50 F
Prices on Application.

MICANITE COMMUTATOR INSULATION **For Traction Motors of Westinghouse Type**

WEST. 50 L

List No.		Quantity per Set	List Price
9806	Segments (India)	per 100	.....
9827	Segments (amber)	per 100	.....
9824	Taper ring, straight	2 each	\$1.28
9825	Tapered band ring (narrow)	1 each	1.36
9826	Tapered band ring (wide)	1 each	2.16
40474	V ring, solid (narrow)	1 each	2.52
40475	V ring, solid (wide)	1 each	3.12
40473	Sleeve under segments	1 each	1.20

WEST. 52

Prices and List Nos. Same as No. 49.

WEST. 56

9756	Segments (India)	117	per 100	\$13.12
14825	Segments (amber)	117	per 100	17.36
9757	Taper ring, straight	2	each	1.36
9758	Tapered band ring (narrow)	1	each	1.80
9759	Tapered band ring (wide)	1	each	2.00
9761	V ring, solid (narrow)	1	each	3.76
9760	V ring, solid (wide)	1	each	4.00
14824	V ring, sectional (narrow)	1	each	4.24
14823	V ring, sectional (wide)	1	each	4.44
14970	Sleeve under segments	1	each	.60

WEST. 58

9762	Segments (India)	105	per 100	.....
27496	Segments (amber)	105	per 100	.....
9764	Taper ring, straight	2	each	\$0.68
9765	Tapered band ring (narrow)	1	each	.88
9802	Tapered band ring (wide)	1	each	.96
9766	V ring, solid (narrow)	1	each	1.56
9767	V ring, solid (wide)	1	each	1.68
9768	V ring, sectional (narrow)	1	each	1.84
27500	V ring, sectional (wide)	1	each	1.92
1820	Sleeve under segments	1	each	.40

WEST. 59

9807	Segments (India)	105	per 100	.....
9808	Segments (India)	117	per 100	\$6.00
27566	Segments (amber)	105	per 100	.....
27537	Segments (amber)	117	per 100	8.00
22161	V ring, solid (narrow)	1	each	1.28
27528	V ring, solid (wide)	1	each	1.64
1820	Sleeve under segments	1	each	.40

WEST. 60 (220 VOLT)

9809	Segments (India)	69	per 100	\$4.32
83400	Segments (amber)	69	per 100	5.76
9748	V ring, solid	2	each	1.40
1820	Sleeve under segments	1	each	.40

WEST. 60 (500 VOLT)

9810	Segments (India)	105	per 100	.....
27557	Segments (amber)	105	per 100	\$8.00
22161	V ring, solid	2	each	1.28
1820	Sleeve under segments	1	each	.40

WEST. 61

9811	Segments (India)	77	per 100	\$4.48
9812	Segments (India)	117	per 100	4.48
29947	Segments (amber)	77	per 100	6.00
29853	Segments (amber)	117	per 100	6.00
22161	V ring (solid)	2	each	1.28
29849	Sleeve under segments	1	each	.48

WEST. 62

Prices and List Nos. Same as No. 56.

WEST. 64

9814	Segments (India)	77	per 100	\$2.32
9815	Segments (India)	105	per 100	2.32
29128	Segments (amber)	77	per 100	2.96
9828	Segments (amber)	105	per 100	2.96
29132	V ring, solid (narrow)	1	each	.80
29131	V ring, solid (wide)	1	each	1.00
29130	Sleeve under segments	1	each	.44

WEST. 65

9816	Segments (India)	105	per 100	\$6.16
9817	Segments (India)	117	per 100	6.16
23566	Segments (amber)	105	per 100	8.00
23614	Segments (amber)	117	per 100	8.00
22161	V ring, solid (narrow)	1	each	1.28
27528	V ring, solid (wide)	1	each	1.64
1820	Sleeve under segments	1	each	.40

MICANITE COMMUTATOR INSULATION For Traction Motors of Westinghouse Types

WEST. 67

List No.		Quantity per Set		List Price
9818	Segments (India).....	73	per 100	\$6.00
9819	Segments (India).....	111	per 100	8.00
27557	Segments (amber).....	73	per 100	8.00
28814	Segments (amber).....	111	per 100	1.28
22161	V ring, solid.....	2	each	1.28
1820	Sleeve under segments.....	1	each	.40

WEST. 68 AND 68-C

9769	Segments (India).....	109	per 100	\$7.92
11272	Segments (amber).....	109	per 100	10.64
9770	Taper ring, straight.....	2	each	.76
9771	Tapered band ring (narrow).....	1	each	.88
9772	Tapered band ring (wide).....	1	each	.92
9774	V ring, solid (narrow).....	1	each	1.72
9773	V ring, solid (wide).....	1	each	1.76
11271	V ring, sectional (narrow).....	1	each	2.16
9775	V ring, sectional (wide).....	1	each	2.20
24612	Sleeve under segments.....	1	each	.52

WEST. 69

9776	Segments (India).....	105	per 100	\$6.64
11270	Segments (amber).....	105	per 100	8.80
9777	Taper ring, straight.....	2	each	.68
9778	Tapered band ring (narrow).....	1	each	.72
9779	Tapered band ring (wide).....	1	each	.84
9780	V ring, solid (narrow).....	1	each	1.28
9781	V ring, solid (wide).....	1	each	1.40
11269	V ring, sectional (narrow).....	1	each	1.68
9782	V ring, sectional (wide).....	1	each	1.80
1820	Sleeve under segments.....	1	each	.40

WEST. 70

Prices on Application.

WEST. 73

Prices and List Nos. Same as No. 61.

WEST. 74

Prices on Application.

WEST. 75

Prices and List Nos. Same as No. 58.

WEST. 76

9783	Segments (India).....	117	per 100	\$14.32
25250	Segments (amber).....	117	per 100	19.28
9784	Taper ring, straight.....	2	each	1.64
9786	Tapered band ring (narrow).....	1	each	2.32
9785	Tapered band ring (wide).....	1	each	2.52
25267	V ring, sectional (narrow).....	1	each	4.56
25253	V ring, sectional (wide).....	1	each	4.80
25252	Sleeve under segments.....	1	each	.84

WEST. 79

9787	Segments (India).....	105	per 100	\$10.80
28823	Segments (amber).....	105	per 100	14.32
9788	Taper ring, straight.....	2	each	1.36
9789	Tapered band ring (narrow).....	1	each	1.64
9790	Tapered band ring (wide).....	1	each	2.00
27426	V ring, solid (narrow).....	1	each	3.60
27425	V ring, solid (wide).....	1	each	4.08
9852	V ring, sectional (narrow).....	1	each	2.10
9853	V ring, sectional (wide).....	1	each	4.64
27424	Sleeve under segments.....	1	each	.60

WEST. 81

Prices and List Nos. Same as No. 56.

WEST. 83

Prices on Application.

WEST. 85

9821	Segments (India).....	117	per 100	\$12.80
9839	Segments (amber).....	117	per 100	16.72
41318	V ring, solid (narrow).....	1	each	2.04
41317	V ring, solid (wide).....	1	each	2.32
9854	V ring, sectional (narrow).....	1	each	2.04
9855	V ring, sectional (wide).....	1	each	2.88
41316	Sleeve under segments.....	1	each	3.36

WEST. 86 B

Prices on Application.

WEST. 89

9856	Segments (India).....	135	per 100	\$9.36
9857	Segments (amber).....	135	per 100	12.56
9858	Taper ring, straight.....	2	each	1.36
9859	Tapered band ring (narrow).....	1	each	1.68
9860	Tapered band ring (wide).....	1	each	2.00
9861	V ring, solid (narrow).....	1	each	3.60
9862	V ring, solid (wide).....	1	each	4.00
9863	V ring, sectional (narrow).....	1	each	4.08
9864	V ring, sectional (wide).....	1	each	4.44
9865	Sleeve under segments.....	1	each	.52

WEST. 91

Prices on Application.

MICANITE COMMUTATOR INSULATION **For Traction Motors of Westinghouse Types**

List No.		WEST. 92 AND 92—A	Quantity per Set		List Price
9791	Segments (India)		123	per 100	\$4.06
50895	Segments (amber)		123	per 100	6.80
84512	V ring, solid (narrow)		1	each	1.68
84513	V ring, solid (wide)		1	each	1.88
94511	Sleeve under segments		1	each	.40

WEST. 93					
9792	Segments (India)		135	per 100	\$8.08
9793	Segments (India)		135	per 100	
55468	Segments (amber)		135	per 100	10.72
55472	Segments (amber)		135	per 100	
55476	V ring, solid		2	each	2.16
9867	V ring, sectional		1	each	2.76
55478	Sleeve under segments		1	each	.60

WEST. 93—A					
9878	Segments (India)		135	per 100	\$8.08
81091	Segments (amber)		135	per 100	10.72
71840	V ring, solid (narrow)		1	each	1.92
55476	V ring, solid (wide)		1	each	2.16
9866	V ring, sectional (narrow)		1	each	2.40
9867	V ring, sectional (wide)		1	each	2.76
41011	Sleeve under segments		1	each	.60

WEST. 93—A 2					
9831	Segments (India)		135	per 100	\$8.08
91434	Segments (amber)		135	per 100	10.72
71851	V ring, solid (narrow)		1	each	2.52
71832	V ring, solid (wide)		1	each	2.88
71831	Sleeve under segments		1	each	.96

WEST. 95 **Prices on Application.**

WEST. 101—101 A—B—C—D—H—F—B2—F2					
41009	Segments, Type 101 (amber)		111	per 100	\$7.28
41770	Segments, Type A (amber)		111	per 100	7.28
42329	Segments, Type B, O. S. (amber)		111	per 100	7.28
50881	Segments, Type B, N. S. (amber)		111	per 100	7.28
42329	Segments, Type C (amber)		111	per 100	7.28
50890	Segments, Type D (amber)		135	per 100	7.28
50890	Segments, Type D2 (amber)		135	per 100	7.28
50891	Segments, Type F (amber)		111	per 100	7.28
50890	Segments, Type H (amber)		111	per 100	7.28
41013	V ring, solid (narrow)		1	each	1.88
41012	V ring, solid (wide)		1	each	2.16
9868	V ring, sectional (narrow)		1	each	2.36
9869	V ring, sectional (wide)		1	each	2.76
41011	Sleeve under segments		1	each	.60

WEST. 102—A					
87300	Segments, 220 volt (amber)		135	per 100	\$9.04
87303	Segments, 500 volt (amber)		155	per 100	9.04
90675	V ring, solid (narrow)		1	each	2.96
87295	V ring, solid (wide)		1	each	3.16

WEST. 112					
9799	Segments (India)		225	per 100	\$10.24
71826	Segments (amber)		225	per 100	13.68
71951	V ring, solid (narrow)		1	each	2.52
71832	V ring, solid (wide)		1	each	2.88
71831	Sleeve under segments		1	each	.96

WEST. 112—B **Prices on Application.**

WEST. 113					
9900	Segments (India)		155	per 100	\$20.48
50690	Segments (amber)		155	per 100	27.44
50692	V ring, solid (narrow)		1	each	4.80
50691	V ring, solid (wide)		1	each	5.52
50693	Sleeve under segments		1	each	1.96

WEST. 114 **Prices on Application.**

WEST. 115 **Prices and List Nos. Same as No. 79.**

WEST. 119 **Prices on Application.**

WEST. 121 AND 121—A					
9901	Segments (India)		205	per 100	\$12.08
65525	Segments (amber)		205	per 100	16.24
65522	V ring, solid (narrow)		1	each	3.36
65523	V ring, solid (wide)		1	each	3.64
65524	Sleeve under segments		1	each	1.44

WEST. 122 **Prices on Application.**

MICANITE COMMUTATOR INSULATION

For Traction Motors of Westinghouse Types

List No.		WEST. 131	Quantity per Set		List Price
9832	Segments (India) 220 volt		69	per 100	.....
9833	Segments (India) 500 volt		117	per 100	\$4.08
86050	Segments (amber) 220 volt		69	per 100	.....
86054	Segments (amber) 500 volt		117	per 100	5.28
85629	V ring, solid (narrow)		1	each	1.68
9870	V ring, solid (wide)		1	each	1.80
86043	Sleeve under segments		1	each	.52

WEST. 134
Prices on Application.

WEST. 300—A
Prices on Application.

WEST. 300—B
Prices on Application.

WEST. 301—B
Prices on Application.

WEST. 302
Prices on Application.

WEST. 303 A—C AND D
Prices on Application.

	WEST. 304			
9839	Segments (India)	125	per 100	\$7.04
120130	Segments (amber)	125	per 100	9.44
120133	Taper ring, curved	2	each	1.56
120134	Tapered band ring	2	each	1.36
120136	Sleeve under segments	1	each	1.08

	WEST. 305			
9840	Segments (India)	145	per 100	\$7.04
120130	Segments (amber)	145	per 100	9.44
120133	Taper ring, curved	2	each	1.56
120134	Tapered band ring	2	each	1.36
120136	Sleeve under segments	1	each	1.08

	WEST. 306			
9841	Segments (India)	115	per 100	\$6.24
120611	Segments (amber)	115	per 100	8.40
120618	Taper ring, curved	2	each	1.20
120616	Tapered band ring (narrow)	1	each	1.20
120615	Tapered band ring (wide)	1	each	1.32
120617	Sleeve under segments	1	each	.96

	WEST. 307			
9842	Segments (India)	125	per 100	\$6.24
120611	Segments (amber)	125	per 100	8.40
120618	Taper ring, curved	2	each	1.20
120616	Tapered band ring (narrow)	1	each	1.20
120615	Tapered band ring (wide)	1	each	1.32
120617	Sleeve under segments	1	each	.96

WEST. 308
Prices on Application.

WEST. 310

9843	Segments (India)	145	per 100	\$7.04
120130	Segments (amber)	145	per 100	9.44
120133	Taper ring, curved	2	each	1.56
120134	Tapered band ring	2	each	1.36
120136	Sleeve under segments	1	each	1.08

WEST. 312
Prices on Application.

WEST. 315—A
Prices on Application.

WEST. 316
Prices on Application.

WEST. 317—A
Prices on Application.

WEST. 318
Prices on Application.

WEST. 319—B
Prices on Application.

WEST. 321
Prices on Application.

WEST. 323
Prices on Application.

We furnish Micanite rings and segments for any type of Westinghouse Traction Motors.

For Air Brake Motors

List No.	G. E. C. B. 14	Quantity per Set		List Price
10952	Segments (India)	126	per 100	.....
51997	Segments (amber)	126	per 100	.....
51999	Taper ring, curved	2	each	\$0.80
52098	Tapered band ring	2	each	.56
51998	Sleeve under segments	1	each	.52

MICANITE COMMUTATOR INSULATION For Air Brake Motors

List No.		G. E. C. B. 15—G	Quantity per Set	List Price
10954	Segments (India)		126 per 100	
51997	Segments (amber)		126 per 100	
51999	Taper ring, curved	2	each	\$0.80
52098	Tapered band ring	2	each	.56
51998	Sleeve under segments	1	each	.52

G. E. C. B. 17 Prices on Application.

G. E. C. P. 14 Prices on Application.

G. E. C. P. 21

11020	Segments (India)		per 100	\$1.84
11107	Segments (amber)		per 100	2.32
44506	Taper ring, curved	2	each	.56
44507	Tapered band ring	2	each	.36
44505	Sleeve under segments	1	each	.28

G. E. C. P. 22 AND 22—B

11021	Segments (India)		per 100	\$2.16
11108	Segments (amber)		per 100	2.80
44884	Taper ring, curved	2	each	.60
44885	Tapered band ring (narrow)	1	each	.40
44886	Tapered band ring (wide)	1	each	.44
11109	Sleeve under segments	1	each	.40

G. E. C. P. 23 Prices on Application.

G. E. C. P. 27—A

11023	Segments (India)	135	per 100	
11024	Segments (India)	99	per 100	
100226	Segments (amber)	135	per 100	
115584	Segments (amber)	99	per 100	
115587	V ring, solid (wide)	1	each	\$0.80
115588	V ring, solid (narrow)	1	each	.72
115589	Flat ring	1	each	.28
115586	Sleeve under segments	1	each	.40

G. E. C. P. 28—A

11025	Segments (India)	111	per 100	\$1.68
115752	Segments (amber)	111	per 100	2.08
115755	V ring, solid	2	each	1.04
115757	Flat ring	1	each	.32
115754	Sleeve under segments	1	each	.56

G. E. C. P. 29—A

111026	Segments (India)	205	per 100	\$5.92
100246	Segments (amber)	205	per 100	7.68
115795	V ring, solid (wide)	1	each	1.28
115794	V ring, solid (narrow)	1	each	1.20
115796	Flat ring, 10¼ in. OD	1	each	.36
115797	Flat ring, 9¼ in. OD	1	each	.56
115793	Sleeve under segments	1	each	.76

G. E. C. P. 30 (600 VOLT) Prices on Application.

G. E. C. P. 30 (1200 VOLT) Prices on Application.

MICANITE COMMUTATOR INSULATION FOR AIR BRAKE MOTORS OF CHRISTENSEN TYPE A1 AND 2

1900	Segments (India)		per 100	\$1.52
1901	Segments (amber)		per 100	2.00
1902	Taper ring, straight	2	each	.24
1904	Band ring	2	each	.28
1905	V ring, solid	2	each	.68
1909	Sleeve under segment	1	each	.20

A A 1

1924	Segments (India) 110 and 220 volts	49	per 100	\$1.60
1925	Segments (India) 550 and 650 volts	87	per 100	1.60
1926	Segments (amber) 110 and 220 volts	49	per 100	2.08
2015	Segments (amber) 550 and 650 volts	87	per 100	2.02
2018	Taper ring, straight	2	each	.24
2019	Band ring (narrow)	1	each	.28
2020	Band ring (wide)	1	each	.78
2021	V ring, solid (narrow)	1	each	.64
2022	V ring, solid (wide)	1	each	.68
2023	Sleeve under segments	1	each	.20

MICANITE COMMUTATOR INSULATION

For Air Brake Motors of Christensen Type

List No.		Quantity per Set	List Price
A 3			
2028	Segments (India) . . . . .	..	per 100 \$1.36
2030	Segments (amber) . . . . .	..	per 100 1.76
2034	V ring, solid (narrow)	1	each .84
2036	V ring, solid (wide)	1	each .88
2036	Sleeve under segments	1	each .20
A 4—A A 4 AND A A 6			
2043	Segments (India)	105	per 100 \$1.68
2045	Segments (amber)	105	per 100 2.16
2048	Taper ring, straight	2	each .36
2050	Band ring	1	each .36
2052	V ring, solid	2	each .68
2056	Sleeve under segments	1	each .68
A 7			
Prices on Application.			
B 2 AND B B 2			
2060	Segments (India) 220-550 volt.	93	per 100 \$1.92
2062	Segments (amber) 220-550 volt.	93	per 100 2.56
2064	Segments (India) 110 volt.	47	per 100 2.64
2066	Segments (amber) 110 volt.	47	per 100 3.52
2068	Taper ring, straight	2	each .44
2070	Band ring	2	each .44
2072	V ring, solid	2	each .84
2076	Sleeve under segments	1	each .32
B 4			
2080	Segments (India)	111	per 100 \$2.40
2082	Segments (amber)	111	per 100 3.04
2086	Taper ring, straight	2	each .60
2087	Band ring	2	each .60
2090	V ring, solid	2	each 1.00
B B 4			
2096	Segments (India) . . . . .	..	per 100 \$1.76
2098	Segments (amber) . . . . .	..	per 100 2.32
2131	Taper ring, straight	2	each .52
2132	Band ring	2	each .48
2133	V ring, solid	2	each .96
2134	Sleeve under segments	1	each .36
C 3 AND C C 3			
Prices same as B 4.			
C C 4			
2136	Segments (India) . . . . .	..	per 100 \$1.44
2138	Segments (amber) . . . . .	..	per 100 1.68
2146	V ring, solid	2	each 1.76
2150	Sleeve under segments	1	each .56
C 5			
2160	Segments (India) 550 volt.	117	per 100 \$2.16
2164	Segments (amber) 550 volt.	117	per 100 2.80
2174	V ring, solid	2	each 1.08
D 4 AND D D 4			
2188	Segments (India) 550 volt.	93	per 100 \$3.76
2192	Segments (India) 220 volt.	63	per 100 3.92
2194	Segments (India) 110 volt.	47	per 100 5.04
2196	Segments (amber) 550 volt.	93	per 100 5.04
2593	Segments (amber) 220 volt.	63	per 100 5.12
2594	Segments (amber) 110 volt.	47	per 100 6.96
2595	Taper ring, straight	2	each .48
2596	Band ring	2	each .60
2597	V ring, solid	2	each 1.24
2598	Sleeve under segments	1	each .40
Of Westinghouse Types			
D 1 A			
9871	Segments (India)	123	per 100 \$2.64
9872	Segments (amber)	123	per 100 3.44
5853	V ring, solid	2	each .80
5852	Sleeve under segments	1	each .32
D 1 B—D 1 E G			
9844	Segments (India)	123	per 100 \$2.64
5808	Segments (amber)	123	per 100 3.44
5853	V ring, solid	2	each .80
5852	Sleeve under segments	1	each .32
D 2 B—D 2 E G			
6244	Segments (India) . . . . .	..	per 100 \$2.64
6164	Segments (amber) . . . . .	..	per 100 3.44
6024	V ring, solid (narrow)	1	each .84
6023	V ring, solid (wide)	1	each .88
6025	Sleeve under segments	1	each .44
D 2 E Z—D 2 E Y			
9846	Segments (India) . . . . .	..	per 100 \$2.64
19634	Segments (amber) . . . . .	..	per 100 3.44
19521.	V ring, solid (narrow)	1	each .80
6023	V ring, solid (wide)	1	each .88
6025	Sleeve under segments	1	each .44
D 2 K			
9873	Segments (India)	185	per 100
32089	Segments (amber)	185	per 100
32057	V ring, solid (narrow)	1	each \$2.44
32056	V ring, solid (wide)	1	each 1.46
32058	Sleeve under segments	1	each .40
D 3 B			
9874	Segments (India) . . . . .	..	per 100 \$2.72
9875	Segments (amber) . . . . .	..	per 100 3.68
7561	V ring, solid	2	each .96

MICANITE COMMUTATOR INSULATION For Air Brake Motors

List No.		D 3 E	Quantity per Set	List Price
9879	Segments (India)		per 100	\$3.12
9880	Segments (amber)		per 100	4.08
7385	V ring, solid (narrow)	1	each	.88
7386	V ring, solid (wide)	1	each	1.04
D 3 K				
9847	Segments (India)		per 100	\$1.04
9848	Segments (amber)		per 100	1.04
30167	V ring, solid (narrow)	1	each	2.52
30168	V ring, solid (wide)	1	each	3.04
30166	Sleeve under segments	1	each	.52
D 4 E—D 4 K				
9849	Segments (India)		per 100	\$2.88
33821	Segments (amber)		per 100	3.84
13740	V ring, solid (narrow)	1	each	1.08
13739	V ring, solid (wide)	1	each	1.20
13741	Sleeve under segments	1	each	.64
15620	Sleeve under segments	1	each	.72
D 4 K F				
9876	Segments (India)		per 100	\$3.20
9877	Segments (amber)		per 100	3.04
40062	V ring, solid (narrow)	1	each	1.40
40063	V ring, solid (wide)	1	each	1.48
40061	Sleeve under segments	1	each	.52
40060	V ring special	1	each	1.72
D 60 OR 15 HP				
9850	Segments (India)		per 100	\$3.12
9851	Segments (amber)		per 100	4.08
29643	V ring, solid (narrow)	1	each	1.28
29642	V ring, solid (wide)	1	each	1.60
29644	Sleeve under segments	1	each	.68

Built-up Mica Washers for Grid Rheostats

Built up by aid of cement from solid sheet mica stampings to proper thickness ready to go in rheostat.

List No.	For	List Price per 1000
27921	C. G. Rheostat of G. F. Type, $\frac{1}{2}$ in. thick	\$11.60
27921A	C. G. Rheostat of G. E. Type, $\frac{1}{4}$ in. thick	20.80
27101	6½ in. West. Grid Diverter, screw type	16.88
29000	6½ in. West. Grid Diverter, screw type	16.40
64345	6½ in. West. Grid Diverter, clamp type	20.56
27984	10½ in. West. Grid Diverter, screw and clamp type	16.40

Micanite Tubes for Grid Resistance Insulation

FOR G. E. C. G. RHEOSTAT GRIDS

Micanite and Paper Tubes		Micanite and Asbestos Tubes		Entire Micanite Tubes		Micanite and Paper Tubes		Micanite and Asbestos Tubes		Entire Micanite Tubes	
List No.	List Price Each	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each
27920	\$0.26	27920A	\$0.21	27920E	\$0.52						
FOR WEST. 6½ INCH GRID DIVERTER, SCREW AND CLAMP TYPE											
39571	\$0.13	39571A	\$0.17	39571E	\$0.24	44513	\$0.10	44513A	\$0.10	44513E	\$0.19
39572	.14	39572A	.14	39572E	.24	44514	.11	44514A	.11	44514E	.20
39573	.14	39573A	.14	39573E	.26	44515	.12	44515A	.12	44515E	.21
39574	.15	39574A	.15	39574E	.26	44516	.12	44516A	.12	44516E	.22
39575	.16	39575A	.16	39575E	.28	44517	.20	44517A	.20	44517E	.36
39576	.16	39576A	.16	39576E	.29	44529	.20	44529A	.20	44529E	.38
39577	.16	39577A	.16	39577E	.31	44530	.21	44530A	.21	44530E	.39
39578	.17	39578A	.17	39578E	.32	44531	.22	44531A	.22	44531E	.40
39579	.18	39579A	.18	39579E	.33	44532	.23	44532A	.23	44532E	.41
39580	.19	39580A	.19	39580E	.34	44533	.23	44533A	.23	44533E	.43
39581	.20	39581A	.20	39581E	.36	44534	.24	44534A	.24	44534E	.44
44509	.08	44509A	.08	44509E	.14	44535	.24	44535A	.24	44535E	.45
44510	.08	44510A	.08	44510E	.15	44536	.25	44536A	.25	44536E	.46
44511	.09	44511A	.09	44511E	.16	44537	.26	44537A	.26	44537E	.47
44512	.10	44512A	.10	44512E	.17	44538	.26	44538A	.26	44538E	.48

INSULATING MATERIALS

Micanite Tubes for Grid Resistance Insulation

For West. 10 1/4 Inch Grid Diverter, Screw and Clamp Type

Micanite and Paper Tubes		Micanite and Asbestos Tubes		Entire Micanite Tubes	
List No.	List Price Each	List No.	List Price Each	List No.	List Price Each
39109	\$0.18	39109A	\$0.18	39109E	\$0.33
39110	.19	39110A	.19	39110E	.35
39111	.20	39111A	.20	39111E	.36
39112	.20	39112A	.20	39112E	.38
39113	.21	39113A	.21	39113E	.40
39114	.23	39114A	.23	39114E	.44
39115	.24	39115A	.24	39115E	.45
39116	.24	39116A	.24	39116E	.47
39117	.25	39117A	.25	39117E	.49
39118	.26	39118A	.26	39118E	.51
39119	.28	39119A	.28	39119E	.51
44543	.16	44543A	.16	44543E	.29
44544	.17	44544A	.17	44544E	.31
44545	.28	44545A	.28	44545E	.53
44551	.29	44551A	.29	44551E	.55
44552	.30	44552A	.30	44552E	.56
44553	.31	44553A	.31	44553E	.57
44554	.32	44554A	.32	44554E	.59
44555	.15	44555A	.15	44555E	.27
55846	.33	55846A	.33	55846E	.61
55847	.34	55847A	.34	55847E	.63
55848	.35	55848A	.35	55848E	.65
55849	.36	55849A	.36	55849E	.67
55850	.37	55850A	.37	55850E	.68
55851	.38	55851A	.38	55851E	.71
55852	.39	55852A	.39	55852E	.72

Empire Oiled Cloths

The fabric base of Empire oiled cloth is a specially finished and closely woven cambric made from long fiber cotton; special attention being paid to its tensile strength. The coating consists of two or more films of pure oxidized oil, which is prepared under the manufacturer's own special process.

The number of each grade, as will be noticed, gives an indication of the thickness.
For Empire cloth cut into tape see under Linotape.

List No.	Quality of Raw Fabric	Thickness		Approx. Thickness of Oil Films Inches	—Approx. Dielectric Strength—		List Price per Yard
		Inches	Mm.		Before Baking per .001 Inch	After Baking 48 Hours per .001 Inch	
4	Cambric	.004	0.102	.001	1400	1470	\$0.42
5	Cambric	.005	0.127	.001	1080	1250	.41
50	Cambric	.005	0.127	.001	900	1092	.37
500	Cambric	.005	0.127	.001	980	1080	.33
7	Cambric	.007	0.178	.003	1171	1470	.45
70	Cambric	.007	0.178	.002	945	1030	.38
700	Cambric	.007	0.178	.0025	1070	1080	.35
8	Cambric	.008	0.203	.003	1030	1210	.44
80	Cambric	.008	0.203	.003	970	1150	.39
800	Cambric	.008	0.203	.0035	1000	1270	.47
10	Cambric	.010	0.254	.0045	1100	1166	.43
100	Cambric	.010	0.254	.005	1000	1130	.39
1000	Cambric	.010	0.254	.0055	1080	1210	.54
12	Cambric	.012	0.305	.0065	965	1230	.51
120	Cambric	.012	0.305	.007	1020	1140	.47
1200	Cambric	.012	0.305	.0075	1010	1060	.69
15	Cambric	.015	0.381	.0095	1020	1240	.65
150	Cambric	.015	0.381	.010	1060	1220	.65
1500	Cambric	.015	0.381	.0105	1050	1080	.59

Empire Oiled Canvas and Ducks

Nos. 155 and 16 are made on fabric bases that have been specially finished to insure smooth and even coating of the oil. Nos. 200 and 300 ducks have great resistance to mechanical wear and imperviousness to moisture, but do not have the same smooth surface as the other cloths.

155	Canvas	.015	0.381	.007	600	740	\$0.61
16	Canvas	.016	0.406	.005	765	730	.65
200	Duck	.020	0.508	....	....	....	.65
300	Duck	.030	0.762	....	....	....	.92

Empire Oiled Linen

For purposes of insulation linen has no special advantage over cotton except that of resisting a slightly higher voltage for a given thickness.

We furnish only one grade, the base being an imported Irish linen coated with double films of special oxidized Empire oil, and the fabric is thoroughly impregnated.

6	Linen	.006	0.152	.002	1258	1373	\$1.07
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Empire Oiled Silk

Empire oiled silk has for a base a closely woven fabric of pure silk. It is an excellent insulation where a material possessing very high insulating qualities combined with extreme thinness and great flexibility is demanded. Two grades are manufactured in two thicknesses.

44	Silk	.004	0.102	.00175	1230	1330	\$0.91
440	Silk	.004	0.102	.00175	1350	1450	1.2
66	Silk	.006	0.152	.00375	1100	1200	1.0
660	Silk	.006	0.152	.00375	1230	1330	1.2

All the above Empire cloths, etc., are furnished in rolls containing 25, 50, 100 yards or in any length desired.

We cut any width of any of the above material to order provided order amounts to multiples of 72 square yards.

For list of standard oiled tapes see under Linotape.

INSULATING MATERIAL

Linotape

Linotape is the registered trade-mark name under which we sell Empire Oiled Cloth in tape form.

We cut tape in any width from $\frac{3}{8}$ inch and above, from all the grades of Empire material.

Linotape is an insulating tape of the highest order. Its virtue, as with the Empire material, rests in the multiplication of oxidized oil films on its surfaces. It has come into general use as the insulating medium for cables of all descriptions, and is used extensively in coil winding, cable splicing, bus bars, and all high tension work.

It is furnished in rolls guaranteed to contain 72 lineal yards, each roll coated on the edges with paraffin to exclude moisture and both straight and bias are continuous in the roll.

BIAS CUT LINOTAPE

Width Inches	No. 72 Thickness .037 Inches.			No. 10 Thickness .010 Inches.			No. 125 Thickness .012 Inches.		
	List No.	List Price per 144 Yds.		List No.	List Price per 144 Yds.		List No.	List Price per 144 Yds.	
$\frac{3}{8}$	1600	\$0.90		1630	\$0.98		1665	\$1.17	
$\frac{1}{2}$	1601	1.04		1631	1.11		1666	1.32	
$\frac{5}{8}$	1602	1.26		1632	1.33		1667	1.58	
$\frac{3}{4}$	1603	1.48		1633	1.55		1668	1.82	
$\frac{7}{8}$	1604	1.69		1634	1.76		1669	2.08	
1	1605	1.86		1635	1.98		1670	2.34	
$1\frac{1}{8}$	1606	2.35		1636	2.48		1671	2.92	
$1\frac{1}{2}$	1607	2.80		1637	2.98		1672	3.52	

LENGTHWISE CUT LINOTAPE

Width Inches	No. L Thickness .007 Inches.			No. B Thickness .010 Inches.			No. N Thickness .012 Inches.		
	List No.	List Price per 144 Yds.		List No.	List Price per 144 Yds.		List No.	List Price per 144 Yds.	
$\frac{3}{8}$	2333	\$0.83		2343	\$0.90		2363	\$1.08	
$\frac{1}{2}$	2334	.98		2344	1.04		2364	1.23	
$\frac{5}{8}$	2335	1.15		2345	1.22		2365	1.48	
$\frac{3}{4}$	2336	1.35		2346	1.40		2366	1.69	
$\frac{7}{8}$	2337	1.51		2347	1.62		2367	1.94	
1	2338	1.69		2348	1.80		2368	2.16	
$1\frac{1}{8}$	2339	2.12		2349	2.27		2369	2.70	
$1\frac{1}{2}$	2340	2.55		2350	2.72		2370	3.24	

Prices of widths greater than $1\frac{1}{2}$ inches are proportionate to price of 1 inch width. All above Linotape of $\frac{3}{8}$, 1 and $1\frac{1}{2}$ inch widths are carried in stock. Other widths furnished promptly on order.

In addition to tapes listed above we will cut any width of any thickness of Empire cloth to order provided order amounts to multiple of 72 square yards.

Empire Oiled Paper

The line of Empire Oiled Papers is very complete, especially so in regard to its wide range of thicknesses. The papers forming the bases all possess the greatest tensile strength consistent with their thickness and have been selected for their uniformity of thickness, and freedom from deleterious chemicals such as sulphite, etc. The oil films with which they are coated are of exactly the same nature as the films on the Empire cloths, linen, etc.

We draw special attention to the condenser papers which, on account of their extreme thinness and high tensile strength, are giving great satisfaction to the manufacturers of induction coils, and other delicate work. The thicker papers have been selected for their great tensile strength, density and evenness of texture.

Furnished in rolls 36 inches wide, containing 25 or 50 yards, or in sheets 36 x 36.

List No.	Quality of Raw Paper	Thickness		Approximate Thickness of Oil Films, Inches	Approximate Dielectric Strength per .001	List Price per Yard
		Inches	Min.			
101	Condenser	.0015	0.038	.0005	1740	\$0.21
102	Condenser	.002	0.051	.001	1700	.22
103	Condenser	.003	0.076	.001 $\frac{3}{4}$	1460	.23
104	Kraft	.004	0.102	.002	1350	.21
135	Express	.0045	0.115	.0015	1150	.16
105	Gray Rope	.005	0.127	.002	1240	.21
106	Bond	.005 $\frac{3}{4}$	0.14	.002 $\frac{1}{2}$	1250	.29
107	Red Rope	.007	0.178	.002	1150	.26
108	Gray Rope	.009	0.228	.004	1070	.31
110	Express	.010	0.254	.005	980	.33
111	Fullerboard	.011	0.279	.004	800	.43
113	Cement Rope	.013	0.330	.004	810	.32
114	Fullerboard	.014	0.355	.003	785	.49
116	Red Rope	.015	0.381	.010	1000	.63
118	Cement	.018	0.457	.003	790	.59

INSULATING MATERIAL

Kablak Cloth

Black

The insulating films on Kablak cloths are asphaltic. The asphalt used is one selected on account of its superior insulating and thermal qualities. The reducer, or solvent of the asphalt, is the Empire cloth solution; in this way are obtained in one article the valuable characteristics of both the Empire oxidized oil and the asphaltum. The fabric bases of Kablak cloths are of the same quality as those used for Empire oiled cloths. All the cloths have two or more films on their surfaces.

Kablak cloths are unequalled for maintaining their insulating qualities and their flexibility under prolonged high temperatures, and under prolonged electric stresses. These qualities make Kablak cloth especially adaptable for the insulation of cables, and its use in this direction is rapidly expanding.

The following grades are kept in stock.

Furnished in rolls containing 25, 50 and 100 yards, or any length desired.

List No.	Quality of Fabric	Thickness		Thickness of Film Inch	Approx. Dielectric Strength		List Price per Yard
		Inch	M/m.		Before Baking per .001 Inch	After Baking 48 Hours	
550	Cambrie	.005	0.13	.0015	1420	1650	\$0.44
770	Cambrie	.007	0.18	.003	1400	1500	.43
880	Cambrie	.008	0.20	.003	1270	1325	.41
1010	Cambrie	.010	0.25	.005	1200	1320	.43
1220	Cambrie	.012	0.31	.007	1065	1320	.51
1550	Cambrie	.015	0.38	.0095	1150	1360	.61

Any tape width of any above Kablak cloth will be cut to order provided order amounts to 72 square yards or multiples of same.

The standard rolls of tape contain 72 yards in continuous length. Rolls containing a greater number of yards are furnished on demand if size of order justifies.

Kablak Papers

Black

The insulating films on Kablak papers are identically the same as on Kablak cloths. The base papers are similar to those used for Empire oiled papers.

The applications of Kablak papers in the electrical field run on parallel lines with Empire oiled papers; some engineers preferring an insulating film composed of a mixture of asphalt and oxidized oil, to a film composed entirely of oil.

Furnished in rolls containing 25, 50 and 100 yards, or in sheets 36 x 36.

The following grades are kept in stock:

List No.	Grade of Base Paper	Thickness		Thickness of Film Inch	Approx. Dielectric Strength		List Price per Yard
		Inch	M/m.		per .001 Inch	per .001 Inch	
1105	Rope	.005	0.13	.002	1600		\$0.21
1107	Rope	.007	0.18	.002	900		.27
1109	Rope	.009	0.228	.004	1200		.29
1112	Rope	.012	0.305	.003	800		.41
1115	Rope	.015	0.381	.006	900		.44

Any tape width of any of above Kablak Paper will be cut to order provided order amounts to multiple of 144 square yards.

Insulating Materials

Efforts to secure the best materials for use in the manufacture of Micanite, Empire and Kablak materials, the manufacturers, during the past twenty years, constantly conducted research work, analyses and tests on not only raw materials, but on various kinds of insulators. Their testing laboratories are fully equipped with apparatus for conducting the necessary electrical, mechanical and chemical tests, and their testing engineer has had long experience in this work. The engineering staff has had an experience in the manufacture and application of insulation extending over a period of nearly a quarter of a century.

Many of the insulators listed in this bulletin have been selected by them for use in the manufacture of the Empire and Micanite products, and we believe from the extended tests, that they are the best of their various kinds.

UNTREATED PAPERS, ETC.

List No.	Material	Thickness	Width of Roll	Approx. Lbs. of Roll	Approx. Size of Sheets	Approx. Pounds per 100 Sq. Yds.	Pounds per Sheet	List Price per Pound
2615	Japanese	.001	36 ins.	8		2.66		\$1.36

Mico Japanese Paper is a soft, fibrous paper and has a great deal of strength taking into consideration its extreme thinness.

Mico Condenser Paper, as its name implies, is used extensively for condensers. It is the strongest and toughest of all the thinner papers.

2618	Condenser	.001½	36 ins.	100		6.70		\$0.55
Railway Material				130				

INSULATING MATERIAL

Untreated Papers, etc.

Mico express paper is manufactured for us to micrometer gauge, thereby insuring uniform thickness. Special care is taken in preparing and beating the paper stock, and in calendaring the sheets to provide a strong, tough paper.

List No.	Material	Thickness	Width of Roll Inches	Approx. Lbs. of Roll	Approx. Size of Sheets Inches	Approx. Lbs. per 100 Sq. Yds.	per Sheet	List Price per Lb.
2619	Express	.003	36	120		15		\$0.14
2620	Express	.005	36	125		25		.14
2621	Express	.009	36	125		45		.14

Mico red rope paper is manufactured from an all hemp stock, free from pin holes, and is guaranteed to contain no wood pulp. The coloring pigment is carefully selected and is free from deleterious matter.

2629	Red Rope	.005	36	100		27		\$0.24
2630	Red Rope	.010	36	100		47		.24
2631	Red Rope	.015	36	100		69		.24

Mico cement rope paper is an uncolored, high finished hemp rope stock paper, especially recommended for strength and freedom from pin holes.

2635	Cement R	.005	36	100		19		\$0.24
2637	Cement R	.007	36	100		27		.24
2638	Cement R	.010	36	100		38		.24
2640	Cement R	.015	36	100		57		.24

Mico fullerboard is a smooth, tough, dense, yellow insulating board, more pliable and not as hard as fiber, and a better insulator. It can be furnished in rolls in thicknesses up to .017 at slight increase in prices.

2650	Fullerboard	.008			32 x 36		.48	\$0.20
2651	Fullerboard	.010			32 x 36		.58	.20
2652	Fullerboard	.012			32 x 36		.74	.20
2653	Fullerboard	.015			32 x 36		.83	.20
2654	Fullerboard	.017			32 x 36		.95	.20
2655	Fullerboard	.020			32 x 36		1.10	.20
2656	Fullerboard	.032			32 x 36		2.00	.20

Mico fish paper is somewhat similar to hard fiber, but is a much better insulator and has greater flexibility. High temperatures do not affect it to the same extent as they do other insulating papers.

2670	Fish Paper	.005	46	25		28		\$0.40
2671	Fish Paper	.007	46	25		38		.40
2672	Fish Paper	.010	46	25		53		.40
2673	Fish Paper	.015	46	25		88		.40
2674	Fish Paper	.020			36 x 48		1.42	.40
2675	Fish Paper	.025			36 x 48		1.90	.40
2676	Fish Paper	1/4			36 x 48		2.25	.40

Mico hard fiber is a tough, dense, hard, bonelike insulator of considerable value where it can be used in dry positions.

2680	Hard Fiber	1/4			36 x 48		1.4	\$0.37
2681	Hard Fiber	1/4			36 x 48		2.7	.31
2682	Hard Fiber	1/4			36 x 48		5.3	.21
2683	Hard Fiber	1/4			36 x 48		8	.21
2684	Hard Fiber	1/4			36 x 48		10.5	.21
2685	Hard Fiber	1/4			36 x 48		16	.21
2686	Hard Fiber	1/4			36 x 48		21	.21
2687	Hard Fiber	1/4			36 x 48		31.5	.21
2688	Hard Fiber	1/2			36 x 48		42.5	.21
2689	Hard Fiber	3/8			36 x 48		52.5	.31
2690	Hard Fiber	1/2			36 x 48		65	.31

Mico horn fiber is not chemically treated. It is more flexible than ordinary hard fiber; more ductile and better for slot insulation.

2692	Horn Fiber	.005	42	150		21		\$0.39
2693	Horn Fiber	.010	42	150		50		.39
2694	Horn Fiber	.015	42	150		60		.36
2695	Horn Fiber	.020	42	150		100		.36
2696	Horn Fiber	.025	42	150		112		.36

Mico paraffin coated papers are valuable for slot insulation as the paraffin coating acts as a lubricant, as well as a protection from moisture.

2700	Express		36	100		35		\$0.23
2701	Express	.005	36	100		50		.23
2702	Fish Paper	.005	46	100		32		.56
2703	Fish Paper	.007	46	100		44		.56
2704	Fish Paper	.010	46	100		62		.56
2705	Fish Paper	.015	46	100		98		.56

Mico fiber tubes and rods are furnished in either red or black. Special prices on receipt of specification.

INSULATING MATERIAL

Untreated Cloths

Mico Irish linen is a very thin imported linen cloth of high finish, free from nap, and considering its thinness, of considerable strength.

List No.	Material	Approximate Thickness	Width	Approximate Yards per Roll
2715	Irish linen.....	.004	36	80
Mico cambric is a good grade of cotton cloth with the well-known smooth cambric finish.				
2717	Cambric.....	.005	37	100
Mico muslin is a soft finished thin cotton cloth.				
2720	Muslin.....	.007	37	100
Mico sheeting is an exceptionally strong, soft finished cotton cloth made up without starch.				
2723	Sheeting.....	.011	36	50
Mico linen is a good grade of imported heavy Irish linen somewhat coarsely woven, but of considerable tensile strength.				
2726	Linen.....	.012	35	40
Mico drill is a weight between sheeting and 8 ounce duck. It has great strength, of soft finish and without starch filling.				
2730	Drilling.....	.017	29	120
Mico 8 ounce duck is a strong light duck of superior quality.				
2735	Duck.....	.020	36	120
Mico 12½ ounce duck is an exceptionally strong, heavy duck, useful for armature work, etc.				
2738	12½ oz. duck.....	.030	36	120
Prices on untreated cloths quoted on application.				

Mico Cement

Mico Cement is a special cement of high insulating value, water repellent, waterproof and flexible. This is a most satisfactory cement for sticking together oily, glossy surfaces such as that possessed by Linotape, Empire cloths and papers.

For pasting labels onto oily or damp surfaces it has no equal.

The "setting up" of Mico Cement is hastened by the application of heat, but its adhesive qualities are equally as good without it.

Mico Cement has such excellent and unusual qualities that if trouble is being experienced with any other cement of whatever nature, we would advise giving Mico Cement a trial. New fields are continually being found for its use.

Mico Cement requires a special solvent, which we also supply when it is necessary to reduce the consistency of the cement.

List No.	Material	How Furnished	List Price per Gal.
3075	Mico Cement.....	1 qt. cans	\$3.20
3076	Mico Cement.....	1 gal. cans	2.80
3077	Mico Cement.....	5 gal. cans	2.40

Mico Liquid Insulating Glue

This is a special glue made for gluing tape ends and for similar purposes. Will not attract moisture and does not require heat for setting.

3090	Mico glue.....	1 gal. cans	\$2.16
3091	Mico glue.....	5 gal. cans	1.96

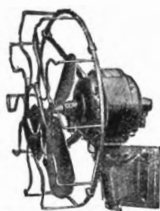
Railway Material

Western Electric

FANS



Railroad Coach Wall
Fan with Switch



Railroad Coach Wall
Fan without Switch



Resistor and
Choke Coil

Railroad Car Ventilating Outfits

The Western Electric Railway Exhaust Fans are especially adapted for use in the kitchens of dining cars, and in buffet cars, for removing smoke, dust, and the odors of the cooked food. They should be installed in the sides of the car. Intake and exhaust pipes should be avoided; if such pipes are necessary, they should be short and straight.

These fans are the well-known Western Electric standard 12 inch exhaust fans. They are finished in dull black with polished brass blades. A speed regulator to give two additional speeds can be furnished when desired.

DIRECT CURRENT

List No.	Size, Ins.	Speeds	R. P. M.	Watts at High Speed	Voltages	List Price
W-196853B	12	.....	1075	25	24-30	\$26.20

Railroad Car Fans

The Western Electric Railroad Car Fans are designed especially for service in parlor and coach cars where electric current of 24, 30 or 60 volts is obtainable. The use of electrical storage batteries and small turbine generators to furnish current for electric lighting has made it possible for the railroads to equip their cars with fans, thus insuring for the passenger a perfectly ventilated conveyance, free from the annoyance caused by the dust and soot with the present methods of ventilation.

These fans are similar to the standard fans, but are especially designed for this particular service. The fan base, motor body and guard arms are finished dull black. The guard is dipped and lacquered brass. The blades are polished and lacquered brass. Special finishes can be supplied at a slight increase in cost, to match the hardware of the car for which they are intended.

STATIONARY BRACKET FANS

Without Switch						
W-192465	9	Single	1600	26	24, 30, 60	\$23.80
W-192466	12	Single	1600	26	24, 30, 60	23.80
W-192467	9	Three	1600-1300-1000	26	24, 30, 60	24.16
W-192468	12	Three	1600-1300-1000	26	24, 30, 60	24.16
With Switch						
W-192469	9	Single	1600	26	24, 30, 60	\$24.52
W-192470	12	Single	1600	26	24, 30, 60	24.52
W-192471	9	Three	1600-1300-1000	26	24, 30, 60	24.84
W-192472	12	Three	1600-1300-1000	26	24, 30, 60	24.84

OSCILLATING BRACKET FAN

W-240313	12	.....	1600	30-45	30 or 60	\$30.78
W-240314	12	1600	30	27 or 32	30.78

GYRATING CEILING FANS

W-240315	12	1050	60-60	30 or 60	\$58.72
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VERTICAL EXHAUST FANS

W-240316	12	1150-1190	30-45	30 or 60	\$27.88
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Direct Current Electric Railway Fans

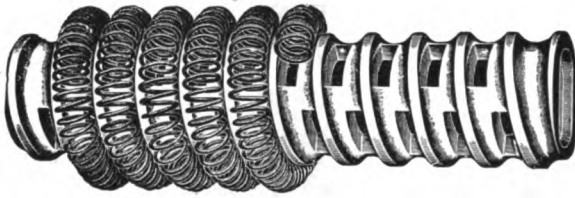
These fans are used on electric railway cars, including subway, surface, elevated and interurban, where 500 to 600 volts is the prevailing voltage. They are the standard railroad coach fans, without switch, wound for 220 volts and supplied with a special resistor to take up the extra voltage. They have one lead grounded to prevent shock to any person coming in contact with the fan. The resistor also contains a choke coil to reduce the rush of current when the fan is first connected to the line.

The operation of two fans in series is not recommended, owing to the danger of burning out both fans should one fail to operate. Finish: The same as Railroad Car Fans listed above.

W-240312	12	1600	90	500 to 600	\$27.88
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Above fans furnished for 220 volts, add to list \$2.36.

ELECTRIC CAR HEATERS



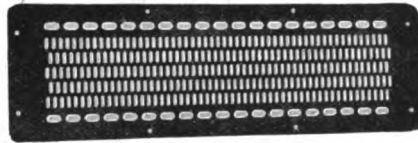
Showing Ventilated Porcelain Core



Showing Heating Element Assembled



Round Type Enclosing Case



Panel Heater Front Type 329-E

DESCRIPTION

A satisfactory street car heating system can only be obtained by an equal distribution of heat throughout the car and the best method of accomplishing this is to distribute the heaters over as large an area as possible.

This can be done very efficiently by the use of the line of electric car heaters which we list herewith. Years of experience have emphasized the fact that to make a durable, reliable and efficient heater the coil must be supported substantially on a support that is properly ventilated. All the heaters shown are equipped with a quick detachable ventilated core. Any of the coils or heating elements can be removed intact, without disturbing the other coils in the heater, by simply removing the two special nuts.

By the use of these core supports the following advantages are derived:

Long life to resistance wire. The wire wound on the ventilated core is kept at a very much lower temperature on account of the free passage of air through the coils, consequently the wire does not overheat.

Saving of current. The wire remaining at a lower temperature and the resistance receiving the usual amount of current, it must necessarily throw off the heat more rapidly than from a solid core, which naturally finds its way into the car, therefore more heat is radiated with less current.

Fewer renewals of wire. The wire not being overheated there is consequent longer life.

Interchangeability. The cores or heating elements are made identical to each other, and by the simple method of detaching two special nuts, one at either end of the heater, a heating element may be replaced without removing heater.

Summing up the above features, they resolve themselves into two words:

Money saver. Both in labor and material.

These cores are constructed so as to interchange with the solid porcelain cores now on the market, and a heater with solid porcelain cores can be converted into a ventilated porcelain core heater at very little expense, making it a more efficient and durable heater.

ELECTRIC CAR HEATERS



No. 120E. Length 21½ Inches. Diameter 3¼ Inches

Cross Seat Cylinder Heater

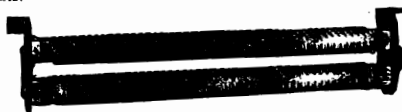
One Coil No. 120E

For use in cross seat cars or in cars having longitudinal seats supported on legs.

Arranged for one degree of heat. When two or three-degree graduations are desired, heaters are wired in separate circuits. Leads can be brought out of one end or both ends, as desired. Finish, black japan, oven baked.

List No.	Description	List Price
820699	Single cross seat cylinder heater.....each	\$6.80
820700	Set of 4 heaters, including hangers.....per set	48.00
820701	Set of 6 heaters, including hangers.....per set	61.60
820702	Set of 8 heaters, including hangers.....per set	70.40
820703	Set of 10 heaters, including hangers.....per set	84.00
820704	Set of 12 heaters, including hangers.....per set	97.60
820705	Set of 14 heaters, including hangers.....per set	111.20
820706	Set of 16 heaters, including hangers.....per set	124.80
820707	Set of 18 heaters, including hangers.....per set	138.40
820708	Set of 20 heaters, including hangers.....per set	152.00
820709	Set of 24 heaters, including hangers.....per set	170.20

Above prices, per set, include one (1) three-degree knife switch enclosed in sheet metal switch box mounted on slate base, fuses to suit particular requirements.



No. 252E. Length 28½ Inches. Width 6½ Inches. Depth 3½ Inches

Truss Plank Heater

Two Coil No. 252E

For use along side of car; takes up little space; very efficient.

Finish, Black Japan, Oven Baked

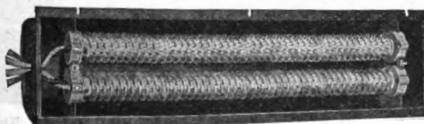
Heater designed for placing along truss plank. Special ends to suit requirements. Usually supported on angle iron along truss plank. Fronts furnished to suit requirements.

Made in different lengths and arranged for one, two or three degrees of heat.

Notes: Cut shows heater fitted with spring clips. Can be furnished with or without this attachment as desired.

List No.	Description	List Price
820710	Single heater, exclusive of front.....each	\$9.44
820711	Set of 4 heaters, exclusive of front.....per set	58.56
820712	Set of 6 heaters, exclusive of front.....per set	77.44
820713	Set of 8 heaters, exclusive of front.....per set	91.52
820714	Set of 10 heaters, exclusive of front.....per set	110.40
820715	Set of 12 heaters, exclusive of front.....per set	129.28
820716	Set of 14 heaters, exclusive of front.....per set	148.16
820717	Set of 16 heaters, exclusive of front.....per set	162.04
820718	Set of 18 heaters, exclusive of front.....per set	185.92
820719	Set of 20 heaters, exclusive of front.....per set	204.80
820720	Set of 24 heaters, exclusive of front.....per set	242.56

Above prices (per set) include necessary lead wire, one (1) three-degree knife switch enclosed in sheet metal switch box, mounted on slate base, fuses to suit requirements. Prices on fronts to suit particular requirements will be quoted on application.



No. 406E. Length 27 Inches. Width Inside 6½ Inches. Width Over Flange 8½ Inches

Panel Heater

Two Coil No. 406E

For use in cars having longitudinal seats, arranged for three degrees of heat.

Size of front 29 x 8¼ inches.

Finish black japan, oven baked.

This construction is a deviation from the general practice, giving a junction box self-contained in the heater casing, as will be noticed on left hand end of heater.

Each heating element is self-contained and both are held in place by one nut on either end of heater.

Leads can be brought out of one end of the heater, the return being brought through the center supporting rod, or leads may be brought out of both ends.

Made in different lengths to suit requirements.

Heater fitted with spring clip terminals when desired.

List No.	Description	List Price	List No.	Description	List Price
820721	Single heater, with front.....each	\$17.60	820727	Set of 14 heaters, with front.....per set	\$178.40
820722	Set of 4 heaters, with front.....per set	67.20	820728	Set of 16 heaters, with front.....per set	201.00
820723	Set of 6 heaters, with front.....per set	90.40	820729	Set of 18 heaters, with front.....per set	224.80
820724	Set of 8 heaters, with front.....per set	108.80	820730	Set of 20 heaters, with front.....per set	248.00
820725	Set of 10 heaters, with front.....per set	132.00	820731	Set of 24 heaters, with front.....per set	294.40
820726	Set of 12 heaters, with front.....per set	155.20			

Above prices (per set) include one (1) three-degree knife switch enclosed in sheet metal switch box mounted on slate base, fuses to suit requirements.

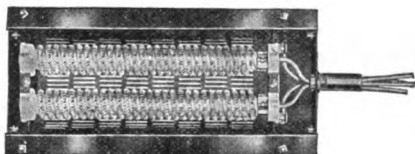
CAR HEATERS AND HEATER SWITCH

Cross Seat Heater—Deflector Type

TWO COIL No. 405E

Width over-flange to conform to width of seat rails.

Finish Black Japan Oven Baked



No. 405E. Length 19¼ ins., depth 4¼ ins.

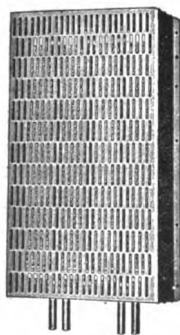
Made for one, two or three degrees of heat.

Prices (per set) include one (1) three degree Knife Switch in sheet metal switch box mounted on slate base, and fuses to suit particular requirements.

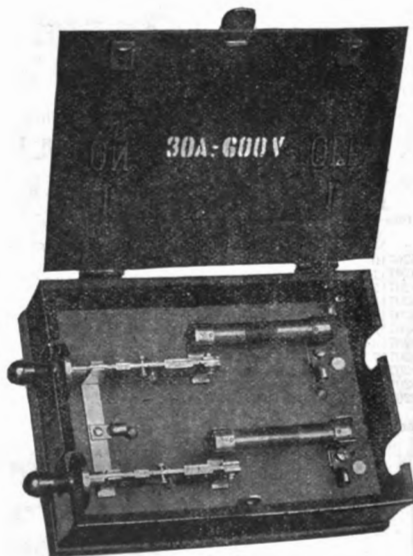
List No.	Description	List Price	List No.	Description	List Price
820732	Single heater.....each	\$9.76	820738	Set of 14 heaters.....per set	\$152.64
820733	Set of 4 heaters.....per set	59.84	820739	Set of 16 heaters.....per set	172.16
820734	Set of 6 heaters.....per set	79.36	820740	Set of 18 heaters.....per set	191.68
820735	Set of 8 heaters.....per set	93.88	820741	Set of 20 heaters.....per set	211.20
820736	Set of 10 heaters.....per set	113.60	820742	Set of 24 heaters.....per set	250.24
820737	Set of 12 heaters.....per set	133.12			

This heater differs from the older type of Cross Seat Heater in that the heater flanges themselves rest on the seat rails, thus doing away with extra hangers. The deflector, or cover of heater, rests on and is attached to the heater case by four nuts, as shown, and acts as a heat deflector, which prevents the pocketing of heat under the seat cushion.

Each element is self-contained and can be removed intact by detaching two nuts, without removing the heater case from the seat. The case is elongated, giving a space for the lead connections. The leads are brought out of one end of each element, the current being brought back through the supporting rod. This arrangement eliminates the possibility of broken wires by chafing of the porcelain sections when insulation is made by wire through the porcelain.



No. 144E



**No. 144-EA
Switch with Sheet Metal Case**

Vestibule Heater

FOUR COIL No. 144E

Size 24 inches long; 14½ inches wide; 4¼ inches deep.

This heater is designed for use in vestibule of cars or for small rooms, and can be wired for one or three degrees.

List No.	Description	List Price
820743	Single vestibule heater.....	Each \$20.84

Car Heater Switch

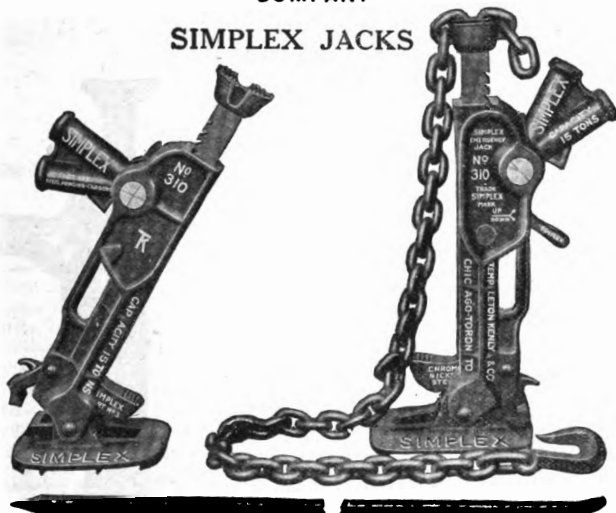
No. 114EA

This outfit consists of two single pole quick break knife switches so arranged that with one switch closed, current is supplied for one degree of heat; with the other switch closed two degrees of heat are given and with both closed, three degrees of heat are provided which are mounted on the slate switch base and the entire outfit is enclosed in a sheet metal case with hinged door. In order to close the door while one or both switches are open, it is necessary to throw the open switch completely over so that the hands rest in the recess provided in the box.

List No.	Description	List Price
820744	One three-degree car heater switch with sheet metal case.....	Each \$20.84

Railway Material

SIMPLEX JACKS



No. 310 Simplex Jacks

Simplex Emergency Jack

This jack pivots on its base and has recessed cap which holds the links of a chain firmly. It is used for turning the fly-wheels of large engines off center, as an emergency jack on trucks, on electric and steam railroads, for tank cars, moving heavy machinery, etc. It performs the service of a combined crane and jack.
Single acting—operating on the down stroke of the lever.

List No.	Style	Capacity Tons	Lift Inches	Height Inches	Jack Lbs.	Weights Chain and Box	Total Wt.	List Price Each
310	Emergency	15	12 1/4	21 1/2	59	32 lbs.	91 lbs.	\$35.00
315	Ordinance and Emergency	15	12	23 3/4	62	15 lbs.	99 lbs.	40.00



No. 318



No. 318

Simplex Pole Jack

STANDARD EQUIPMENT

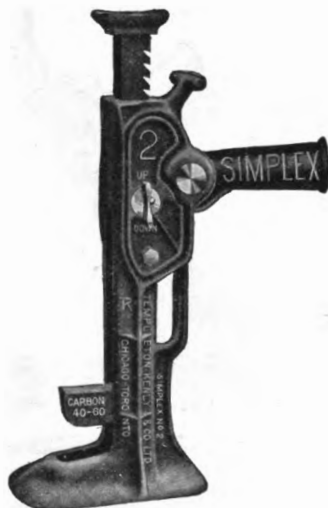
Five foot heavy chain with grab hook attached.
Five foot steel lever bar, pinch bar construction.
Two foot, 10 inch, 25 lb. 1 beam base support to prevent slipping.
Single acting, operating on the down stroke of the lever, or tripping at any position.

List No.	Capacity Tons	Lift Inches	Height Inches	Jack Lbs.	Chain Lbs.	Weights Bar	Total Wt.	List Price Each
318	15	24	39	95 lbs.	15 lbs.	17 lbs.	127 lbs.	\$45.00

Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

SIMPLEX JACKS


No. 1. Track Jack



No. 2. Ballast or Track Jack

Track Jacks
NOS. 1 AND 6

Double acting, operating on the up and down stroke of the lever or tripping at any position.

List No.	Style	Capacity Tons	Lift Inches	Height Inches	Weight With Pole Lbs.	List Price Each
1	Track	10	13½	25	65	\$10.80
6	Ballast or Track	15	18½	31	96	18.20

NOS. 117 AND 118 TRACK OR BALLAST JACKS

Single acting, operating on the down stroke of the lever, or tripping at any position.

List No.	Style	Capacity Tons	Lift Inches	Height Inches	Weight With Pole Lbs.	List Price Each
117	Track or Ballast	10	12½	20½	55	\$13.20
118	Track or Ballast	15	18¾	28	70	18.20

Car and Industrial Jacks
NOS. 50, 51, 2, 4, 19

Single acting, operating on the down stroke of the lever.

All working parts are drop forged steel with massive malleable standards. Bearings are heavy trunnions.

These jacks are used extensively by steam and electric railroads, by contractors, bridge builders and many classes of industries. They are powerful, rapid, highly efficient and built for rough, abusive service.

List No.	Style	Capacity Tons	Lift Inches	Height Inches	Weight Lbs.	List Price Each
50	Industrial	5	8½	15½	32 with bar	\$12.00
51	Industrial	5	13½	20	40 with bar	13.20
2	Industrial and car	10	12	20½	56 with pole	15.00
4	Bridge or Car	15	11½	22½	91 with pole	21.00
19	{ Car, Industrial and Bridge	15	17½	28	94 with pole	21.00

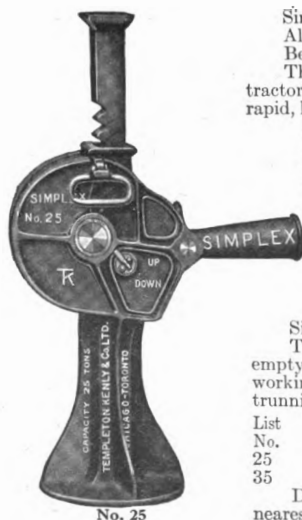
Geared Jacks
NOS. 25 AND 35

Single acting, operating on the down stroke of the lever.

These jacks are especially designed for handling railroad cars, loaded or empty, Pullman or day coaches, locomotives and heavy industrial work—all working parts are drop forged steel, or cast steel; heavy malleable standard, trunnion bearings.

List No.	Capacity Tons	Lift Inches	Height Inches	Weight Lbs.	List Price Each
25	25	16½	27	150 with pole	\$80.00
35	35	16½	26½	200 with pole	108.00

Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.



No. 25

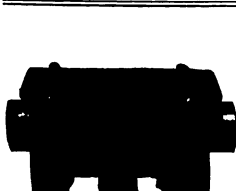


TYPES PJCA AND PJX

Furnished Complete with Cast Cover, Cover Gasket and Fastening Screws for Cover

Type PJX Condulet is arranged with two main hubs and two branch hubs, tapped for conduit of various sizes, as noted in the schedule.

The hubs on these Condulets are so located as to insure a clearance of at least an inch between the surface wired over and the conduit. When these Condulets are used on car roofs, this feature of construction prevents the accumulation of cinders and consequent deterioration of car covering along the line of conduit.

The cover overhangs the Condulet body and is held in place by four heavy brass screws. The joint is made water-tight by a gasket.

		TYPE PJCA CONDULETS—Black Enamel Finish					
	Size in inches.....	$\frac{1}{2}$ — $\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{1}{2}$ — $\frac{3}{4}$	1 — $\frac{1}{2}$ — 1			
	Catalogue Number.....	PJCA111	PJCA212	PJCA313			
	Standard Package.....	15	15	15			
	Shipping Weight Std. Pkg..	110 lbs.	120 lbs.	125 lbs.			
	List Price, each.....	\$3.00	\$3.10	\$3.45			
	Size in inches.....	$1\frac{1}{4}$ — $\frac{1}{2}$ — $1\frac{1}{4}$	$1\frac{1}{2}$ — $\frac{1}{2}$ — $1\frac{1}{2}$				
	Catalogue Number.....	PJCA414	PJCA515				
	Standard Package.....	15	15				
	Shipping Weight Std. Pkg..	130 lbs.	140 lbs.				
	List Price, each.....	\$3.70	\$3.85				
		TYPE PJX CONDULETS—Black Enamel Finish					
	Size in inches...	$\frac{1}{2}$ — $\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ " mains $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ — $\frac{3}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ " mains $\frac{1}{2}$ branches	$\frac{3}{4}$ — $\frac{1}{2}$ — $\frac{3}{4}$ $\frac{3}{4}$ $\frac{1}{2}$ " mains $\frac{1}{2}$ branches	1 — $\frac{1}{2}$ — 1 1 $\frac{1}{2}$ " mains $\frac{1}{2}$ branches		
	Catalogue No...	PJX1111	PJX2112	PJX2222	PJX3113		
	Standard Pkg...	15	15	15	15		
	Wt. Std. Pkg....	115 lbs.	125 lbs.	130 lbs.	135 lbs.		
	List Price, each..	\$3.20	\$3.30	\$3.40	\$3.65		
Size in inches		1 — $\frac{3}{4}$ — 1 $\frac{3}{4}$ 1 " mains $\frac{1}{2}$ branches	$1\frac{1}{4}$ — $\frac{1}{2}$ — $1\frac{1}{4}$ $\frac{1}{2}$ $1\frac{1}{4}$ " mains $\frac{1}{2}$ branches	$1\frac{1}{4}$ — $\frac{3}{4}$ — $1\frac{1}{4}$ $\frac{3}{4}$ $1\frac{1}{4}$ " mains $\frac{1}{2}$ branches	$1\frac{1}{2}$ — $\frac{1}{2}$ — $1\frac{1}{2}$ $\frac{1}{2}$ $1\frac{1}{2}$ " mains $\frac{1}{2}$ branches	$1\frac{1}{2}$ — $\frac{3}{4}$ — $1\frac{1}{2}$ $\frac{3}{4}$ $1\frac{1}{2}$ " mains $\frac{1}{2}$ branches	
Catalogue Number.....		PJX3223	PJX4114	PJX4224	PJX5115	PJX5225	
Standard Package.....		15	15	15	15	15	
Shipping Weight Standard Package.		135 lbs.	140 lbs.	145 lbs.	150 lbs.	160 lbs.	
List Price, each		\$3.70	\$3.80	\$3.90	\$4.10	\$4.10	

Important Information Concerning Condulets Listed on This Page

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

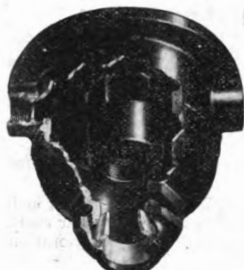
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package.

Gasket is listed separately on page 177. Condulet reducers are listed on page 171.
Screws for above Condulets are specified on page 180 and listed on page 181.

(Cross Reference Page 145)

Cross references are to Condulet pages in main part of catalogue.

CONDULETS—DB SERIES
TYPES DB, DBB AND DBC
 For Postal Car Ceiling Light Installations
 Furnished Complete as Shown in Illustrations



Body and Canopy of Type DBC
(Broken-away View)

These Condulets are especially designed postal car lighting fixtures and possess all the features essential to such fixtures, as follows:

Strength, rigidity, easy and quick removal of reflectors, ample wiring room, free access to electrical connections, and as pleasing an appearance as is consistent with the conditions imposed.

They comprise a body, canopy, stem, lamp receptacle, reflector holder and reflector.

The body is provided with threaded hubs for conduit and is fastened to car ceiling by four screws.

The canopy screws into the body and is clamped to the stem, forming a rigid construction which cannot become loosened by vibration.

The reflector holder is extremely simple and rugged. The reflector is released by one half turn of the clamping ring.

Ample wiring room is provided in the body, and the removable canopy allows ready access to the connections without disturbing any other part of the Condulet.

Plans showing the proper location of these Condulets in postal cars, to meet Post Office Department specifications, will be furnished upon request.



Reflector Holder
(Broken-away View)



TYPE	DB			DBB (Angular)			DBC		
Size in inches.....	1/2	3/4	1	1/2	3/4	1	1/2	3/4	1
Catalogue Number....	DB1	DB2	DB3	DBB1	DBB2	DBB3	DBC11	DBC22	DBC33
Standard Package	5	5	5	5	5	5	5	5	5
Ship. Wt. Std. Pkg....	150 lbs.	155 lbs.	160 lbs.	150 lbs.	155 lbs.	160 lbs.	160 lbs.	165 lbs.	170 lbs.
List Price, each.....	\$20.00	\$20.50	\$21.00	\$20.50	\$21.00	\$21.50	\$21.00	\$21.50	\$22.00

In ordering, the following data must be furnished:

First: Location of Condulet in car; i. e., letter case, bag-rack or storage. Second: Wattage of lamp. Third: Style of lamp bulb. Fourth: Distance from floor to ceiling at point where Condulet is to be installed. Fifth: Finish of reflector—porcelain enamel or aluminumized. Sixth: Curvature of car ceiling, which can best be given by a cross section drawing of the car.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Gray lead finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies gray lead finish. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulets, plain and with special finishes, see page 182.

Black enameled, gray lead and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.
 We will furnish incandescent lamps.

(Cross Reference Page 147)

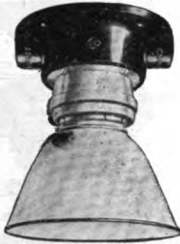
Cross references are to Condulet pages in main part of catalogue.

CONDULET BODIES—LO, CL AND LP SERIES

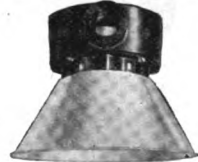
LO SERIES—TYPES LO, LOA, LOC, LOL, LOCA, LOT AND LOX
CL SERIES—TYPES CL, CLA, CLC, CLL, CLT AND CLX
LP SERIES—TYPES LP, LPC AND LPT

For Ceiling Lamp Outlets

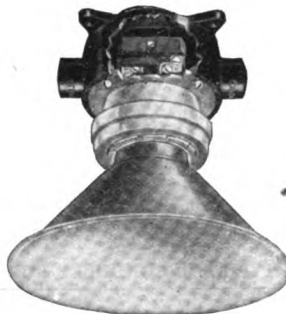
Take Fittings or Fixtures Enumerated Below



Type LO
 Showing Crouse-Hinds Combination
 Reflector Holder and Socket Equipment
 CRSEI and Reflector Mounted



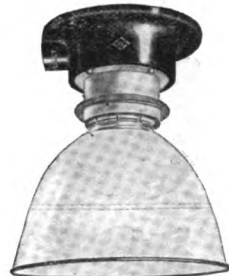
Type LP
 Showing Crouse-Hinds Reflector and
 Receptacle Holder SRE2, Reflector SH25
 and Norbitt Condulietto Clamp Receptacle
 C337 Mounted



Type LOO
 Showing Crouse-Hinds Combination Reflector Holder
 and Socket Equipment CRSEI, Terminal Block
 CF101 and Reflector Mounted
 (Broken-away View)



Type LCO
 Showing Crouse-Hinds Vapor, Gas and
 Dust-Proof Equipment VGDEI Mounted



Type CL
 Showing S. C. H. and L. Co. Pendant
 No. 8294 and Reflector Mounted

Conduliet bodies of the LO, CL and LP series take the following fittings or fixtures:

CROUSE-HINDS—Combination reflector holder and socket equipment CRSEI, and vapor, gas and dust-proof equipments VGDEI and VGDE2, listed on page 160; reflector and receptacle holder SRH2, listed on page 160; reflector SH25, listed on page 160, and Norbitt Condulietto clamp receptacle C337, listed on page 190. Receptacle mounting plate RMP1, listed on page 160 and Norbitt Condulietto clamp receptacle C337, listed on page 190; terminal block CF101 bodies listed on page 160; blank covers, listed on page 151. Gaskets for blank covers LOB00 and LOB000 are listed separately on page 177.

ADAMS & WESTLAKE CO.—Fixtures S-912, 17080, and 18010.

SAFETY CAR HEATING AND LIGHTING CO.—Pendant 8294.

Finishes: Black enamel is the standard finish for Conduliet bodies, and will be furnished unless another finish is specified on the order. Gray lead finish on exterior and black enamel finish on interior of Conduliet bodies will be furnished, at same price as all black enamel finish, when the order specifies gray lead finish. Galvanized finish on exterior and black enamel finish on interior of Conduliet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. Special plated finishes, cast brass and cast bronze Conduliet bodies with plain and special finishes, aluminum Conduliet bodies with plain and black enamel finish, can be furnished on special order.

Black enameled, gray lead and galvanized Conduliet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Conduliet bodies of the LO series are listed on page 149.

Conduliet bodies of the CL series are listed on page 150.

Conduliet bodies of the LP series are listed on page 151.

Conduliet reducers are listed on page 171.








(Cross Reference Page 148)

Cross references are to Conduliet pages in main part of catalogue, except references at bottom of page.

CONDULET BODIES—LO SERIES TYPES LO, LOA, LOC, LOL, LOCA, LOT AND LOX

For Ceiling Lamp Outlets

Take Fittings or Fixtures Enumerated on Opposite Page

	TYPE LO CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LO1	LO2	LO3
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	120 lbs.	100 lbs.	80 lbs.
	List Price, each.....	\$1.15	\$1.25	\$1.35
	TYPE LOA CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOA1	LOA2	LOA3
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.25	\$1.35	\$1.45
	TYPE LOC CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOC11	LOC22	LOC33
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.25	\$1.35	\$1.45
	TYPE LOL CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOL11	LOL22	LOL33
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.25	\$1.35	\$1.45
	TYPE LOCA CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOCA111	LOCA222	LOCA333
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	90 lbs.
	List Price, each.....	\$1.35	\$1.45	\$1.55
	TYPE LOT CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOT111	LOT222	LOT333
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.30	\$1.40	\$1.50
	TYPE LOX CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOX1111	LOX2222	LOX3333
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	90 lbs.
	List Price, each.....	\$1.40	\$1.50	\$1.60







Fixture fastening screw holes are drilled and tapped for 10-30 screws.

For finishes, assortments and other important information, see notes on page 148.

(Cross Reference Page 149)

CONDULET BODIES—CL SERIES
TYPES CL, CLA, CLC, CLL, CLT AND CLX

For Ceiling Lamp Outlets
Take Fittings or Fixtures Enumerated Below

	TYPE CL CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CL1	CL2	CL3
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	200 lbs.	140 lbs.	110 lbs.
	List Price, each.....	\$1.60	\$1.70	\$1.80
	TYPE CLA CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLA1	CLA2	CLA3
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	200 lbs.	140 lbs.	110 lbs.
	List Price, each.....	\$1.70	\$1.80	\$1.90
	TYPE CLC CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLC11	CLC22	CLC33
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	210 lbs.	145 lbs.	115 lbs.
	List Price, each.....	\$1.70	\$1.80	\$1.90
	TYPE CLL CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLL11	CLL22	CLL33
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	210 lbs.	145 lbs.	115 lbs.
	List Price, each.....	\$1.70	\$1.80	\$1.90
	TYPE CLT CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLT111	CLT222	CLT333
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	215 lbs.	150 lbs.	120 lbs.
	List Price, each.....	\$1.75	\$1.85	\$1.95
	TYPE CLX CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLX1111	CLX2222	CLX3333
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	220 lbs.	155 lbs.	125 lbs.
	List Price, each.....	\$1.85	\$1.95	\$2.05

Fixture fastening screw holes are drilled and tapped for 10-30 screws.

Condulet bodies of the CL series take the following fittings or fixtures:

CROUSE-HINDS—Combination reflector holder and socket equipment CRSE1, listed on page 160. Vapor, gas and dust-proof equipments VGDE1 and VGDE2, listed on page 160. Reflector and receptacle holder SRH2, listed on page 160; reflector SH25, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 160. Receptacle mounting plate RMP1, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 160. Terminal block CF101, listed on page 160. Blank covers, listed on page 151. Gaskets for blank covers LOB00 and LOB000 are listed separately on page 177.

ADAMS & WESTLAKE CO.—Fixtures 8-912, 17080 and 18010.
SAFETY CAR HEATING AND LIGHTING CO.—Pendant 8294.

For finishes and assortments, see note on page 148.

Condulet reducers are listed on page 171.

We will furnish fittings or fixtures of other manufacturers for above Condulet bodies.

(Cross Reference Page 150)

Cross references are to Condulet pages in main part of catalogue, except reference to page 148.

CONDULET BODIES—LP SERIES
TYPES LP, LPC AND LPT

Take Fittings or Fixtures Enumerated on Preceding Page


 Showing Reflector Holder,
Reflector and Receptacle Installed
Not included in prices for Condulet Body

TYPE LP CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	LP1	LP2	LP3
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	100 lbs.	80 lbs.	60 lbs.
List Price, each.....	\$1.15	\$1.25	\$1.35


TYPE LPC CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	LPC11	LPC22	LPC33
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	110 lbs.	90 lbs.	65 lbs.
List Price, each.....	\$1.25	\$1.35	\$1.45


TYPE LPT CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	LPT111	LPT222	LPT333
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	120 lbs.	100 lbs.	75 lbs.
List Price, each.....	\$1.30	\$1.40	\$1.50

**BLANK COVERS FOR LO, LP AND CL SERIES OF
CONDULET BODIES**

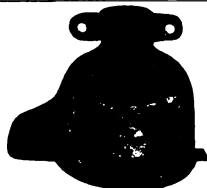
Furnished with Cover Fastening Screws and Gasket



Style	Cast	Sheet Metal
Catalogue Number.....	LOB00	LOB000
Standard Package.....	100	100
Ship. Weight Std. Pkg....	90 lbs.	65 lbs.
List Price, each.....	\$.50	\$.30

TYPE QPB CONDULETS

TAKE PLUG RECEPTACLES ENUMERATED BELOW


 Type QPB
(Broken-away View)
Showing Plug Receptacle Mounted
(Receptacle not included in List Price)

Condulets of this series are both weatherproof and dustproof, making them equally serviceable for outdoor or indoor installations. The door is held closed by a strong spring, when the plug is not inserted in receptacle.

TYPE QPB CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	QPB1	QPB2	QPB3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	180 lbs.	135 lbs.	105 lbs.
List Price, each.....	\$1.90	\$2.00	\$2.20

Type QPB Condulets take the following plug receptacles:

CUTLER-HAMMER—7818 (6 Amp.). G. E. CO.—49489, 102700 (10 Amp.). HUBBELL—5617, 5624 (10 Amp.). 5621 (20 Amp., Polarity).

(Cross Reference Page 151)

Take Fittings or Fixtures Enumerated Below



Showing Crouse-Hinds Combination Reflector Holder
and Socket Equipment CRSE1 and Reflector Mounted

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CONDULET BODIES—DSO AND DSP SERIES **TYPES DSOA, DSOB AND DSOC TYPES DSPA, DSPB AND DSPC**

For Deck Sill and Side Wall Lamp Outlets
Take Fittings or Fixtures Enumerated Below

Condulet Bodies of the DSO Series are furnished with Cover and Cover Fastening Screws



Type DSOA
 Showing Crouse-Hinds Combination Reflector Holder and Socket Equipment CRSEI and Shade Mounted



Type DSPA
 Showing Receptacle Mounting Plate RMP1 and Norbitt Conduletto Receptacle C337 Mounted

Condulet Bodies of the DSP Series are furnished with Cover, Cover Gasket and Cover Fastening Screws



Type DSOA			Black Enamel Finish			Type DSPA		
1/2	3/4	1	Size in inches			1/2	3/4	1
DSOA1	DSOA2	DSOA3	Catalogue Number			DSPA1	DSPA2	DSPA3
50	35	25	Standard Package			50	35	25
180 lbs.	150 lbs.	115 lbs.	Shipping Weight Std. Pkg.			180 lbs.	150 lbs.	110 lbs.
\$2.20	\$2.40	\$2.60	List Price, each			\$2.35	\$2.55	\$2.75



Type DSOB			Black Enamel Finish			Type DSPB		
1/2	3/4	1	Size in inches			1/2	3/4	1
DSOB1	DSOB2	DSOB3	Catalogue Number			DSPB1	DSPB2	DSPB3
50	35	25	Standard Package			50	35	25
180 lbs.	150 lbs.	115 lbs.	Shipping Weight Std. Pkg.			180 lbs.	150 lbs.	110 lbs.
\$2.20	\$2.40	\$2.60	List Price, each			\$2.35	\$2.55	\$2.75



Type DSOC			Black Enamel Finish			Type DSPC		
1/2	3/4	1	Size in inches			1/2	3/4	1
DSOC11	DSOC22	DSOC33	Catalogue Number			DSPC11	DSPC22	DSPC33
50	35	25	Standard Package			50	35	25
190 lbs.	160 lbs.	120 lbs.	Shipping Weight Std. Pkg.			190 lbs.	160 lbs.	120 lbs.
\$2.30	\$2.50	\$2.70	List Price, each			\$2.45	\$2.65	\$2.85

Fixture fastening screw holes are drilled and tapped for 10-30 screws.

Condulet bodies of the DSO and DSP series take the following fittings or fixtures:

CROUSE HINDS—Combination reflector holder and socket equipment CRSEI, listed on page 160. Vapor, gas and dust-proof equipment VGDE1, listed on page 160. Reflector and receptacle holder SRH2, listed on page 160; reflector SH25, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 190. Receptacle mounting plate RMP1, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 190. Terminal block CF101, listed on page 160.

ADAMS & WESTLAKE CO.—Fixtures S-912, 17080 and 18010.

SAFETY CAR HEATING AND LIGHTING CO.—Pendant S294.

For finishes and assortments, see note on page 158.

Gasket for cover of the DSP series of Condulet bodies is listed separately on page 177. Condulet reducers are listed on page 171.

We will furnish fittings or fixtures of other manufacturers for above Condulet bodies.

(Cross Reference Page 153)

Cross references are to Condulet pages in main part of catalogue, except reference to page 158.



CONDULET BODIES TYPES JRR AND KRR

For Side Bracket Fixtures

Take Crouse-Hinds Types JRRH or JRRV Side Bracket Hoods; Crouse-Hinds Terminal Block CF101, and Safety Car Heating and Lighting Co. Fixtures Nos. 8211 or 8825

These Condulet bodies are designed for mounting back of car finish; and fittings or fixtures may be screwed directly to them, instead of to the finish of the car; therefore, it is unnecessary to reinforce the car finish where the fastening screws enter.

The use of Crouse-Hinds terminal block CF101 eliminates the necessity of soldering joints. This facilitates the removal of the fixture for refinishing.



	TYPE JRR CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	JRR11	JRR22	JRR33
	Standard Package	50	35	25
	Shipping Weight Std. Pkg	85 lbs.	70 lbs.	60 lbs.
	List Price, each	\$.80	\$.90	\$1.05
	TYPE KRR CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	KRR1	KRR2	KRR3
	Standard Package	50	35	25
	Shipping Weight Std. Pkg	80 lbs.	65 lbs.	60 lbs.
	List Price, each	\$.75	\$.85	\$1.10

TYPES JRM AND KRM

For Side Bracket Fixtures

Take Crouse-Hinds Types JRRH or JRRV Side Bracket Hoods; Crouse-Hinds Terminal Block CF101, and Safety Car Heating and Lighting Co. Fixtures Nos. 8211 or 8825

These Condulet bodies add materially to the appearance of an exposed conduit installation, for which they are specially designed. They can be used to advantage in car saloons or toilets. They are also suitable for stations, platforms and similar installations.

	TYPE JRM CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	JRM11	JRM22	JRM33
	Standard Package	50	35	25
	Shipping Weight Std. Pkg	190 lbs.	150 lbs.	110 lbs.
	List Price, each	\$2.00	\$2.20	\$2.40
	TYPE KRM CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	KRM1	KRM2	KRM3
	Standard Package	50	35	25
	Shipping Weight Std. Pkg	185 lbs.	145 lbs.	100 lbs.
	List Price, each	\$1.90	\$2.10	\$2.30

Screw holes for fastening side bracket hoods to Condulet bodies are drilled and tapped for 10-30 screws.

For finishes and assortments, see note on page 154.

Types JRRH and JRRV side bracket hoods are listed on page 155a. Gasket for use between types JRRH or JRRV side bracket hoods and above Condulet bodies is listed on page 177. Condulet reducers are listed on page 171.

Terminal block CF101 is listed on page 180.

We will furnish fittings or fixtures of other manufacturers for above Condulet bodies.

(Cross Reference Page 154)

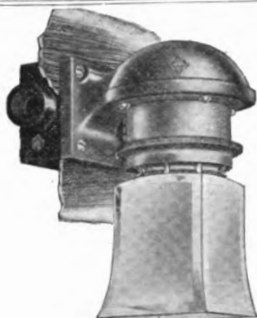
Cross references are to Condulet pages in main part of catalogue, except references to pages 155a, 158 and 160.

SIDE BRACKET HOODS TYPES JRRH AND JRRV

For Types JRR, KRR, JRM and KRM Condulet Bodies
Take Fittings or Fixtures Enumerated Below
Furnished with Screws for Fastening to Condulet Body



Type JRR Condulet Body
Showing Type JRRV Hood, Crouse-Hinds Combination
Reflector Holder and Socket Equipment
CRSE1 and Shade Mounted



Type KRR Condulet Body
Showing Type JRRH Hood, S. C. H. and L. Co.
Pendant 8294 and Shade Mounted



Type KRR Condulet Body
Showing S. C. H. and L. Co. Fixture 8211
and Shade Mounted



Type KRM Condulet Body
Showing Type JRRH Hood, S. C. H. and L. Co.
Pendant 8294 and Shade Mounted

TYPE JRRH SIDE BRACKET HOOD For Condulet Body Installed in Horizontal Position	TYPE JRRV SIDE BRACKET HOOD For Condulet Body Installed in Vertical Position
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JRRH123
50
125 lbs.
\$1.10

..Catalogue No...
..Standard Pkg...
Ship. Wt. Std. Pkg...
..List Price, each.

JRRV123
50
125 lbs.
\$1.10



Fixture fastening screw holes are drilled and tapped for 10-30 screws.

Types JRRH and JRRV side bracket hoods take the following fittings or fixtures:

CROUSE-HINDS—Combination reflector holder and socket equipment CRSE1, listed on page 160. Vapor, gas and dust-proof equipment VGDE1, listed on page 160. Reflector and receptacle holder SRH2, listed on page 160; reflector SH25, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 190. Receptacle mounting plate RMP1, listed on page 160 and Norbitt Conduletto clamp receptacle C337, listed on page 190.
ADAMS & WESTLAKE CO.—Fixtures 8-912, 17080 and 18010.
SAFETY CAR HEATING AND LIGHTING CO.—Pendant 8294.
For finishes, see note on page 158.

Black enameled, gray lead and galvanized Condulet bodies or side bracket hoods of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet bodies that take types JRRH or JRRV side bracket hoods are listed on opposite page. Gasket for use between types JRRH or JRRV side bracket hoods and JRR, KRR, JRM and KRM Condulet bodies that take types JRRH or JRRV side bracket hoods are listed on page 154.

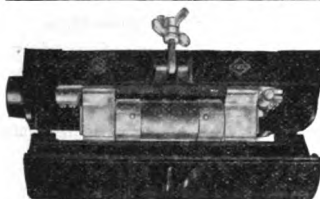
Gasket for use between types JRRH or JRRV side bracket hoods and JRR, KRR, JRM and KRM Condulet bodies is listed on page 177. Condulet reducers are listed on page 171.
We will furnish fittings or fixtures of other manufacturers for above side bracket hoods.

(Cross Reference Page 155)

Cross references are to Condulet pages in main part of catalogue, except references to pages 154 and 158.

**CONDULETS—FB SERIES—HOUSINGS FOR BATTERY FUSES
TYPES FBL AND FBR**

Furnished Complete with Fuse Block for 250 Volt Fuse, but without Fuse



Type FBL with Fuse Block CFB200E, Showing
Enclosed Fuse Installed



Type FBL Conduit



Type FBR Conduit

These Condulets are of substantial design and suited to meet the most severe service. They are provided with a close fitting hinged cover which protects the contents of the Condulet from dust, cinders, and the weather.

The wire terminal connections are of the soldered sleeve type and, therefore, can be disconnected without unsoldering. This type of wire terminal construction permits the easy disconnection of the battery lead and eliminates the use of a hand connector within the battery box.

**CONDULETS FOR N. E. C. CARTRIDGE
FUSES**

101 to 200 Ampere—Complete Except Fuse

FBL—Left Hand		FBR—Right Hand	
3/4	1	3/4	1
FBL22E	FBL33E	FBR22E	FBR33E
15	15	15	15
300 lbs.	310 lbs.	300 lbs.	310 lbs.
\$9.30	\$9.50	\$9.30	\$9.50

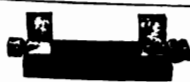
CONDULETS FOR OPEN LINK FUSES

Complete Except Fuse

FBL—Left Hand		FBR—Right Hand	
3/4	1	3/4	1
FBL22N	FBL33N	FBR22N	FBR33N
15	15	15	15
300 lbs.	310 lbs.	300 lbs.	310 lbs.
List Price, each	\$3.80	\$9.00	\$8.80

FUSE BLOCKS—For FBL and FBR Condulets

For 101 to 200 Ampere N. E. C. Cartridge
Fuses—Complete Except Fuse



CFB200E	.. Catalogue No..
15	.. Standard Pkg..
40 lbs.	.. Wt. Std. Pkg..
\$5.00	.. List Price, each.

..... Style.....

For Open Link Fuses—Fuse
Fastening Screw Centers—2 1-4 Inches

CFB200N	.. Catalogue No..
15	.. Standard Pkg..
40 lbs.	.. Wt. Std. Pkg..
\$4.65	.. List Price, each.



CONDULET BODIES—SO SERIES—FOR SIDE WALL INSTALLATIONS

TYPES SO AND SOC

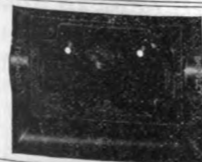
Take Side Bracket Hoods Types MOH or MOV; also Crouse-Hinds Terminal Block CF101

These Condulet bodies add materially to the appearance of an exposed conduit installation, for which they are specially designed. They can be used to advantage in car saloons or toilets. They are also suitable for stations, platforms and similar installations.



TYPE SO CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	SO1	SO2	SO3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	115 lbs.	100 lbs.	90 lbs.
List Price, each.....	\$1.40	\$1.70	\$2.00



TYPE SOC CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	SOC11	SOC22	SOC33
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	145 lbs.	115 lbs.	90 lbs.
List Price, each.....	\$1.60	\$1.90	\$2.10

For finishes and assortments, see note on page 158. Side bracket hoods types MOH and MOV are listed on page 157. Gasket for use between types MOH or MOV side bracket hoods and types SO and SOC Condulet bodies is listed on page 177. Crouse-Hinds terminal block CF101 is listed on page 160. Condulet reducers are listed on page 171.

(Cross Reference Page 156)

Cross references are to Condulet pages in main part of catalogue, except references to pages 157 and 158.

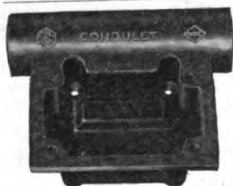
CONDULET BODY TYPE MOC

For Deck Sill Installations

Takes Crouse-Hinds Types MOH or MOV Side Bracket Hoods; also Takes Crouse-Hinds Terminal Block CF101

These Condulet bodies are designed for mounting back of deck sill molding, and side bracket hoods may be screwed directly to them, instead of to the molding of the car; therefore, it is unnecessary to reinforce the molding where the fastening screws enter.

The use of Crouse-Hinds terminal block CF101 eliminates the necessity of soldering joints. This facilitates the removal of the side bracket hoods.



TYPE MOC CONDULET BODY—Black Enamel Finish

Size in inches.....	3/4	
Catalogue Number.....	MOC2	
Standard Package.....	50	
Shipping Weight Standard Package.....	110 lbs.	
List Price, each	\$2.00	

SIDE BRACKET HOODS

TYPE MOH

TYPE MOV

For Types SO, SOC, and MOC Condulet Bodies

Take Fittings or Fixtures Enumerated Below

Furnished with Screws for Fastening to Condulet Body



Type SO Condulet Body
Showing Type MOH Hood, S. C. H. and L. Co.
Pendant S294 and Shade Mounted



Type MOC Condulet Body
Showing Type MOH Hood, Crouse-Hinds Reflector
and Receptacle Holder SRH2, Reflector SH25
and Norbitt Conduletto Clamp Receptacle C337 Mounted



Type MOC Condulet Body
Showing Type MOV Hood, Crouse-Hinds Combination Reflector Holder and Socket Equipment CRSE1 and Shade Mounted

TYPE MOH HOOD—Black Enamel Finish
For Condulet Body Installed in Horizontal Position

TYPE MOV HOOD—Black Enamel Finish
For Condulet Body Installed in Vertical Position



MOH123
50
125 lbs.
\$1.60

.....Cat. No.
.....Std. Pkg.
Ship. Wt. Std. Pkg.
.. List Price, ea... \$1.60

MOV123
50
130 lbs.
\$1.60



Fixture fastening screw holes are drilled and tapped for 10-30 screws.

Types MOH and MOV side bracket hoods take the following fittings or fixtures:

CROUSE-HINDS—Combination reflector holder and socket equipment CRSE1, listed on page 160. Vapor, gas, and dust-proof equipment VGDE1, listed on page 160. Reflector and receptacle holder SRH2, listed on page 160; reflector SH25, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 160. Receptacle mounting plate RMP1, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 160.

ADAMS & WESTLAKE CO.—Fixtures S-912, 17080, and 18010.
SAFETY CAR HEATING AND LIGHTING CO.—Pendant S294.

For finishes and assortments, see note on page 158.

Condulet bodies that take types MOH or MOV side bracket hoods are listed on this and page 156.

Terminal block CF101 is listed on page 160.

Condulet reducers are listed on page 171.

We will furnish fittings or fixtures of other manufacturers for above side bracket hoods.

(Cross Reference Page 157)

Cross references are to Condulet pages in main part of catalogue, except references to pages 156 and 158.

CONDULET BODIES TYPES JRS AND KRS

For Side Bracket Fixtures

Take Safety Car Heating and Lighting Co. Fixtures Enumerated Below; also Take
Crouse-Hinds Terminal Block CF101



Type JRS
Showing Safety Car Heating and
Lighting Co. Fixture No. 2491 Mounted




Type KRS
Showing Safety Car
Heating and Lighting Co.
Fixture No. 1982 Mounted




Type JRS
Showing Safety Car Heating and
Lighting Co. Fixture No. 2328 Mounted

These Condulet bodies are designed for mounting back of car finish, and fittings or fixtures may be screwed directly to them, instead of to the finish of the car; therefore, it is unnecessary to reinforce the car finish where the fastening screws enter.

The use of Crouse-Hinds terminal block CF101 eliminates the necessity of soldering joints and thus facilitates the removal of the fixture for refinishing.

TYPE JRS CONDULET BODIES—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	JRS11	JRS22	JRS33
	Standard Package.....	50	35	25
	Ship. Wt. Std. Pkg.....	100 lbs.	75 lbs.	60 lbs.
	List Price, each.....	\$1.15	\$1.25	\$1.35

TYPE KRS CONDULET BODIES—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	KRS1	KRS2	KRS3
	Standard Package.....	50	35	25
	Ship. Wt. Std. Pkg.....	110 lbs.	80 lbs.	65 lbs.
	List Price, each.....	\$1.05	\$1.15	\$1.25

Important Information Concerning Condulet Bodies Listed on This Page

Fixture fastening screw holes are drilled and tapped for 10-30 screws.

We will furnish fittings or fixtures of other manufacturers, but the above Condulet bodies take the following:

SAFETY CAR HEATING AND LIGHTING CO.—Nos. 1982, 2328, 2329, 2330, 2331, 2332, 2491, 2495, 2497, 2498, 2816.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Gray lead finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies gray lead finish. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182. Black enameled, gray lead and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Terminal block CF101 is listed on page 160. Condulet reducers are listed on page 171.

(Cross Reference Page 158)

Cross references are to Condulet pages in main part of catalogue.

CONDULET BODIES TYPES JRY, JRYA, KRY AND KRYA

Take Norbitt Conduletto Fittings; Crouse-Hinds Terminal Block CF101, or Fixtures of Other Manufacturers Enumerated Below. Type KRYA forms a Part of the Crouse-Hinds Car Vestibule Lamp Equipment Illustrated Below



Type KRY
Showing Safety Car Heating and
Lighting Co. Fixture No. 1933 Mounted



Crouse-Hinds Car Vestibule Lamp Equipment
Consisting of Type KRYA, Crouse-Hinds Reflector
Holder SRH3, Reflector SH25, Norbitt Receptacle
C227 and Bezel



Type KRY
Showing Adams & Westlake Co.
Fixture No. 11480 Mounted

These Condulet bodies are mounted back of the car finish and provide a rigid support for the fixtures.



TYPE JRY CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	JRY11	JRY22	JRY33
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	75 lbs.	60 lbs.	45 lbs.
List Price, each.....	\$.70	\$.80	\$.90



TYPE JRYA CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	JRYA111	JRYA222	JRYA333
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	120 lbs.	95 lbs.	75 lbs.
List Price, each.....	\$.85	\$.95	\$1.05



TYPE KRY CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	KRY1	KRY2	KRY3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	75 lbs.	60 lbs.	45 lbs.
List Price, each.....	\$.65	\$.75	\$.85



TYPE KRYA CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	KRYA1	KRYA2	KRYA3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	80 lbs.	60 lbs.	45 lbs.
List Price, each.....	\$.70	\$.80	\$.90

Fixture fastening screw holes are drilled and tapped for 10-30 screws.

The above Condulet bodies take the following fixtures:

ADAMS & WESTLAKE CO.—Nos. 9030, 9280, 9430, 9800, 9990, 10000, 10010, 10340, 10710, 10750, 10760, 11060, 11070, 11230, 11360, 11370, 11390, 11480.

SAFETY CAR HEATING AND LIGHTING CO.—Nos. 1929, 1930, 1931, 1933, 1936, 1980, 2036, 2037, 2116, 2117, 2147, 2148, 2176, 2177, 2178, 2231, 2368, 2369, 2442, 2451, 2452, 2481, 2482, 3734, 3735, 3826, 3828, 3829, 3839, 8079, 8080, 8099, 8183, 8184, 8185, 8289, 8373, 8458, 8466, 8820, 8883, 9012, 9298.

Norbitt Conduletto fittings are listed on page 187. **Crouse-Hinds reflector holder SRH3** is listed on page 160. **Reflector SH25**, for use with reflector holder SRH3, is listed on page 160. **Bezel** for use with reflector SH25 is listed on page 160. **Terminal block CF101** is listed on page 160.

(Cross Reference Page 159a)
Cross references are to Condulet pages in main part of catalogue.

**CONDULET BODIES WITH OBROUND OPENINGS
TYPES LBA AND LBV**

Take Obround Covers and Obround Conduletto Fittings

In type LBA Condulet the hub through the flange is at an angle of 18 degrees from the perpendicular, to compensate for the curvature of the car roof, thus allowing the conduit to enter the car parallel with the side finish. It is exceptionally suited for use where it is desired to bring conduit from the car roof to side brackets or berth lights.

Type LBV Condulet is for use where the conduit makes a right angle turn and passes through the roof or floor of a car.

The flange completely covers the opening made for the conduit, and, by the use of a gasket, this opening is made water-tight.



TYPE LBA (Angular) CONDULET BODIES—Black Enamel Finish

Size in inches..	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue No.	LBA11	LBA22	LBA33	LBA44	LBA55	LBA66
Standard Pkg.	50	35	25	15	10	5
Wt. Std. Pkg..	100 lbs.	80 lbs.	70 lbs.	60 lbs.	55 lbs.	40 lbs.
List Price, each	\$.80	\$.90	\$1.10	\$1.80	\$2.00	\$3.00



TYPE LBV CONDULET BODIES—Black Enamel Finish

Size in inches..	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue No.	LBV11	LBV22	LBV33	LBV44	LBV55	LBV66
Standard Pkg.	50	35	25	15	10	5
Wt. Std. Pkg..	100 lbs.	80 lbs.	70 lbs.	60 lbs.	55 lbs.	40 lbs.
List Price, each	\$.80	\$.90	\$1.10	\$1.80	\$2.00	\$3.00

Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on pages 184 and 185.

Gaskets for Obround covers are listed separately on page 176.

TYPES TJ AND TJD CONDULETS

FOR USE WITH PORTABLE TELEPHONE EQUIPMENTS

Take the Following Jacks: Western Electric Co., No. 99 or 152. Stromberg-Carlson, No. 119

Type TJ Condulet is Furnished Complete with Insulating Bushing and Metal Cover with Jack Support and Gasket Attached

Type TJD Condulet is Furnished Complete with Two-Wire Hole Porcelain Cover and Metal Cover with Jack Support and Gasket Attached

These Condulets are designed for housing telephone jacks. The support for the jack is mounted on a gasketed metal cover, from which it is properly insulated. When the plug is removed, a lid automatically closes the opening and prevents the entrance of dust, moisture or insects.

Type TJ Condulet is intended for use under the body of a railway car. It has a swivel base which allows the plug to pull out easily when the car is moved. An insulating bushing is provided, through which the wires pass to the interior of the car.

Type TJD Condulet is intended for mounting on poles or buildings along the right-of-way of a railroad, transmission line, canal, etc. The line wires enter the Condulet through a 1/2-inch Obround 2-wire hole porcelain cover.

TYPE TJ CONDULETS			TYPE TJD CONDULETS		
Black Enamel Finish			Black Enamel Finish		
For W.E.Co. Jacks No. 99 or No. 152	For S-C Jack No. 119	Style	For W. E. Co. Jacks No. 99 or No. 152	For S-C Jack No. 119	
TJ99152	TJ119	Cat. No.	TJD99152	TJD119	
20	20	Std. Pkg	20	20	
90 lbs.	90 lbs.	Wt. Pkg.	85 lbs.	85 lbs.	
\$4.50	\$4.50	List. ca.	\$4.00	\$4.00	

We will furnish telephone jacks. For finishes and assortments, see page 159a. Condulet reducers are listed on page 171.

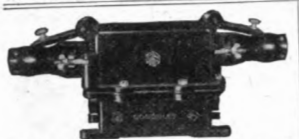
Obround covers are listed separately on pages 30, 31 and 32.

(Cross Reference Page 161)

Cross references are to Condulet pages in main part of catalogue, except reference to page 159a.

YARD CHARGING CONDULETS
TYPES UGCF, UGXF, UGCD, UGXD AND UGEM CONDULETS
DOUBLE OUTLET

Furnished Complete with Two 100-Ampere Rectangular Receptacles BR100, Spring Doors and necessary Gaskets and Fastening Screws, but without Plugs or 2-inch Conduit Stem. See note below*



Surface Style of Double Outlet Yard Charging Conduit
Type UGCF with Plugs Inserted
List Prices Do Not Include Plugs



Underground Style of Double Outlet Yard Charging Conduit
Type UGXD with Plugs Inserted
List Prices Do Not Include Plugs or Conduit Stem

SURFACE STYLE
Type UGCF Condulets—For Two Conduits

Size, in...	1	1¼	1½	2
Cat. No..	UGCF33	UGCF44	UGCF55	UGCF66
Std. Pkg.	5	5	5	5
Wt. Pkg.	190 lbs.	195 lbs.	200 lbs.	205 lbs.
List, ea..	\$34.60	\$35.00	\$35.40	\$35.80

Type UGXF Condulets—For Four Conduits

Size, in...	1	1¼	1½	2
Cat. No..	UGXF3333	UGXF4444	UGXF5555	UGXF6666
Std. Pkg.	5	5	5	5
Wt. Pkg.	200 lbs.	205 lbs.	210 lbs.	215 lbs.
List, ea..	\$34.80	\$35.20	\$35.60	\$36.00

UNDERGROUND. STYLE
Type UGCD Condulets—For Two Conduits

Size, in...	1	1¼	1½	2
Cat. No..	UGCD33	UGCD44	UGCD55	UGCD66
Std. Pkg.	5	5	5	5
Wt. Pkg.	300 lbs.	300 lbs.	305 lbs.	310 lbs.
List, ea..	\$41.60	\$42.00	\$42.40	\$42.80

Type UGXD Condulets—For Four Conduits

Size, in...	1	1¼	1½	2
Cat. No..	UGXD3333	UGXD4444	UGXD5555	UGXD6666
Std. Pkg.	5	5	5	5
Wt. Pkg.	320 lbs.	320 lbs.	325 lbs.	330 lbs.
List, ea..	\$41.80	\$42.20	\$42.60	\$43.00



TYPE UGEM CONDULET
Black Enamel Finish

Complete as Illustrated Directly Above

Catalogue Number...	UGEM100
Standard Package...	5
Weight Std. Pkg.	200 lbs.
List Price, each.....	\$33.75



Type BPF



Type BPFA



Type BPB
(Short Circuiting)

PLUGS FOR YARD CHARGING RECEPTACLES
100 Ampere Capacity

Type	BPF (Rectangular)	BPFA (Round)	BPB (Rectangular)
Use	Charging	Charging	Short Circuiting
Cat. No.....	BPF100	BPFA100	BPB100
Std. Pkg.	10	10	10
Wt. Std. Pkg. .	75 lbs.	90 lbs.	50 lbs.
List, each.....	\$12.00	\$9.50	\$4.00

*Condulets listed above are regularly furnished with two rectangular receptacles BR100, requiring the use of rectangular plugs BPF100 or BPB100, but if specifically ordered, two round receptacles BRA100, requiring the use of round plugs BPFA100 or M. C. B. standard plugs, will be furnished, at an advance of \$5.50 in the list price. Spring doors are regularly furnished on receptacle housings, but if specifically ordered, removable doors will be furnished, at the same price.

Rectangular receptacle BR100 and round receptacle BRA100 are listed separately on page 166.
Gaskets are listed separately on page 177. Condulet reducers are listed separately on page 171.

(Cross Reference Page 163a)

Cross references are to Condulet pages in main part of catalogue, except reference to page 166.

YARD CHARGING CONDULETS

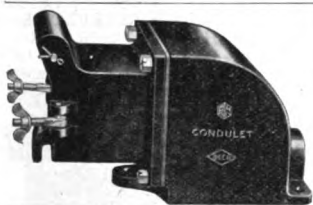
TYPE UGEN CONDULETS

FOR SURFACE CONDUIT INSTALLATIONS

Furnished Complete with Single Receptacle Housing, One 100-Ampere Rectangular Receptacle BR100, Spring Door, Fastening Screws and Gasket

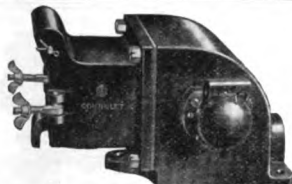
See note below*

TYPE UGEN CONDULETS—Black Enamel Finish



Complete as Illustrated at Left of Listings

Size in inches.....	1¼	1½	2
Catalogue Number.....	UGEN4	UGEN5	UGEN6
Standard Package	5	5	5
Ship. Wt. Std. Pkg.....	140 lbs.	145 lbs.	155 lbs.
List Price, each.....	\$18.50	\$18.75	\$19.00



Type QD plug receptacle attachment, listed at the right, is an auxiliary weather-proof housing, which can be attached, as shown in above illustration, to any Conduit having a flat surface to which the housing can be fastened, provided there is sufficient wiring space in the interior. The surface to which type QD attachment is to be fastened must be properly drilled and tapped for mounting. If specifically ordered this drilling and tapping will be done at the factory, without extra charge. The receptacle is of Hubbell type and will take standard 10-ampere Hubbell plug caps. In railroad use, the attachment is used chiefly to provide connections for vacuum cleaners and portable hand lamps.

**TYPE QD PLUG RECEPTACLE ATTACHMENT
Black Enamel Finish**

**Hubbell 10-Ampere Plug Receptacle
For QD10**

Complete with Hubbell
10-Ampere Plug Receptacle

Furnished with Mounting
Straps and Fastening Screws

Catalogue No.....	QD10	Catalogue No.....	C5614
Standard Package	5	Standard Package	50
Weight Std. Pkg....	10 lbs.	Weight Std. Pkg....	25 lbs.
List Price, each...	\$3.25	List Price, each....	\$.65

*Type UGEN Conduit is regularly furnished with rectangular receptacle BR100, requiring the use of rectangular plug BPF100 or BPB100, but if specifically ordered, round receptacle BRA100, requiring the use of round plug BPFA100 or any M. C. B. standard plug, will be furnished, at an advance of \$2.75 in the list price. A spring door is regularly furnished with above Conduit, but if specifically ordered, removable door will be furnished, at the same price.

The wire terminals of receptacle BR100 are drilled $\frac{1}{4}$ of an inch in diameter and will take any size cable up to and including No. 1 B. & S. gauge.

If specified on the order, 200-ampere rectangular receptacle BR200 will be furnished with type UGEN Conduit, at an advance of \$1.25 in above list prices. When so arranged, the Conduit is suitable for low voltage electric welding machines of 200-ampere capacity.

The wire terminals of receptacle BR200 are drilled $\frac{1}{4}$ of an inch in diameter and will take any size cable up to and including 00 B. & S. gauge.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

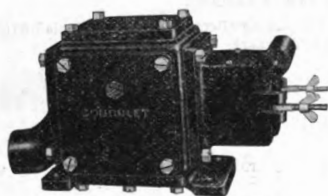
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Receptacles and plugs for type UGEN Condulets are listed on page 166.
Plugs for type UGEN Condulets are listed on page 163a.

(Cross Reference Page 163b)

YARD CHARGING CONDULETS—CONTINUED—SINGLE OUTLET

Frame, Receptacle Housing and Plates Required for Making Up Type UGE Condulets
For Either Surface or Underground Conduit Installations



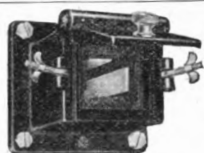
Style of Single Outlet Yard Charging Conduit

Type UGE

One of Many Possible Combinations

Made up From Material Listed Below

Consists of Frame UGE100, Single Receptacle Housing UGEJ100,
Supporting Plate UGE000, One Offset Hub Plate UGEE
and Three Blank Plates UGE00

FRAME FOR
UGE CONDULETSSINGLE RECEPTACLE
HOUSING FOR UGE
CONDULETS









Furnished with one 100 Ampere
Rectangular Receptacle, Spring
Door, Fastening Screws
and Gasket

See note below*

UGE100	.... Catalogue Number....	UGE100
5	.... Standard Package....	5
70 lbs.	.... Ship. Wt. Std. Pkg....	80 lbs.
\$4.85	.... List Price, each.....	\$12.75

PLATES FOR UGE FRAME—Black Enamel Finish

Furnished with Gasket and Fastening Screws

Size in inches.....	1	1 1/4	1 1/2	2	SUPPORTING PLATE	
	CENTER HUB PLATE					For Surface Mounting of Type UGE Condulets
	Cat. No..	UGE03	UGE04	UGE05		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	150 lbs.	155 lbs.	160 lbs.		
	OFFSET HUB PLATE				Catalogue Number	UGED00
	Cat. No..	UGEE3	UGEE4	UGEE5		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	160 lbs.	165 lbs.	170 lbs.		
	90° HUB PLATE				Standard Package	25
	Cat. No..	UGEF3	UGEF4	UGEF5		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	180 lbs.	195 lbs.	200 lbs.		
	TWO HUB PLATE				Ship. Wt. Std. Pkg.	135 lbs.
	Cat. No..	UGEB33	UGEB44	UGEB55		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	180 lbs.	185 lbs.	190 lbs.		
	FLANGE PLATE				List Price, each...	\$3.75
	Cat. No..	UGEE3	UGEE4	UGEE5		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	160 lbs.	165 lbs.	170 lbs.		
	BLANK CAST PLATE				Catalogue Number	UGEH00
	Cat. No..	UGEB33	UGEB44	UGEB55		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	180 lbs.	185 lbs.	190 lbs.		
	BLANK CAST PLATE				Standard Package	25
	Cat. No..	UGEB33	UGEB44	UGEB55		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	180 lbs.	185 lbs.	190 lbs.		
	BLANK CAST PLATE				Ship. Wt. Std. Pkg.	145 lbs.
	Cat. No..	UGEB33	UGEB44	UGEB55		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	180 lbs.	185 lbs.	190 lbs.		
	BLANK CAST PLATE				List Price, each...	\$3.00
	Cat. No..	UGEB33	UGEB44	UGEB55		
	Std. Pkg.	25	25	25		
	Wt. Pkg..	180 lbs.	185 lbs.	190 lbs.		

*Rectangular receptacle BR100, requiring the use of rectangular plug BPF100 or BPB100, is regularly furnished on orders for single receptacle housing UGEJ100, but if specifically ordered, round receptacle BRA100, requiring the use of round plug BPPA100 or M. C. B. standard plugs, will be furnished, at an advance of \$2.75 in the list price. A spring door is regularly furnished on above receptacle housing, but if specifically ordered, removable door will be furnished, at the same price.

Finishes and assortments for frame UGE100 and housing UGEJ100 are the same as specified on opposite page. Above plates with black enameled or galvanized finish may be assorted to make up a standard package, regardless of style of plates.

Rectangular receptacle BR100 and round receptacle BRA100 are listed on page 166. Rectangular plugs BPF100 and BPB100 and round plug BPPA100 are listed on page 163a. Gaskets are listed separately on page 177. Condulet reducers are listed on page 171.

(Cross Reference Page 164)

Cross references are to Condulet pages in main part of catalogue, except references to pages 163a and 166.

**CONDULET BODIES
TYPES UGC AND UGX**

Inside Dimensions: 6 $\frac{1}{8}$ x6 $\frac{1}{8}$ x3 Inches



Type UGC Condulet Body with Blank Cover CX00 Attached

Types UGC and UGX Condulets, being extra heavy, are particularly suited for use in railroad yards, manholes, subways, around coast defense fortifications and wherever a rugged water-tight Condulet is desired.

They can be used in combination with the yard charging Condulets, illustrated and listed on pages 163 and 164, either for surface or underground conduit installations.

The cover is firmly held in place by brass cap screws, and a heavy gasket of high grade rubber securely seals the opening. The use of brass cap screws and a high grade rubber gasket makes it easy to take off and replace the cover.



TYPE UGC CONDULET BODIES—For Two Conduits

Size in inches.....	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Catalogue Number...	UGC33	UGC44	UGC55	UGC66
Standard Package...	5	5	5	5
Weight Std. Pkg.....	110 lbs.	115 lbs.	120 lbs.	125 lbs.
List Price, each.....	\$5.60	\$6.00	\$6.40	\$6.80



TYPE UGX CONDULET BODIES—For Four Conduits

Size in inches.....	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Catalogue Number...	UGX3333	UGX4444	UGX5555	UGX6666
Standard Package...	5	5	5	5
Weight Std. Pkg.....	115 lbs.	120 lbs.	125 lbs.	130 lbs.
List Price, each.....	\$5.80	\$6.20	\$6.60	\$7.00

BLANK CAST COVER

EXTENSION COVER—For Two-Inch Conduit Stem

FOR TYPES UGC AND UGX CONDULET BODIES



Furnished with Gasket and Fastening Screws

CX00	Catalogue Number..	CX6
5	Standard Package..	5
45 lbs.	Ship. Wt. Std. Pkg.	50 lbs.
\$3.25	List Price, each...	\$4.00



DOUBLE RECEPTACLE HOUSING
For use with Types UGC and UGX Condulet Bodies
Complete with Two 100 Ampere Rectangular
Receptacles BR100, Spring Doors, Gasket
and Fastening Screws. See note below.*

EXTENSION PLATE
For Two-Inch Conduit Stem
For Receptacle Housing CHXS100



CHXS100	Cat. No.	CXH6
5	Std. Pkg.	5
140 lbs.	Ship. Wt. Std. Pkg.	65 lbs.
\$29.00	List Price, each..	\$3.00



*Receptacle housing listed above is regularly furnished with two rectangular receptacles BR100, requiring the use of rectangular plugs BPF100 or BPB100, but if specifically ordered, two round receptacles BRA100, requiring the use of round plugs BPFA100 or M. C. B. standard plugs, will be furnished, at an advance of \$5.50 in the list price. Spring doors are regularly furnished on receptacle housings, but if specifically ordered, removable doors will be furnished at the same price.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package.

Rectangular receptacle BR100 and round receptacle BRA100 are listed on page 166. Rectangular plugs BPF100 and BPB100 and round plug BPFA100 are listed on page 163a. Gasket is listed separately on page 177. Condulet reducers are listed on page 171.

(Cross Reference Page 165)

Cross references are to Condulet pages in main part of catalogue, except references to pages 163a and 166.

BATTERY CHARGING CONDULETS—SWIVEL MOUNTING
TYPE BRHS
TYPE BRH
TYPE BRHA

Type BRHS is furnished Complete with 100 Ampere Rectangular Receptacle, BR100. See note below*
Type BRH is furnished Complete with 100 Ampere Round Receptacle, BRA100. See note below†
Type BRHA is furnished Complete with 100 Ampere Round Receptacle, BRA100. See note below†

These Condulets are designed for storage battery charging, and are particularly intended for railroad cars and electric vehicles.

Two styles are made, one having swivel pedestal support and the other the M. C. B. standard bracket.

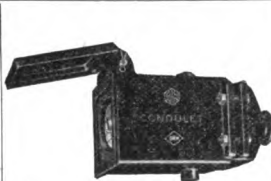
The receptacles furnished with these Condulets are of two types—rectangular and round. These receptacles are interchangeable in the different housings. The rectangular receptacle and plug are designed for extra heavy duty. The round receptacle and plug are so designed as to overcome the defects which have heretofore existed in receptacles and plugs of this design.

The designs of the plugs are such as to prevent a short circuit or reversal of polarity.


TYPE BRHS CONDULET

Complete with Housing, Receptacle and Swivel Pedestal

Cat. No.	BRHS100
Std. Pkg.	10
Ship. Wt. Std. Pkg.	190 lbs.
List Price, each ..	\$14.50


TYPE BRH CONDULET

Housing and Receptacle only for M. C. B. Bracket

Cat. No.	BRH100
Std. Pkg.	10
Ship. Wt. Std. Pkg.	155 lbs.
List Price, each ..	\$15.00


TYPE BRHA CONDULET

Complete with Housing, Receptacle and M. C. B. Bracket

Cat. No.	BRHA100
Std. Pkg.	10
Ship. Wt. Std. Pkg.	220 lbs.
List Price, each ..	\$20.00

RECEPTACLES FOR BATTERY AND YARD CHARGING CONDULETS—100 Ampere Capacity


Type BR, Rectangular	Type BRA, Round
BR100	.... Cat. No.
10	.... Std. Pkg.
70 lbs.	Ship. Wt. Std. Pkg.
\$7.75	.. List Price, each ..

BRA100	10
80 lbs.	
\$10.50	


PLUGS FOR BATTERY CHARGING CONDULETS—100 Ampere Capacity


Type BP, Rectangular	Type BPA, Round
BP100	.... Cat. No.
10	.... Std. Pkg.
55 lbs.	Ship. Wt. Std. Pkg.
\$12.00	.. List Price, each ..

BPA100	10
55 lbs.	
\$9.50	



*Type BRHS Condulet is regularly furnished with rectangular receptacle BR100, requiring the use of rectangular plug BP100, but if specifically ordered, round receptacle BRA100, requiring the use of round plug BPA100 or M. C. B. standard plug, will be furnished, at an advance of \$2.75 in the list price.

†Types BRH and BRHA Condulets are regularly furnished with round receptacle BRA100, requiring the use of round plug BPA100 or M. C. B. standard plug, but if specifically ordered, rectangular receptacle BR100, requiring the use of rectangular plug BP100, will be furnished, at a reduction of \$2.75 in the list price.

Finishes: Black enamel is the standard finish for Condulets and plug handles, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets and plug handles will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

Black enameled and galvanized Condulets or plugs of the same type may be assorted to make up a standard package.

TYPE YQ CONDULETS

For 2 or 3-Pole Plug Receptacles and 2 or 3-Wire Cartridge or Plug Fuse Cut-outs

**Furnished Complete with Crouse-Hinds Plug Receptacle and Crouse-Hinds Cut-out,
but without Plug or Fuses**



Type YQ

(Broken-away View)
Showing Cut-out PE52E and Receptacle RYQ302 Mounted, also
Plug RQ303 and Padlock
Plug and Padlock are not included in List Prices for Condulets

These Condulets provide a housing for a combination of plug receptacle and cut-out.

They are particularly suited for use in shops having portable tools, also in garages, laundries, railroad yards, etc. They are weather-proof and, therefore, can be installed either indoors or outdoors.

Two types of N. E. C. cut-outs are furnished—cartridge and plug. The cartridge type can be used on circuits up to 30 amperes, 250 volts, and the plug type on circuits up to 30 amperes, 125 volts.

The door over the cut-out is provided with a spring catch and can be locked with a padlock if desired. The door covering the plug opening is rabbetted and is kept closed by a plunger spring, when the plug is not in place, thus preventing the entrance of dust, moisture and insects.

TYPE YQ CONDULETS—Black Enamel Finish

Complete with		Crouse-Hinds Plug Receptacle and 30 Amp., 250 Volt N. E. C. Cartridge Fuse Cut-out, but without Fuses			Crouse-Hinds Plug Receptacle and 30 Amp., 125 Volt N. E. C. Plug Fuse Cut-out, but without Fuses		
Style of Cut-out	Size in inches	1/2	3/4	1	1/2	3/4	1
2-wire	Catalogue No...	YQ1302E	YQ2302E	YQ3302E	YQ1302P	YQ2302P	YQ3302P
	Std. Pkg.....	10	10	10	10	10	10
	Wt. Std. Pkg....	260 lbs.	265 lbs.	270 lbs.	275 lbs.	280 lbs.	290 lbs.
	List Price, each.	\$15.85	\$16.00	\$16.15	\$15.85	\$16.00	\$16.15
3-wire	Catalogue No...	YQ1303E	YQ2303E	YQ3303E	YQ1303P	YQ2303P	YQ3303P
	Std. Pkg.....	10	10	10	10	10	10
	Wt. Std. Pkg....	300 lbs.	305 lbs.	310 lbs.	315 lbs.	320 lbs.	325 lbs.
	List Price, each.	\$18.75	\$19.00	\$19.25	\$18.75	\$19.00	\$19.25

N. E. C. CUT-OUTS FOR TYPE YQ CONDULETS



For 30 Ampere, 250 Volt Cartridge Fuses		For 30 Ampere, 125 Volt Plug Fuses	
2-wire	3-wire	2-wire	3-wire
PE52E	PE53E	PE52P	PE53P
10	10	10	10
25 lbs.	30 lbs.	30 lbs.	35 lbs.
\$2.85	\$3.85	\$2.85	\$3.85
..Catalogue No..		..Catalogue No..	
Standard Package		Standard Package	
Weight Std. Pkg.		Weight Std. Pkg.	
..List Price, each.		..List Price, each.	



TYPE RYQ PLUG RECEPTACLES—30 Amp. Capacity



For Type YQ Condulets		
2-pole	250 Volts	3-pole
RYQ302	..Catalogue No..	RYQ303
10	Standard Package	10
20 lbs.	Weight Std. Pkg.	25 lbs.
\$2.50	..List Price, each.	\$3.50



TYPE RQ PLUGS—30 Ampere Capacity



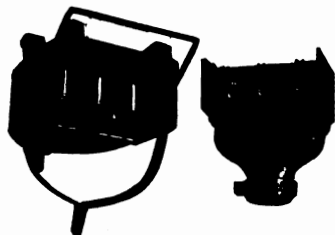
For Types RQH, RQK and RYQ Receptacles		
2-Pole	3-Pole	
RQ302	Catalogue Number	RQ303
25	Standard Package	25
60 lbs.	Weight Std. Pkg..	70 lbs.
\$3.50	..List Price, each..	\$5.00



(Cross Reference Page 167)

CONDULETS
TYPE MD

Generator or Motor Disconnecter for Car Service



Type MD

Type MD Condulet provides an easily operated mechanical means for connecting and disconnecting wires leading from the generator to the regulator or from the controller to the motor. The receptacle part fastens to the car body, while the cables from the generator or motor are attached to the plug. The plug is pulled into the receptacle by a lever, and contact can be broken only by operating this lever, which is provided with a device to lock it in closed position.

All current carrying parts are thoroughly insulated and the whole device is constructed to withstand the severe usage of railroad work.

One of the principal advantages of type MD Condulet is that it prevents incorrect connections being made when the trucks are replaced after having been removed from the car for repairs. Another feature is that the electrical connections can be instantly disconnected without the use of tools or the removing of any parts which might become lost. The connections can be made or broken by car men, without the services of an electrician.



TYPE MD CONDULETS—200 Ampere Capacity

Style.....	3-pole—250 Volts			4-pole—600 Volts		
Size in inches..	1	1¼	1½	1	1¼	1½
Catalogue No..	MD3	MD4	MD5	MD346	MD446	MD546
Standard Pkg..	10	10	10	10	10	10
Wt. Std. Pkg..	220 lbs.	230 lbs.	240 lbs.	On request	On request	On request
List Price, ea..	\$25.50	\$25.75	\$26.00			

CONDULETS—HN SERIES

TYPES HNBS, HNBA, HNBS AND HNAA

Illuminated House Number

Take any Incandescent Lamp with Dimensions not Exceeding 2-1/8 x 4-5/8 Inches
Furnished with Ground Glass Front and Back, Separable Swivel Hub and Lamp Receptacle

These Condulets show a luminous house number and, when properly located, the lamp will also illuminate the steps and door.

Two styles of separable swivel hubs are made, one being straight and the other with a 90-degree turn, and they are interchangeable on any of these Condulets.

The front glass will be furnished with any numbers or letters desired, not exceeding five characters, at a charge of \$.25, list, per character.

Type HNBS
(Front View)Type HNAA
(Broken-away Rear View)

RIGHT-HAND CONDULETS

LEFT-HAND CONDULETS

HNBS	HNBA	Type	HNAS	HNAA
Straight	90°	Style of Hub	Straight	90°
1/2	1/2	.... Size in inches.	1/2	1/2
HNBS1	HNBA1	... Catalogue Number ..	HNAS1	HNAA1
15	15	... Standard Package ...	15	15
90 lbs.	100 lbs.	... Ship. Wt. Std. Pkg. ...	90 lbs.	100 lbs.
\$6.00	\$6.00	... List Price, each ...	\$6.00	\$6.00

For finishes and assortments, see note on page 167. Condulet reducers are listed on page 171.

(Cross Reference Page 169)

Reference to Page 171 is to Condulet page in main part of catalogue.

"SQUARE D" STEEL ENCLOSED SWITCHES



Fig. 3. No. 5342, 3 Pole, 60 Amp., 500 Volts, A.C. Showing Detachable End Plates, The Quick-break Mechanism in These Switches Insures All Blades Opening at the Same Time.

Description

"Square D" Steel Enclosed Switches are designed for use in connection with installations whenever it is desirable to completely enclose all terminal wires and live parts for the advancement of "Safety First" principles, standardisation of equipment, the prevention of tampering with circuits and the elimination of accident hazards.

SAFETY

The switch and cutout unit are completely enclosed in a sheet steel box provided with a hinged cover which is held closed with a simple spring catch. The switch is operated by a crank handle located outside the box. The switch may be locked in the "off" position to prevent accidents while repairs are made on apparatus controlled by the switch, or may be locked in the "on" position permanently, if it is desired that the apparatus be not used.

Means are also provided to seal the cover shut to prevent unauthorized persons over-using the switch or tampering with live connections.

All "Square D" Steel Enclosed Fused Switches of over 30 ampere capacity for circuits of more than 250 volts are of the quick break type, and are designed for the use of enclosed fuses—Edison Plug type for 125 volt switches and National Electrical Code Standard Cartridge Fuses for 250 volts A.C. or D.C., 500 volts A.C. and 600 volts A.C. or D.C. Spacings for live metal parts are as given in the National Electrical Code.

CONVENIENCE

Removable and interchangeable end plates are provided.

These plates are furnished blank, with knockouts, or with porcelain outlet covers, according to installation requirements. Convenient knockouts are furnished in sides of boxes.

All boxes are designed so that ample wiring space is provided inside to make the necessary connections.

"Square D" Cabinets are constructed of sheet steel.

Corners are electrically welded.

The crossbar attached to switch blades is of steel, heavily insulated, and will not warp or bend.

Switch and cutout unit is mounted complete within the box, ready for immediate installation.

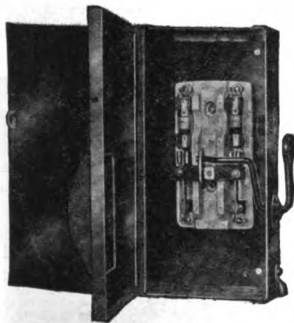


Fig. 5. No. 5351



Fig. 4. Nos. 5211E and 5251X. Switch "Locked Off"

"Square D" Steel Enclosed and Service Switches

BEAR UNDERWRITERS' FIRE AND ACCIDENT LABEL

The Underwriters' Laboratories, Inc., have inaugurated a new label service called the Casualty Label Service. The most prominent casualty insurance companies who insure under employers' liability and workmen's compensation acts, are subscribers to the merit classification service and accident prevention inspection of the Workmen's Compensation Service Bureau.

Devices labeled with the Underwriters' Fire and Accident label are not subject to charge under the analytic schedule of the Workmen's Compensation Service Bureau, but devices without this label may be responsible for a much higher rate.

The factory has been manufacturing enclosed electrical switches and motor starters for several years. It has always advocated the complete housing of all live metal parts in electrical installations, realising the danger of exposed live parts, both from fire and accident standpoints. When it learned that the Underwriters' Laboratories, working together with the Workmen's Compensation Service Bureau, were to inaugurate this new label service, it at once submitted its devices for examination and approval.

After several months' severe examination and tests, it was given permission, in May, 1915, to use the new fire and accident label on its enclosed electrical switches. Its switches were the first to be given this "safety" label privilege.

The labels are serially numbered. No. 1 was issued to that company. Their products now bearing the Underwriters' Fire and Accident label are "Square D" Steel Enclosed Service Switches, Ironclad Induction Motor Starters and Ironclad Switches.

This significant action on the part of the Underwriters' Laboratories shows to what extent they regard the importance of enclosing all live metal parts of electrical installations.

"SQUARE D" STEEL ENCLOSED SERVICE SWITCHES and Distributing Cabinets

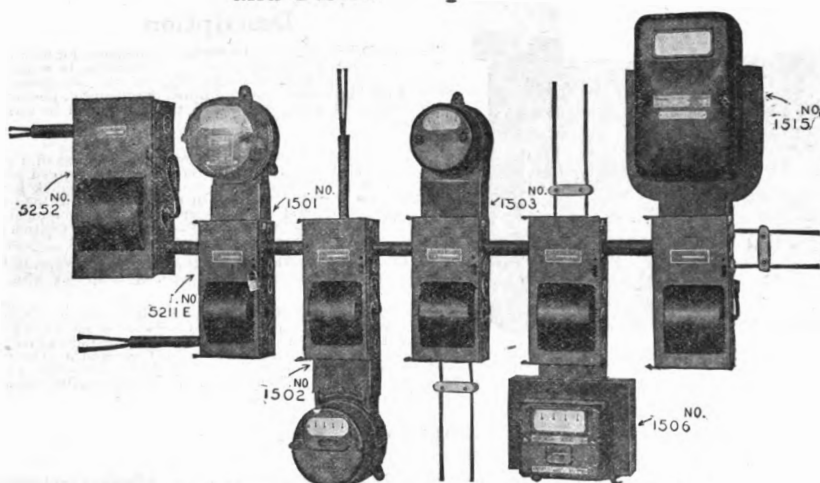


Fig. 1. Gang Assembly of Unit Installations Showing the Flexibility of the "Square D" Steel Enclosed Service Switches

"Square D" Steel Enclosed Service Switches

"Square D" Steel Enclosed Service Switches and Distributing Cabinets are designed for service entrance installations wherever it is desirable to completely enclose all terminal wires and live parts for the advancement of Safety First principles, standardization of equipment, the prevention of tampering with circuits, the elimination of fire and accident hazards and to control non-payment consumers' supply without disconnections or removal of meters.

The patent "Lock Off" device enables the service company to make permanent installations of service entrance units. When cabinet and meter are connected with "Square D" meter protective trim, it is unnecessary to remove meter or disconnect when service is discontinued—placing switch in "off" position and locking door of cabinet prevents use of current by unauthorized persons.

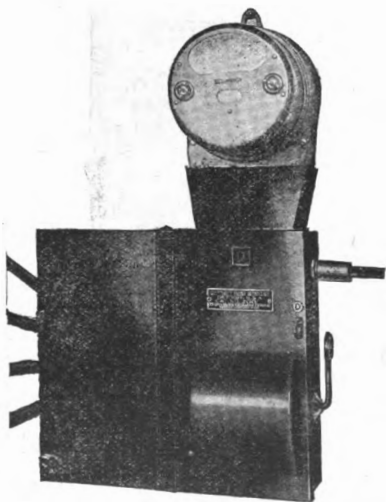


Fig. 11. Nos. 2001, 2002, 2011, 2021, 2031, 2041, 2051, 2052. Showing Permanent Unit Installation of Double Compartment Cabinet with Switch Compartment Sealed Shut

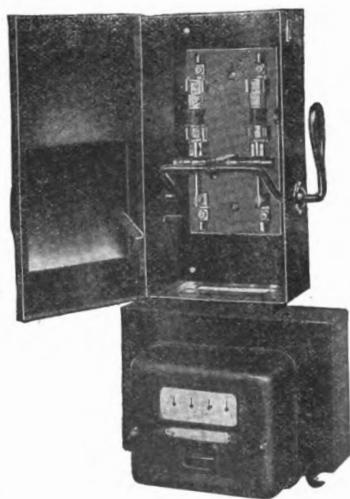


Fig. 8. No. 5252 Open. Showing Quick-make, Quick-break Switch Mechanism

Double Compartment Boxes

The "Square D" line also includes double compartment boxes in 30 amperes, 125-250 volt sizes, 2, 3 and 4 circuits, with switch in one side and branch cutouts in the other.

"Square D" Enclosed Switches are built in 2, 3 and 4 pole types in standard voltages of 125, 250, 500 A.C. and 600 volt and in capacities up to and including 200 amperes.

Supply B-54

"SQUARE D" STEEL ENCLOSED SWITCHES and Steel Enclosed Service Switches

"Square D" boxes are made with openings at each end in which end plates are to be inserted to meet any desired wiring requirements and it is necessary to order end plates with each box to have the device complete.

All "Square D" Steel Enclosed Switches and end plates are divided into three classes, A, B and C, according to the depth of boxes in which switch and cutout are mounted.

Class A boxes are 3 inches deep and end plates to fit ends of Class A boxes are listed as Class A end plates.

Class B boxes are 4 inches deep and end plates to fit ends of Class B boxes are listed as Class B end plates.

Class C boxes are 5 inches deep and end plates to fit ends of Class C boxes are listed as Class C end plates.

When ordering switches be sure to specify the list numbers of end plates wanted. If end plates are not specified and unless definite instructions are given NOT to furnish switches complete with end plates we will ship and bill end plates suitable for use with switches ordered.

125 VOLTS

For Edison Plug Fuses at Top

List No.		Amperes	Depth of Box	End Plates to Fit	Weight	List Price Each
5211E	Double pole.....	30	3 ins.	Class A	5½ lbs.	\$3.50
5211B	Double pole.....	30	3 ins.	Class A	6 lbs.	3.70
5311E	Triple pole.....	30	3 ins.	Class A	7 lbs.	5.85
5311B	Triple pole.....	30	3 ins.	Class A	8½ lbs.	6.30
5411E	Four pole.....	30	3 ins.	Class A	11 lbs.	7.30
5411B	Four pole.....	30	3 ins.	Class A	12 lbs.	7.65

*With single branch connections at top of cutout base.

250 VOLTS

For N. E. C. S. Fuses at Top

5251X	Double pole.....	30	3 ins.	Class A	6 lbs.	\$3.95
5252	Double pole.....	60	4 ins.	Class B	11¾ lbs.	10.45
5253	Double pole.....	100	4 ins.	Class B	21¾ lbs.	16.65
5254	Double pole.....	200	5 ins.	Class C	41 lbs.	27.20
5351X	Triple pole.....	30	3 ins.	Class A	8 lbs.	6.85
5352	Triple pole.....	60	4 ins.	Class B	20 lbs.	14.05
5353	Triple pole.....	100	4 ins.	Class B	30 lbs.	21.60
5354	Triple pole.....	200	5 ins.	Class C	58 lbs.	37.50
5451X	Four pole.....	30	3 ins.	Class A	12 lbs.	8.30
5452	Four pole.....	60	4 ins.	Class B	25 lbs.	18.70
5453	Four pole.....	100	5 ins.	Class C	51 lbs.	31.70

500 VOLTS A.C.

For N. E. C. S. Fuses at Top

5341	Triple pole.....	30	4 ins.	Class B	22 lbs.	\$13.70
5342	Triple pole.....	60	4 ins.	Class B	23 lbs.	15.30
5343	Triple pole.....	100	4 ins.	Class B	32¼ lbs.	23.20
5344	Triple pole.....	200	5 ins.	Class C	56 lbs.	39.50
5441	Four pole.....	30	4 ins.	Class B	32 lbs.	18.20
5442	Four pole.....	60	4 ins.	Class B	33 lbs.	20.50
5443	Four pole.....	100	5 ins.	Class C	56 lbs.	34.00

600 VOLTS

For N. E. C. S. Fuses at Top

5261	Double pole.....	30	4 ins.	Class B	21 lbs.	\$13.50
5262	Double pole.....	60	4 ins.	Class B	21 lbs.	14.50
5263	Double pole.....	100	5 ins.	Class C	42 lbs.	23.30
5264	Double pole.....	200	5 ins.	Class C	62 lbs.	36.55
5361	Triple pole.....	30	4 ins.	Class B	30 lbs.	17.46
5362	Triple pole.....	60	4 ins.	Class B	30 lbs.	19.00
5363	Triple pole.....	100	5 ins.	Class C	67 lbs.	31.50
5364	Triple pole.....	200	5 ins.	Class C	95 lbs.	50.85
5461	Four pole.....	30	4 ins.	Class B	37 lbs.	25.00
5462	Four pole.....	60	4 ins.	Class B	40 lbs.	27.20
5463	Four pole.....	100	5 ins.	Class C	83 lbs.	41.40

Priees do not include fuses or end plates. Ground wire lug for grounding switch box furnished as part of regular equipment without charge.

STANDARD END PLATES

DETACHABLE AND INTERCHANGEABLE

End plates listed are divided into three classes, A, B and C, according to depth of "Square D" boxes for which they are designed.

Class A end plates are for use with Class A boxes (3 inches deep).

Class B end plates are for use with Class B boxes (4 inches deep).

Class C end plates are for use with Class C boxes (5 inches deep).

End plates for use in end openings of the "Square D" steel enclosed switch boxes are furnished as listed below; blank, or with knockouts for use with rigid conduit, or with multiple hole porcelain outlet covers for open wiring installations.



No. 1800



No. 1801



No. 1923



No. 1924



No. 1925

Class A End Plates

For Use with Class A Boxes (3 Inches Deep)

List No.	Description	Carton Quantity	Wt. Carton Quantity	List Price Each
1800	Blank	10	2 1/2 lbs.	\$0.10
1801	3 Knockouts for 1/2 in. conduit	10	2 1/2 lbs.	.10

Class A end plates are of sheet steel 4 1/2 inches long by 3 inches wide.

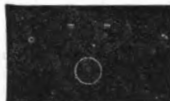
Open Wiring End Plates with Porcelain Outlet Covers

For Use with Class A Boxes (3 Inches Deep)

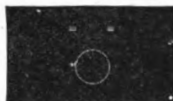
List No.	Description	Holes in Porcelain Number	Porcelain Diameter	Carton Quantity	Wt. Carton Quantity	List Price Each
1923	Open wiring	2	1/2 in.	10	3 lbs.	\$0.20
1924	Open wiring	3	1/2 in.	10	3 lbs.	.20
1925	Open wiring	4	1/2 in.	10	3 lbs.	.20
1926	Open wiring	5	1/2 in.	10	3 lbs.	.20
1939	Open wiring	2	3/8 in.	10	3 lbs.	.20
1940	Open wiring	3	3/8 in.	10	3 lbs.	.20
1941	Open wiring	4	3/8 in.	10	3 lbs.	.20
1942	Open wiring	5	3/8 in.	10	3 lbs.	.20

Class A open wiring end plates are 4 1/2 inches long by 3 inches wide.

All end plates listed under Class A will fit the opening in either end of Class A boxes (3 inches deep).



No. 1802



No. 1803



No. 1804



No. 1805

Class B End Plates

For Use with Class B Boxes (4 Inches Deep)

List No.	Description	Carton Quantity	Wt. Carton Quantity	List Price Each
1802	1 Knockout for 1/2 in. conduit	5	3 1/4 lbs.	\$0.28
1803	1 Knockout for 1 in. conduit	5	3 1/4 lbs.	.28
1804	1 Knockout for 1 1/2 in. conduit	5	3 1/4 lbs.	.28
1805	1 Knockout for 2 in. conduit	5	3 1/4 lbs.	.28
1806	Blank	5	3 1/4 lbs.	.28
1814	Adapter end plate	5	1 1/2 lbs.	.22

Class B end plates are of sheet steel 6 1/4 inches long by 4 inches wide.

Above Class B end plates are furnished with screws to provide perfect ground connection between end plate and box.



No. 1927



No. 1932



No. 1937

Open Wiring End Plates with Porcelain Outlet Covers

For Use with Class B Boxes (4 Inches Deep)

List No.	Holes in Porcelain Number	Diameter	Carton Quantity	Wt. Carton Quantity	List Price Each
1927	2	1/2 in.	5	4 lbs.	\$0.53
1928	3	1/2 in.	5	4 lbs.	.53
1929	4	1/2 in.	5	4 lbs.	.53
1930	5	1/2 in.	5	4 lbs.	.53
1931	2	3/8 in.	5	4 lbs.	.53
1932	3	3/8 in.	5	4 lbs.	.53
1933	4	3/8 in.	5	4 lbs.	.53
1934	1	1/2 in.	5	4 lbs.	.53
1935	2	1/2 in.	5	4 lbs.	.53
1936	3	1/2 in.	5	4 lbs.	.53
1937	4	1/2 in.	5	4 lbs.	.53
1938	1	3/8 in.	5	4 lbs.	.53

Class B end plates are 6 1/4 inches long by 4 inches wide.

All end plates listed under Class B will fit openings in either end of Class B Boxes (4 inches deep).

STANDARD END PLATES AND ACCESSORIES



No. 1812



No. 1813



No. 1953



No. 1954

Class C End Plates

For Use with Class C Boxes (5 Inches Deep)

List No.	Description	Carton Quantity	Weight Carton Quantity	List Price Each
1812	1 knockout for 1½ ins. conduit	5	4¾ lbs.	\$0.46
1813	1 knockout for 2 ins. conduit	5	4¾ lbs.	.46

Class C end plates are of sheet steel 8¼ inches long by 5 inches wide.

Above Class C end plates are furnished with screws to provide perfect ground connection between end plate and box.

Open Wiring End Plates with Porcelain Covers

For Use with Class C Boxes (5 Inches Deep)

List No.	Holes in Porcelain	Carton Quantity	Weight Carton Quantity	List Price Each
No.	Diameter			
1953	2	5	5½ lbs.	\$0.72
1954	3	5	5½ lbs.	.72
1955	4	5	5½ lbs.	.72
1956	{ 1 4	{ 5	{ 5½ lbs.	{ .72
1957	2	5	7 lbs.	.98
1958	3	5	7 lbs.	.98

Class C end plates are 8¼ inches long by 5 inches wide.

All end plates listed under Class C will fit the openings in either end of Class C boxes (5 inches deep).

Porcelain Bushings

For Use in Conduit Knockout Openings



Illustration Shows Comparative Size of Bushings for Use with "Square D" Boxes. Reversed Bushing at Left Shows How Spring Wire Clamp Is Attached

List No.	Diameter Wire Hole	Outside Diameter of Shank	Equivalent Trade Size Conduit	Carton Quantity	Std. Pkg. Quantity	Wt. Std. Pkg.	List Price per C
399B	½ in.	½ in.	½ in.	50	250	12¼ lbs.	\$2.80
399C	¾ in.	¾ in.	¾ in.	50	250	12¼ lbs.	2.80
399D	1 in.	1 in.	1 in.	25	150	6 lbs.	4.50
399E	1¼ in.	1¼ in.	1¼ in.	25	150	6 lbs.	4.50
399F	1½ in.	1½ in.	1½ in.	25	100	6 lbs.	6.00
399G	1¾ in.	1¾ in.	1¾ in.	25	50	5 lbs.	7.40

Porcelain bushings listed above are designed particularly for use with "Square D" steel enclosed switch boxes. They may be used, however, to an advantage in any sheet steel cabinet made of metal of the same thickness where proper openings are provided.

Price includes spring wire clamp with each bushing.

Steel Seals

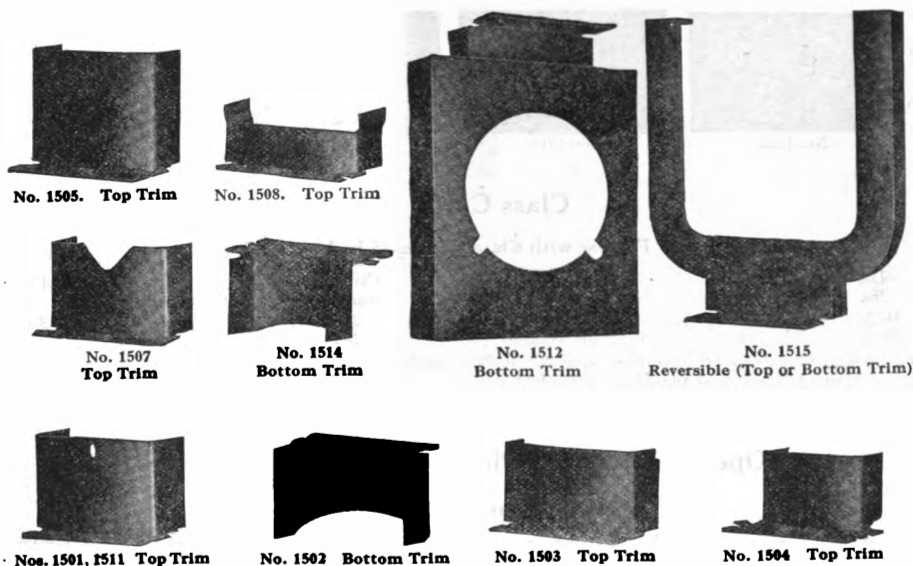
For Closing Unused Holes for Conduit

List No.	Diameter Opening	To Slip Conduit Size	Std. Pkg. Quantity	Wt. Std. Pkg.	Carton Quantity	List Price per C
1901	¾ in.	¾ in.	200	5¼ lbs.	100	\$3.30
1902	1 in.	1 in.	200	7 lbs.	100	4.85
1908	1¼ in.	1¼ in.	200	9¼ lbs.	100	6.50

Seals are made of 16 gauge sheet steel and furnished with cotter pin.

Railway Material

METER PROTECTIVE TRIMS AND ADAPTER END PLATE



Meter Protective Trims

Trims listed as top trims are for use at top of "Square D" boxes. Those listed as bottom trims are for use at bottom of boxes. Reversible trims may be used at either top or bottom.

Ordinarily top trims are used at top of boxes with bottom connected meters and bottom trims at bottom of boxes with top connected meters.

List No. 1512 is a bottom trim for use with G. E. Type 1-14 or F. W. Type K-5 meters. These meters are both bottom connected and List No. 1512 trim is so designed that these bottom connected meters may be used at bottom of the box to meet special requirements.

All meter trims are made of sheet steel except List Nos. 1515 and 1516 which are of non-magnetic metal. List Nos. 1515 and 1516 are for use with high capacity direct current meters which are affected by stray magnetic fields.

If trims are required for types of meters not mentioned, quotations will be furnished on request.

All meter protective trims listed are for use with Class A boxes (3 inches deep), and when Adapter End Plate List No. 1814 is used, with Class B boxes (4 inches deep).

List No.	Meter Description	Weight Each	List Price Each
1501	Type O. A. (West.) single phase, 5-10 ampere, 2 and 3 wire, top trim	$\frac{1}{2}$ lb.	\$0.47
1502	Type C (West.) single phase, 20 ampere, 2 wire, bottom trim	$\frac{1}{2}$ lb.	.47
1503	Type 1-14 (G. E.) single phase, 5-25 ampere, 2 and 3 wire, top trim	$\frac{1}{2}$ lb.	.47
1503	Type K-5 (Ft. W.) single phase, below 50 ampere, 2 and 3 wire, top trim	$\frac{1}{2}$ lb.	.47
1504	Type 1-10 (G. E.) single phase, 5-25 ampere, 2 wire, 5-15 ampere, 2 and 3 wire, top trim	$\frac{1}{2}$ lb.	.47
1505	Type H New Model (Sang.) single phase, 5-25 ampere, top trim	$\frac{1}{2}$ lb.	.47
1506	Type I (G. E.) single phase, 3-25 ampere, 2 and 3 wire, reversible (top or bottom trim)	$\frac{1}{2}$ lb.	.47
1507	Type K-4 Form S. A. A. (Ft. W.) single phase, 5-25 ampere, 2 wire; 5-15 ampere, 2 and 3 wire, top trim	$1\frac{1}{4}$ lbs.	1.15
1508	Type 1-9 (Can. G. E.) Induction Meter, 3-25 ampere, 50-75 ampere, 2 and 3 wire, top trim	$\frac{1}{2}$ lb.	.47
1510	Type 1 (G. E.) single phase, 50-75 ampere, 2 and 3 wire, reversible (top or bottom trim)	$2\frac{1}{2}$ lbs.	1.42
1511	Type O. A. (West.) single phase, 5-10 ampere, 15-80 ampere, 2 and 3 wire, top trim	$\frac{1}{2}$ lb.	.47
1512	Type 1-14 (G. E.) single phase, 5-25 ampere, 2 and 3 wire, bottom trim	$\frac{1}{2}$ lb.	1.17
1512	Type K-5 (Ft. W.) single phase, below 50 ampere, 2 and 3 wire, bottom trim	$2\frac{1}{4}$ lbs.	1.17
1513	Type D-3 (G. E.) Polyphase, up to 75 ampere, reversible (top or bottom)	$3\frac{3}{4}$ lbs.	1.75
1514	Type K-3 Form S. B. A. (Ft. W.) single phase, 5-50 ampere, bottom trim	$\frac{1}{2}$ lb.	.47
1515	Type C-6 (G. E.) D.C. Watthour, 5-50 ampere, 2 and 3 wire, reversible (top or bottom trim)	$1\frac{1}{4}$ lbs.	1.65
1516	Type C-7 (G. E.) D.C. Watthour, 5-50 ampere, 2 wire, reversible (top or bottom trim)	2 lbs.	2.25



No. 1814

Adapter End Plate

List No. 1814 is an adapter end plate for use in reducing the size of openings in ends of Class E boxes (4 inches deep), so that any of the meter protective trims listed may be used with Class B boxes

List No.	Carton Quantity	Wt. Carton	List Price Each
1814	5	$1\frac{1}{4}$ lbs.	\$0.25

STEEL SERVICE SWITCHES AND DISTRIBUTING CABINETS

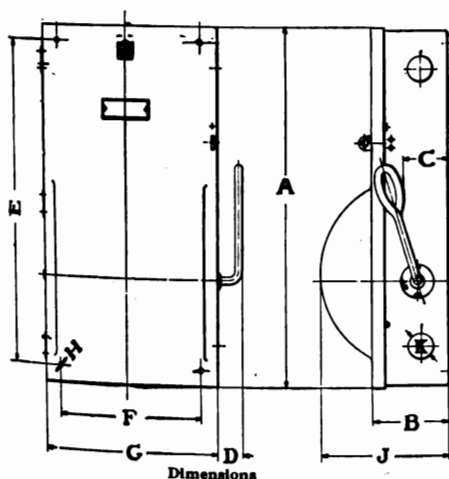
FOR 2, 3 AND 4 BRANCH CIRCUITS

Double Compartment Boxes

—Switch Compartment— 2 Pole 30 Ampere Main Switch				—Branch Circuit Compartment— 2 Pole Branch Cutouts				Wt.	List Price Each
List No.	Volts	Type Fuse	No. Branch Circuit	No. Cutouts	Volts	Style	Type Fuse		
2001	125	Ed. Plug	2	1	125	Double Branch	Ed. Plug	10 lbs.	\$5.85
2002	125	Ed. Plug	3	1	125	Single Branch	Ed. Plug	11½ lbs.	6.85
2003	125	Ed. Plug	4	2	125	Double Branch	Ed. Plug	12½ lbs.	7.75
2011	250	Cartridge	2	1	250	Double Branch	Cartridge	11½ lbs.	8.30
2012	250	Cartridge	3	3	250	Single Branch	Cartridge	12½ lbs.	10.10
2013	250	Cartridge	4	2	250	Double Branch	Cartridge	14½ lbs.	11.05
2021	250	Cartridge	2	1	125	3-2 Double Branch	Ed. Plug	10½ lbs.	7.30
2023	250	Cartridge	4	2	125	3-2 Double Branch	Ed. Plug	13 lbs.	9.20
2031	250	Cartridge	2	1	250	3-2 Double Branch	Cartridge	13½ lbs.	9.20
2033	250	Cartridge	4	2	250	3-2 Double Branch	Cartridge	15½ lbs.	11.05
2041	125	Ed. Plug	2	1	125	3-2 Double Branch	Ed. Plug	10 lbs.	6.85
2043	125	Ed. Plug	4	2	125	3-2 Double Branch	Ed. Plug	13 lbs.	8.75
2051	250	Cartridge	2	1	125	Double Branch	Ed. Plug	10½ lbs.	6.85
2052	250	Cartridge	3	3	125	Single Branch	Ed. Plug	11½ lbs.	7.75
2053	250	Cartridge	4	2	125	Double Branch	Ed. Plug	13 lbs.	8.75

List Nos. 2001 to 2053 inclusive, "Square D" Steel Enclosed Service Switches and Distributing Cabinets are Class A Boxes (3 inches deep), and use Class A End Plates.

Prices do not include fuses, end plates or meter trims. Ground wire lug for grounding switch box furnished as part of regular equipment without charge.



Dimensions of "Square D" Steel Inclosed Service Switches and Distributing Cabinets

TWO COMPARTMENT BOXES THREE INCHES DEEP INSIDE

List No.	A	B	C	D	E	F	G	H	J
2001	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2002	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2003	10H	3½	2	¾	8¾	12H	14½	¾	4¾
2011	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2012	10H	3½	2	¾	8¾	12H	14½	¾	4¾
2013	10H	3½	2	¾	8¾	12H	14½	¾	4¾
2021	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2023	10H	3½	2	¾	8¾	12H	14½	¾	4¾
2031	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2033	10H	3½	2	¾	8¾	12H	14½	¾	4¾
2041	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2043	10H	3½	2	¾	8¾	12H	14½	¾	4¾
2051	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2052	10H	3½	2	¾	8¾	9H	11½	¾	4¾
2053	10H	3½	2	¾	8¾	12H	14½	¾	4¾

SWITCHES 4 INCHES DEEP INSIDE

List No.	A	B	C	D	E	F	G	H	J	K
5252	14½	4½	2	1½	12½	5½	7	¾	5½	1½
5253	19	4½	2	1½	17½	8½	10	¾	7	1½
5261	19	4½	2	1½	17½	8½	10	¾	7	1½
5262	19	4½	2	1½	17½	8½	10	¾	7	1½
5263	19	4½	2	1½	17½	8½	10	¾	7	1½
5291	16½	4½	2	1½	15	10½	12	¾	6	1½
5342	16½	4½	2	1½	15	10½	12	¾	6	1½
5343	21½	4½	2	1½	15	10½	12	¾	6	1½
5352	16½	4½	2	1½	15	10½	12	¾	6	1½
List No.	A	B	C	D	E	F	G	H	J	K
5353	21½	4½	2	1½	15	10½	12	¾	6	1½
5361	19	4½	2	1½	17½	8½	10	¾	7	1½
5362	19	4½	2	1½	17½	8½	10	¾	7	1½
5411	19	4½	2	1½	17½	8½	10	¾	7	1½
5442	19	4½	2	1½	17½	8½	10	¾	7	1½
5452	19	4½	2	1½	17½	8½	10	¾	7	1½
5461	19	4½	2	1½	17½	8½	10	¾	7	1½
5462	19	4½	2	1½	17½	8½	10	¾	7	1½

SWITCHES 3 INCHES DEEP INSIDE

List No.	A	B	C	D	E	F	G	H	J
5211B	10H	3½	2	¾	8¾	3½	5½	¾	4¾
5211E	10H	3½	2	¾	8¾	3½	5½	¾	4¾
5251X	10H	3½	2	¾	8¾	3½	5½	¾	4¾
5811B	10H	3½	2	¾	8¾	3½	5½	¾	4¾
5811E	10H	3½	2	¾	8¾	3½	5½	¾	4¾
5351X	10H	3½	2	¾	8¾	3½	5½	¾	4¾
5411E	10H	3½	2	¾	8¾	3½	5½	¾	4¾
5451X	10H	3½	2	¾	8¾	3½	5½	¾	4¾

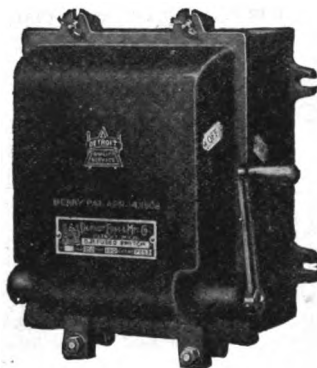
SWITCHES 5 INCHES DEEP INSIDE

List No.	A	B	C	D	E	F	G	H	J	K
5254	25½	5½	4	1½	23½	9½	11	¾	8¾	1½
5263	25½	5½	4	1½	23½	9½	11	¾	8¾	1½
5264	31	5½	3½	1½	29	11½	13	¾	11	1½
5344	25½	5½	4	1½	23½	15	17	¾	8¾	1½
5354	25½	5½	4	1½	23½	15	17	¾	8¾	1½
5363	25½	5½	4	1½	23½	15	17	¾	8¾	1½
5364	31	5½	3½	1½	29	11½	13	¾	11	1½
5443	25½	5½	4	1½	23½	15	17	¾	8¾	1½
5453	25½	5½	4	1½	23½	15	17	¾	8¾	1½
5463	31	5½	3½	1½	29	11½	13	¾	11	1½

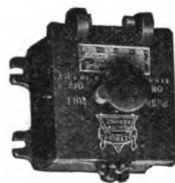
"SQUARE D" IRONCLAD FUSED SWITCHES



No. 7251
Plunger Type



No. 7253
Side Lever Type



No. 7351
Plunger Type

Standard Type

The desirability and necessity of practical accident prevention in the electrical field is now recognized by all industries. To prevent accidents has been proven good business policy.

"Square D" Ironclad Fused Switches are designed to eliminate accidents to employees, and to protect the equipment with which these devices are used.

The switches may be sealed shut to protect them against tampering or the possible use of fuses of too large capacity.

"Square D" Ironclad Fused Switches are non-hazardous. All live parts are enclosed in a cast-iron box and the mechanism is operated from outside the box by a handle.

The switch mechanism is of the quick make and quick break type. When closed, a gasket in the lid makes the box fire and fume-proof—installations may be made where exposed to water, steam, fumes or dust, without injury to the vital parts of the switch.

To replace fuses the cover is opened and the entire mechanism to which the fuses are attached swings out and away from the live parts. The fuse connections are absolutely dead and accidental contact with live parts when replacing fuses is impossible.

"Square D" Ironclad Fused Switches have proved in actual service to be positive insurance against accidents—they have enabled manufacturers to maintain production schedules by insuring minimum loss from costly shut-downs through injury to employees or machines—they have reduced the cost of fuse replacements, standardized equipment, and because of their rugged construction will outlast the machines to which they are attached.

"Square D" Ironclad Fused Switches may be locked "off" with a padlock, making operation impossible until the lock has been removed. This feature is of the greatest importance from a safety standpoint. It prevents turning on the current when repairs are being made, either to the electrical connections or to a machine driven by the motor that the switch controls.

Indoor Type

250 VOLTS

For N. E. C. S. Fuses

List No.	Amperes	Type	Weight Not Boxed	List Price Each
7251	Double pole, 30	Plunger	12 lbs.	\$8.75
7252	Double pole, 60	Plunger	25 lbs.	20.15
7253	Double pole, 100	Side lever	57 lbs.	43.90
7254	Double pole, 200	Side lever	71 lbs.	68.95
7255	Double pole, 400	Side lever	133 lbs.	125.00
7351	Triple pole, 30	Plunger	23 lbs.	17.55
7352	Triple pole, 60	Plunger	41 lbs.	28.85
7353	Triple pole, 100	Side lever	90 lbs.	72.75
7354	Triple pole, 200	Side lever	100 lbs.	94.00
7355	Triple pole, 400	Side lever	155 lbs.	156.75
7451	Four pole, 30	Plunger	24 lbs.	17.55
7454	Four pole, 200	Side lever	116 lbs.	125.00

Price for solid brass padlock, brass chain, two keys, locking device and attaching to switch, \$1 per switch, net additional.

The above switches will be drilled for conduit or equipped with porcelain bushings without additional charge, but if drilling specifications do not accompany order, switches will be furnished without being drilled.

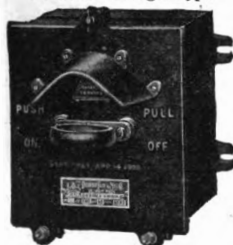
Fuses are not included in the above prices.

Approved by the Underwriters' Laboratories after examination and test under the provisions of the National Electrical Code.

"SQUARE D" IRON CLAD FUSED SWITCHES



No. 8251. Plunger Type



No. 8252. Plunger Type



No. 8253

"Severe Service" Type

WEATHERPROOF TYPE

"Square D" severe service switches are designed for outdoor use or wherever they are directly exposed to water, steam, fumes, or the roughest kind of handling.

This type embodies the features of the "Square D" plunger type switch mechanism, being instantly controlled from the outside of a cast iron box. Rubber gaskets give a waterproof design, and phosphor bronze rods, rivets and wing nuts prevent rusting. All parts are substantially made, and there is nothing whatever in this switch to get out of order.

250 VOLTS

For N. E. C. S. Fuses

DOUBLE POLE

List No.	Amperes	Type	Weight Not Boxed	List Price Each
8251	30	Plunger	13 lbs.	\$11.30
8252	60	Plunger	26 lbs.	31.30
8253	100	Side Lever	57 lbs.	56.45
8254	200	Side Lever	71 lbs.	75.20
8255	400	Side Lever	133 lbs.	138.00

TRIPLE POLE

8351	30	Plunger	24 lbs.	\$20.00
8352	60	Plunger	42 lbs.	46.30
8353	100	Side Lever	90 lbs.	81.75
8354	200	Side Lever	100 lbs.	106.60
8355	400	Side Lever	155 lbs.	169.20

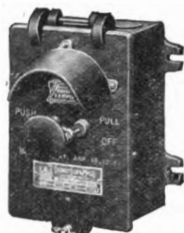
FOUR POLE

8451	30	Plunger	25 lbs.	\$23.20
8454	200	Side Lever	116 lbs.	175.55

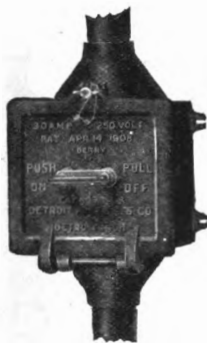
We can furnish the above switches with padlock and locking device so they may be locked in the "off" position if desired. Price for solid brass padlock, brass chain, two keys, locking device and attaching to switch, \$1 per switch net, additional.

The above switches will be drilled for conduit or equipped with porcelain bushings without additional charge, but if drilling specifications do not accompany order, switches will be furnished without being drilled. Fuses are not included in the above prices.

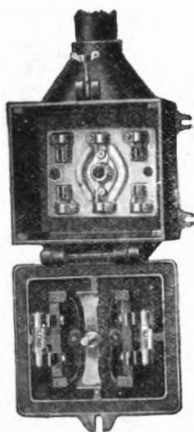
Approved by the Underwriters' Laboratories after examination and test under the provisions of the National Electrical Code.

"SQUARE D" IRONCLAD FUSED SWITCHES

No. 8251 Y



No. 7351 B Cover Closed



No. 7351 B Cover Open

Double Pole "Severe Service" Junction Box Type

"Square D" Severe Service Junction Box Type provides for the branching out of circuits in all directions. The porcelain base holding the terminals is mounted on a sub-base allowing the main lines to pass through the box under the porcelain base.

List No.
8251 YAmperes
30Volts
250Wt. Not Boxed
16 lbs.List Price Each
\$15.05**Service Box Type****Triple Pole, Solid Neutral, 0-60 Amperes, 250 Volts**List No.
7351 B
7352 BAmperes
30
60Volts
250
250Wt. Not Boxed
16 lbs.
28 lbs.List Price Each
\$15.00
26.10

No. 7251 L-3



No. 7251 L



No. 7252 L

"Square D" Ironclad Fused Switches**3 HEAT INDICATING SWITCH**

This switch was designed for a concern making laundry machines to be used on electrically heated ironing machines of large capacity.

With the main switch and the two single pole switches closed, the heating element gets full line voltage and the ironing machine gets hot quickly. To reduce the heat, the single pole switches may be opened, which cuts down the current in the heating element.

The pilot light is provided so that visual indication will be given that current is "ON."

List No.
7251 L-3Amperes
30
60Volts
250
250Wt. Not Boxed
20 lbs.List Price Each
\$27.50

Price does not include Pilot Lamp.

"Square D" Ironclad Indicating Switch—Double Pole

This type of 30 ampere, 250 volt two pole switch is designed to provide visual proof whether or not the circuit that the switch controls is complete.

List No.
7251 L
7252 LAmperes
30
60Volts
250
250Wt. Not Boxed
16 lbs.
27 lbs.List Price Each
\$15.00
25.10

Prices do not include Pilot Lamp.

We can furnish the above switches with padlock and locking device so they may be locked in the "off" position if desired. Price for solid brass padlock, brass chain, two keys, locking device and attaching to switch \$1 per switch net, additional. The above switches will be drilled for conduit or equipped with porcelain bushings without additional charge, but if drilling specifications do not accompany order, switches will be furnished without being drilled.

Fuses are not included in the above prices.

Approved by the Underwriters' Laboratories after examination and test under the provisions of the National Electrical Code.

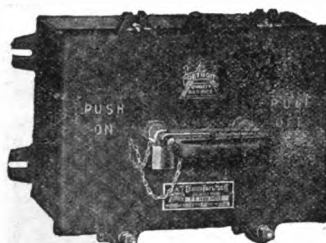
Supply B-54

70

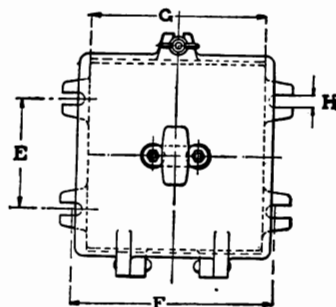
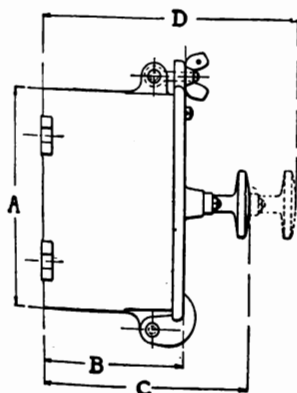
DIMENSIONS OF "Square D" Ironclad Fused Switches



**No. 7252
Plunger Type
Weatherproof**



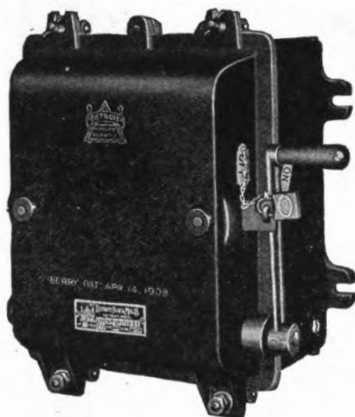
**No. 7352
Showing Locking Device
Plunger Type Standard**



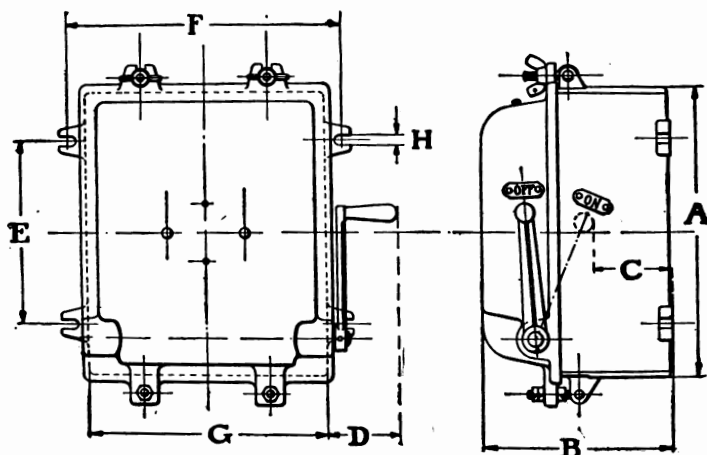
Plunger Type

List No.	Capacity Amperes	Volts	No. Poles	A	B	C	D	E	F	G	H
7251	0-30	250	2	5 $\frac{3}{4}$	4 $\frac{1}{2}$	6 $\frac{1}{4}$	7 $\frac{1}{2}$	3 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	$\frac{1}{16}$
7251L	0-30	250	2	8 $\frac{1}{2}$	4 $\frac{1}{2}$	6 $\frac{1}{4}$	7 $\frac{1}{2}$	5 $\frac{1}{2}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	$\frac{1}{16}$
7251L-3	0-30	250	2	11 $\frac{1}{4}$	4 $\frac{1}{2}$	6 $\frac{1}{4}$	7 $\frac{1}{2}$	8	6 $\frac{1}{4}$	5 $\frac{1}{4}$	$\frac{1}{16}$
7252	31-60	250	2	8 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{3}{8}$	4 $\frac{3}{4}$	8 $\frac{5}{8}$	7 $\frac{3}{4}$	$\frac{3}{8}$
7252L	31-60	250	2	12	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{3}{8}$	4 $\frac{3}{4}$	8 $\frac{5}{8}$	7 $\frac{3}{4}$	$\frac{3}{8}$
7351	0-30	250	3	7	5 $\frac{1}{4}$	7 $\frac{3}{4}$	9	4	10 $\frac{5}{8}$	9 $\frac{3}{4}$	$\frac{1}{16}$
7351B	0-30	250	3	10 $\frac{3}{4}$	5	7 $\frac{3}{4}$	8 $\frac{1}{2}$	3 $\frac{1}{4}$	7	6	$\frac{1}{16}$
7352	31-60	250	3	8 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{1}{4}$	5	13 $\frac{1}{4}$	12	$\frac{3}{8}$
7352B	31-60	250	3	13 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{3}{8}$	4 $\frac{3}{4}$	8 $\frac{5}{8}$	7 $\frac{3}{4}$	$\frac{3}{8}$
7451	0-30	250	4	7	4 $\frac{1}{2}$	7 $\frac{1}{4}$	8 $\frac{1}{2}$	4	11 $\frac{5}{8}$	10 $\frac{1}{2}$	$\frac{1}{16}$
7452	31-60	250	4	8 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{3}{8}$	4 $\frac{3}{4}$	.....	.....	..
8251	0-30	250	2	5 $\frac{3}{4}$	4 $\frac{1}{2}$	6 $\frac{1}{4}$	7 $\frac{1}{2}$	3 $\frac{1}{4}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	$\frac{1}{16}$
8251Y	0-30	250	2	8 $\frac{1}{4}$	5 $\frac{1}{4}$	7	8 $\frac{1}{4}$	5	6 $\frac{1}{4}$	5 $\frac{1}{4}$	$\frac{1}{16}$
8252	31-60	250	2	8 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{3}{8}$	4 $\frac{3}{4}$	8 $\frac{5}{8}$	7 $\frac{3}{4}$	$\frac{3}{8}$
8351	0-30	250	3	7	5 $\frac{1}{4}$	7 $\frac{3}{4}$	9	4	10 $\frac{5}{8}$	9 $\frac{3}{4}$	$\frac{1}{16}$
8352	31-60	250	3	8 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{1}{4}$	5	13 $\frac{1}{4}$	12	$\frac{3}{8}$
8451	0-30	250	4	7	4 $\frac{1}{2}$	7 $\frac{1}{4}$	8 $\frac{1}{2}$	4	11 $\frac{5}{8}$	10 $\frac{1}{2}$	$\frac{1}{16}$
8452	31-60	250	4	8 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{2}$	11 $\frac{3}{8}$	4 $\frac{3}{4}$	.....	.....	..

DIMENSIONS OF **"Square D" Ironclad Fused Switches** **Side Lever Type**



No. 7254
 Showing Locking Device
 Also Illustrates Standard No. 7255



List No.	Capacity Amperes	Volt	No. Poles	A	B	C	D	E	F	G	H
7253	61-100	250	2	12½	8½	3¼	3¼	8	11½	10½	1½
7254	101-200	250	2	14	10	4½	4	8	13	11½	1½
7353	61-100	250	3	12½	9¼	3¼	4	8	18	16¾	1½
7354	101-200	250	3	14	10	3½	5	8	17¼	15½	1½
7453	61-100	250	4	12½	8½	2¾	4	8	....	....	....
7454	101-200	250	4	14	10	3½	5	8	21½	20	1½
8253	61-100	250	2	12½	8½	3¼	3¼	8	11½	10½	1½
8254	101-200	250	2	14	10	4½	4	8	13	11½	1½
8353	61-100	250	3	12½	9¼	3¼	4	8	18	16¾	1½
8354	101-200	250	3	14	10	3½	5	8	17¼	15½	1½
8453	61-100	250	4	12½	8½	2¾	4	8	....	....	....
8454	101-200	250	4	14	10	3½	5	8	21½	20	1½

Supply B-54

"SQUARE D" INDUCTION MOTOR STARTERS



Nos. 6251, 6361
Side Lever Type



Nos. 6351, 6451
Front Lever Type

Front and Side Lever Types

IRONCLAD—INDESTRUCTIBLE—NON-HAZARDOUS

"Square D" Induction Motor Starters (formerly "Detroit" Induction Motor Starters) are designed for use with motors up to and including $7\frac{1}{2}$ H.P. or motors which may be started by switching them directly on to full voltage service.

By using "Square D" Induction Motor Starters it is possible to properly fuse motors for their running load, the fuses being paralleled by removable short circuiting bars which are in circuit with the fuses only when switch is in the starting position.

The starters may be sealed shut to protect them against tampering or the possible use of too large capacity fuses.

"Square D" Induction Motor Starters are non-hazardous. All live parts are enclosed in a cast iron box and the mechanism is operated from outside the box by a handle.

The switch mechanism has a quick make and quick break action.

To replace fuses the cover is opened and the entire mechanism to which the fuses are attached swings out and away from the live parts. The fuse connections are absolutely dead and accidental contact with live parts when replacing fuses is impossible.

The "Square D" starter may be locked "off" with a padlock, making operation impossible until the lock has been removed. This feature is of the greatest importance from a safety standpoint. It prevents turning on the current when repairs are being made, either to the electrical connections or to a machine driven by the motor that the starter controls.

The working parts and electrical connections have great mechanical strength and are built to withstand the hard usage incident to operation under ordinary industrial conditions.

"Square D" Induction Motor Starters will be drilled for conduit or equipped with porcelain bushings without additional charge, but if drilling specifications do not accompany order they will be furnished without being drilled.

On account of the large size wires which are usually used with induction motors, the switch bases are provided with solder lugs which will take wires up to and including No. 2 B. & S. gauge.

Fuses are not included.

We furnish "Square D" Starters with padlock and locking device so they may be locked in the "off" position if desired. Price for solid brass padlock, brass chain, two keys, locking device and attaching to starter, \$1 each, net, additional.

NOTE: The inside mechanism of all "Square D" Starters is the same with the exception of List No. 6361N. The only difference between the side lever operated starters and the front lever operated type is in the location of the operating lever and the housing of the external mechanism on the side lever type.

NO-VOLTAGE RELEASE

In plants where there are a large number of motors and possibly a class of labor that cannot be depended upon to open the starters whenever the power is off, it is very desirable to have the starters provided with no-voltage release mechanism to automatically open the switch if the power fails.

In locations where the power is frequently cut off, as in many private plants that are not equipped with every safeguard for preventing interruption in service, they are a very useful device in saving the fuses as well as in making it easy to restart the power plant by removing the load from it at the moment of starting.

"Square D" Induction Motor Starters

(FORMERLY KNOWN AS "DETROIT" INDUCTION MOTOR STARTERS)

List No.		Amperes	Volts	Weight Not Boxed	List Price Each
6251	Single phase.....	30	250	20½ lbs.	\$27.55
6351	Three phase.....	30	250	26 lbs.	22.50
6451	Two phase.....	30	250	28 lbs.	27.55
6361	Three phase.....	30	600	76 lbs.	50.10
6361N	Three phase No-voltage Release.....	30	600	82 lbs.	75.20

NOTE: List No. 6361N is the same as List No. 6361, but is equipped with no-voltage release.

"SQUARE D" INDUCTION MOTOR STARTERS

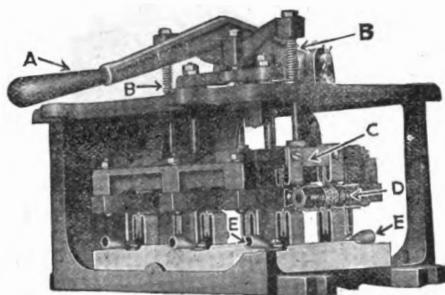


Fig. 1

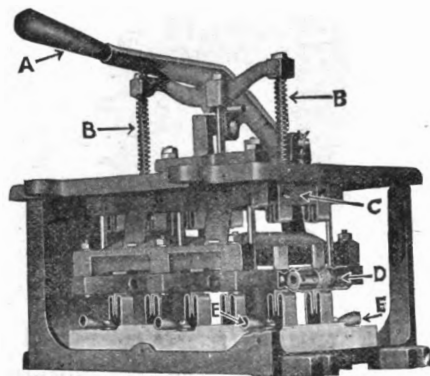


Fig. 2

Directions for Operating

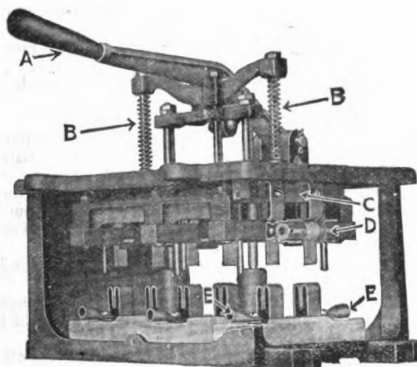


Fig. 3

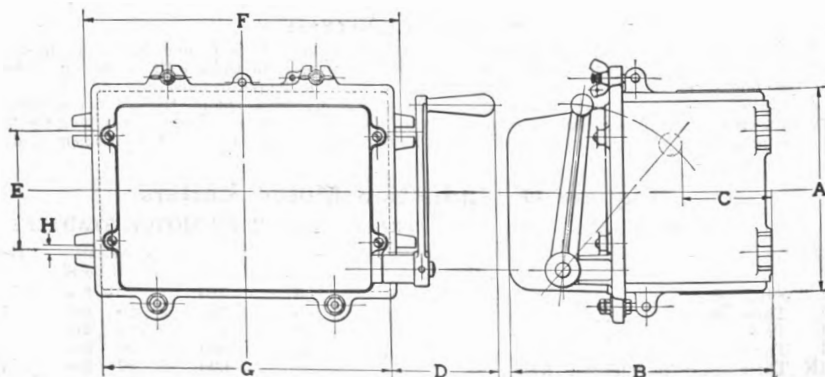
toward the operator, when the fuse (D) is withdrawn from the circuit, which opens the circuit. We call special attention to the fact that each phase of the circuit is opened at two points, thus minimizing the disruptive effects of the arc. The operating lever is now free and falls back into place on the yoke.

Figure 1 shows the interior mechanism of the "Square D" Induction Motor Starter with the lever in the starting position. To start the motor, lever (A) is pressed down by the operator as far as possible. By this action the short circuit bar (C) is shunted across the fuse (D) to take care of the heavy starting load. Connection is made across the switch jaws through the short circuit bar (C). Connections of one phase only are shown in these cuts, the others being identical. Wires from service to motor are connected to solder lugs (EE).

In Figure 2 the interior mechanism of the starter is shown in the running position. After the motor has attained full speed, the operator releases lever (A). Springs (BB) withdraw the short circuit bar (C) from the circuit, which allows the current to flow through the fuse (D) and protects the motor against overload. Please note that the short circuit bar (C) is withdrawn from the circuit without opening the circuit.

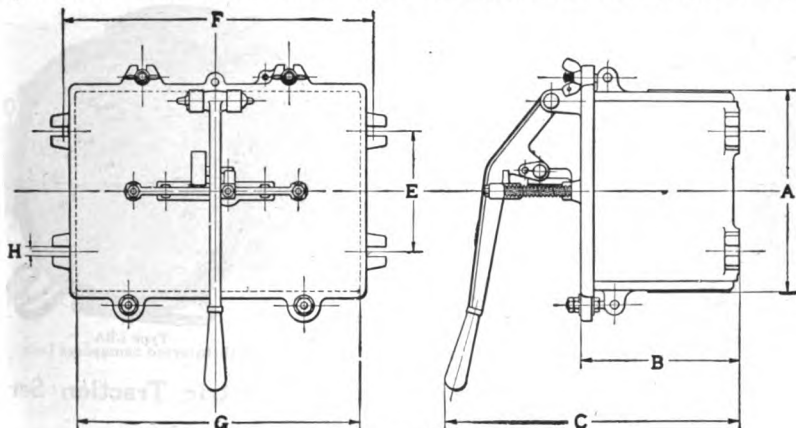
In Figure 3 the interior mechanism is shown in the off position. To stop the motor, lever (A) is pulled up, withdrawing the fuse (D) from the circuit, which opens the circuit. We call special attention to the fact that each phase of the circuit is opened at two points, thus minimizing the disruptive effects of the arc. The operating lever is now free and falls back into place on the yoke.

Dimensions of "Square D" Induction Motor Starters



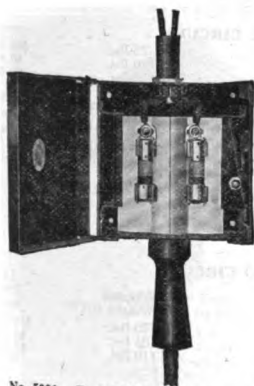
Side Lever Type

"SQUARE D" INDUCTION MOTOR STARTERS AND RECEPTACLE



Front Lever Type

List No.	Capacity Amperes	Volt	No. Poles	DIMENSIONS							
				A	B	C	D	E	F	G	H
6251	0-30	250	2	7 1/4	9 1/4	5 1/4	3	4	6 1/4	5 3/4	7 1/4
6351	0-30	250	3	7	5 1/4	9 1/4	17	4	10 1/4	9 3/4	7 1/4
6361	0-30	600	3	12	8 1/4	1 1/4	4	7 1/4	16 1/4	14 1/4	7 1/4
6451	0-30	250	4	7	5 1/4	10 1/4	18	4	11 3/4	10 1/4	7 1/4
6361N	0-30	600	3	12	8 1/4	2	1 1/4	8 3/4	16 1/4	19 1/4	7 1/4



No. 5001. Fused Plug Receptacle with Plug. Cover Open. Heavy Spring Contacts are Provided



No. 5001. Fused Plug Receptacle with Plug. Cover Closed. Can be Locked or Sealed Shut.



No. 5021

"Square D" Fused Plug and Receptacles

"Square D" Fused Plug Receptacles are designed primarily to increase the field of activity and efficiency of portable electrical units in industrial plants and wherever it is more economical to move the units than the materials. The receptacle is made of 16 gauge sheet steel with corners electrically welded. Fuses and terminals are mounted on two porcelains held in place within the box by a steel wedge at the side. In case of accident or breakage, the porcelains may be easily removed and quickly replaced, preventing any undue loss from delay to the work in hand. The end plate at bottom is also separate and removable—another convenient feature. The receptacle may be fused for any portable unit up to 30 amperes, 250 volts capacity. After properly fusing the equipment, the receptacle may be sealed shut, thus preventing over-fusing of the circuit and consequent damage to the portable units. All electrical terminals and contacts are thoroughly enclosed. In case of emergency when the controlling switch is at a distance the receptacle is both a convenience and safeguard as the circuit controlling the equipment affected may be quickly opened by pulling the plug.

The "Square D" Fused Plug Receptacle may also be used to advantage in garages where recharging of electric storage batteries is done.

Attachment Plug

NON-REVERSIBLE POLARITY TYPE

The plug is of the polarity type, rounded on one side and so shaped that it is impossible to reverse it when inserting it in the receptacle. It is made of hardwood fitted with copper plates which make contact with the terminals attached to the porcelains within the receptacle. The cable passes through the center of the plug and is fastened to terminals at either side of the plug by means of contact screws. Worn cable may be easily and quickly removed and new cable inserted and attached.

List No.	Number Poles	FUSED PLUG RECEPTACLE	Wt.	List Price
		Amperes	lbs.	Each
5001	2	30	4 1/4	\$3.75
5021	2	30	1 1/4	\$1.60

Price does not include fuses.

Attachment Plug

C-H IMPERIAL LUMINOUS ARC HEADLIGHT



Type LAA
With Inverted Semaphore Lens



Type LBA
With Inverted Semaphore Lens

Imperial Luminous Arc Headlight for Electric Traction Service

TYPE LAA

12 Inch Inverted Semaphore Lens in Door

Combination Arc and Incandescent

FOR 4 AMPERES, 575 VOLTS D.C., GROUNDED CIRCUIT

List No.	Equipment	Shipping Weight	List Price Each
24211	Headlight with plug and cable	75 lbs.	\$62.40
24213	Headlight with single end equipment	110 lbs.	88.48
24216	Headlight with double end equipment	115 lbs.	90.40

FOR 4 AMPERES, 575 VOLTS D.C., METALLIC CIRCUIT

24211MC	Headlight with two plugs and cable	75 lbs.	\$62.40
24213MC	Headlight with single end equipment	110 lbs.	89.60
24216MC	Headlight with double end equipment	115 lbs.	90.64

The above headlight when arranged for grounded circuit is equipped with one double plug, and when arranged for metallic circuit is equipped with one double and one single plug. If specified on the order, two single plugs will be furnished in place of double plug, without extra charge. The incandescent circuit of above headlight is arranged for two 56 watt, 115 volt Mazda lamps, which burn in series, and this arrangement will always be furnished, unless otherwise specified on order. If specified on the order, the above headlight will be arranged for any Edison base incandescent lamp from 23 to 94 watts, 115 volts, without extra charge.

TYPE LBA

12 Inch Inverted Semaphore Lens in Door

Arc Only

FOR 4 AMPERES, 575 VOLTS D.C., GROUNDED CIRCUIT

List No.	Equipment	Shipping Weight	List Price Each
24311	Headlight with plug and cable	70 lbs.	\$56.72
24313	Headlight with single end equipment	105 lbs.	81.68
24316	Headlight with double end equipment	110 lbs.	88.48

FOR 4 AMPERES, 575 VOLTS D.C., METALLIC CIRCUIT

24311MC	Headlight with two plugs and cable	70 lbs.	\$56.72
24313MC	Headlight with single end equipment	105 lbs.	82.80
24316MC	Headlight with double end equipment	110 lbs.	90.72

The above headlight, when arranged for grounded circuit, is equipped with one single plug, and when arranged for metallic circuit is equipped with two single plugs.

Multiple break switch HL-1108 is regularly furnished with headlight equipments 24313 and 24316. Reversing switch HL-1508 is regularly furnished with headlight equipments 24313MC and 24316MC, as it permits reversing of current through the headlight, thereby dimming the light. If specified on the order, equipments 24313MC and 24316MC will be furnished with three-lead resistance HL-5601, at an increase of \$4.56 in list price. Reversing switch HL-1518 must be used with the three-lead resistance. The three-lead resistance reduces the current consumption 35% and dims the light more effectively than the two-lead resistance.

General

The above headlights can be furnished for any voltage up to 1500. List prices for above headlights arranged for voltages other than standard will be quoted upon request.

The above headlights will be furnished with inverted or regular semaphore lens in door, if specifically ordered, without extra charge.

If specified on the order, the above headlights will be furnished with "Noglar" inverted or regular semaphore lens in door, at an increase of \$5.60 in the above list prices.

The above headlights are regularly furnished with hangers 6 inches on center. If specified on the order, special hangers will be furnished, without extra charge. Specifications for special hangers should be submitted for approval before ordering.

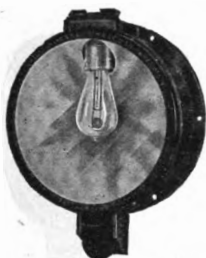
The above list prices include one upper and one lower electrode.

Dimensions: Height, 15 inches; width, 15 inches; depth with inverted semaphore lens, 12 inches; depth with regular semaphore lens, 14 inches; shipping dimensions of complete equipment, 34 x 21 x 19 inches.

Delivery F. O. B. point delivered plus some charges. For some charges write nearest house.

Railway Material

C-H INCANDESCENT HEADLIGHTS



Front View—Type W
With Clear Glass in Plain Door



Side View—Type W
With Clear Glass in Plain Door

Type "W" Headlight

With Plain Glass
Specifications

Total Depth	Total Height	Total Width	Diameter Reflector
4½ ins.	14¼ ins.	11¼ ins.	8¾ ins.

POLISHED ALUMINUM REFLECTOR

List No.	Style of Headlight	List Price Each
24093	With double thick glass	\$8.32
24094	With plate glass	8.88

WHITE ENAMELED STEEL REFLECTOR

24901	With double thick glass	\$8.32
24902	With plate glass	8.88

Shipping weight, gross, 30 pounds; net, 20 pounds.

Shipping dimensions, 19 x 14 x 10 inches.



Front View—Type W
With Clear Glass in Grid Door



Side View—Type W
With Clear Glass in Grid Door

Type "W" Headlight

With Plain Glass and Grid
Specifications

Total Depth	Total Height	Total Width	Diameter Reflector
4½ ins.	14¼ ins.	11¼ ins.	8¾ ins.

POLISHED ALUMINUM REFLECTOR

List No.	Style of Headlight	List Price Each
24095	With double thick glass and grid	\$8.88
24096	With plate glass and grid	9.44

WHITE ENAMELED STEEL REFLECTOR

24903	With double thick glass and grid	\$8.88
24904	With plate glass and grid	9.44

Shipping weight, gross, 32 pounds; net, 22 pounds.

Shipping dimensions, 19 x 14 x 10 inches.

Prices do not include incandescent lamp.

GENERAL

Any headlight listed above will be furnished with a copper reflector, nickel plated and polished, at an advance of \$2.40 in the list price, if specifically ordered.

Type W headlight with clear glass in plain door will be furnished with a polished brass door frame, at an advance of \$3.04 in the list price, if specifically ordered.

Type W headlight with clear glass in grid door will be furnished with a polished brass door frame, at an advance of \$4.32 in the list price, if specifically ordered.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C-H INCANDESCENT HEADLIGHTS



Front View—Type W
With Semaphore Lens in Plain Door



Side View—Type W
With Semaphore Lens in Plain Door

Type "W" Headlight

With Semaphore Lens
Specifications

Total Depth
5 $\frac{1}{4}$ ins.

Total Height
14 $\frac{1}{4}$ ins.

Total Width
11 $\frac{1}{4}$ ins.

Diameter Lens
8 $\frac{3}{4}$ ins.

POLISHED ALUMINUM REFLECTOR

Style of Headlight

List No.

List Price Each

24087	With plain semaphore lens	\$11.04
24088	With blue semaphore lens	11.68
24089	With green semaphore lens	11.68
24100	With ruby semaphore lens	13.60

WHITE ENAMELED STEEL REFLECTOR

24905	With plain semaphore lens	\$11.04
24906	With blue semaphore lens	11.68
24907	With green semaphore lens	11.68
24908	With ruby semaphore lens	13.60

Any headlight listed above will be furnished with a polished brass door frame, at an advance of \$5.44 in the list price, if specifically ordered.

Shipping weight, gross, 33 pounds; net, 23 pounds.

Shipping dimensions, 19 x 14 x 10 inches.



Front View—Type W
With Semaphore Lens in Guard Door



Side View—Type W
With Semaphore Lens in Guard Door

Type "W" Headlight

With Semaphore Lens and Guard
Specifications

Total Depth
6 $\frac{1}{4}$ ins.

Total Height
14 $\frac{1}{4}$ ins.

Total Width
11 $\frac{1}{4}$ ins.

Diameter Lens
8 $\frac{3}{4}$ ins.

POLISHED ALUMINUM REFLECTOR

Style of Headlight

List No.

List Price Each

24909	With plain semaphore lens and guard	\$11.68
24910	With blue semaphore lens and guard	12.3
24911	With green semaphore lens and guard	12.3
24912	With ruby semaphore lens and guard	14.2

WHITE ENAMELED STEEL REFLECTOR

24913	With plain semaphore lens and guard	\$11.68
24914	With blue semaphore lens and guard	12.3
24915	With green semaphore lens and guard	12.3
24916	With ruby semaphore lens and guard	14.2

Any headlight listed above will be furnished with a copper reflector, nickel plated and polished, at an advance of \$2.40 in the list price, if specifically ordered.

Shipping weight, gross, 35 pounds; net, 25 pounds.

Shipping dimensions, 19 x 14 x 10 inches.

GENERAL

Prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

Railway Material

C-H INCANDESCENT HEADLIGHTS



Front View—Type Z
With Clear Glass in Plain Door



Side View—Type Z
With Clear Glass in Plain Door

Type "Z" Headlight

With Plain Glass

Specifications

Total Depth 4½ ins.	Total Height and Width 12¾ ins.	Projection from Dash 2½ ins.	Diameter Reflector 9¾ ins.
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POLISHED ALUMINUM REFLECTOR

List No.	Style of Headlight	List Price Each
24110	With double thick glass	\$8.32
24111	With plate glass	8.88

WHITE ENAMELED STEEL REFLECTOR

24151	With double thick glass	\$8.32
24152	With plate glass	8.88

Shipping weight, gross, 30 pounds; net, 20 pounds.
Shipping dimensions, 17 x 15 x 10 inches.



Front View—Type Z
With Clear Glass in Grid Door



Side View—Type Z
With Clear Glass in Grid Door

Type "Z" Headlight

With Plain Glass and Grid

Specifications

Total Depth 4½ ins.	Total Height and Width 12¾ ins.	Projection from Dash 2½ ins.	Diameter Reflector 9¾ ins.
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POLISHED ALUMINUM REFLECTOR

List No.	Style of Headlight	List Price Each
24112	With double thick glass and grid	\$8.88
24113	With plate glass and grid	9.44

WHITE ENAMELED STEEL REFLECTOR

24153	With double thick glass and grid	\$8.88
24154	With plate glass and grid	9.44

Shipping weight, gross, 32 pounds; net, 22 pounds.
Shipping dimensions, 17 x 15 x 10 inches.
Prices do not include incandescent lamp.

GENERAL

Any headlight listed above will be furnished with a copper reflector, nickel plated and polished, at an advance of \$2.40 in the list price, if specifically ordered.
Type Z headlight with clear glass in plain door will be furnished with a polished brass door frame, at an advance of \$3.04 in the list price, if specifically ordered.
Type Z headlight with clear glass in grid door will be furnished with a polished brass door frame, at an advance of \$4.32 in the list price, if specifically ordered.
Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C-H INCANDESCENT HEADLIGHTS



Front View—Type Z
With Semaphore Lens in Plain Door



Side View—Type Z
With Semaphore Lens in Plain Door

Type "Z" Headlight

With Semaphore Lens
Specifications

Total Depth	Total Height and Width	Projection from Dash	Diameter Lens
5 $\frac{1}{4}$ ins.	12 $\frac{3}{4}$ ins.	3 $\frac{1}{4}$ ins.	8 $\frac{3}{4}$ ins.

POLISHED ALUMINUM REFLECTOR

Style of Headlight

List No.		List Price Each
24114	With plain semaphore lens	\$11.04
24115	With blue semaphore lens	11.68
24116	With green semaphore lens	11.68
24117	With ruby semaphore lens	13.60
WHITE ENAMELED STEEL REFLECTOR		
24155	With plain semaphore lens	\$11.04
24156	With blue semaphore lens	11.68
24157	With green semaphore lens	11.68
24158	With ruby semaphore lens	13.60

Prices do not include incandescent lamps.
 Any headlight listed above will be furnished with a polished brass door frame, at an advance of \$5.44 in the list price, if specifically ordered.
 Shipping weight, gross, 33 pounds; net, 23 pounds.
 Shipping dimensions, 17 x 15 x 10 inches.



Front View—Type Z
With Semaphore Lens in Guard Door



Side View—Type Z
With Semaphore Lens in Guard Door

Type "Z" Headlight

With Semaphore Lens and Guard
Specifications

Total Depth	Total Height and Width	Projection from Dash	Diameter Lens
6 $\frac{1}{4}$ ins.	12 $\frac{3}{4}$ ins.	3 $\frac{1}{4}$ ins.	8 $\frac{3}{4}$ ins.

POLISHED ALUMINUM REFLECTOR

Style of Headlight

List No.		List Price Each
24118	With plain semaphore lens and guard	\$11.68
24119	With blue semaphore lens and guard	12.32
24121	With green semaphore lens and guard	12.32
24122	With ruby semaphore lens and guard	14.24

WHITE ENAMELED STEEL REFLECTOR

24159	With plain semaphore lens and guard	\$11.68
24160	With blue semaphore lens and guard	12.32
24161	With green semaphore lens and guard	12.32
24162	With ruby semaphore lens and guard	14.24

Prices do not include incandescent lamp.
 Any headlight listed above will be furnished with a copper reflector, nickel plated and polished, at an advance of \$2.40 in the list price, if specifically ordered.
 Shipping weight, gross, 35 pounds; net, 25 pounds.
 Shipping dimensions, 17 x 15 x 10 inches.
 Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C.-H. IMPERIAL HEADLIGHTS

TYPE WD SERIES



**Front View
Type WDS**

With Clear Glass in Plain Door



**Side View
Type WDS**



**Front View
Type WDS**

With Clear Glass in Grid Door



**Side View
Type WDS**

Type WDS—Surface Mounting

CLEAR GLASS IN FRONT DOORS

Lamp Mounted Horizontally

Cast Iron Case				Pressed Steel Case			
List No.	Diam. Reflector	Shpg. Wt.	List Price Each	List No.	Diam. Reflector	Shpg. Wt.	List Price Each
GOLD GLASS MIRROR REFLECTOR							
28200	9½ ins.	38 lbs.	\$18.88 ||	28204	9½ ins.	24 lbs.	\$18.88
CRYSTAL GLASS MIRROR REFLECTOR							
28201	9½ ins.	38 lbs.	\$18.88 ||	28205	9½ ins.	24 lbs.	\$18.88
NICKEL PLATED COPPER REFLECTOR							
28202	9½ ins.	35 lbs.	\$17.28 ||	28206	9½ ins.	21 lbs.	\$16.48
POLISHED ALUMINUM REFLECTOR							
28203	9½ ins.	35 lbs.	\$15.68 ||	28207	9½ ins.	21 lbs.	\$15.68

Type WDS—Surface Mounting

CLEAR GLASS IN GRID DOOR

Lamp Mounted Horizontally

GOLD GLASS MIRROR REFLECTOR							
28210	9½ ins.	40 lbs.	\$20.00 ||	28214	9½ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR							
28211	9½ ins.	40 lbs.	\$20.00 ||	28215	9½ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR							
28212	9½ ins.	37 lbs.	\$18.40 ||	28216	9½ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR							
28213	9½ ins.	37 lbs.	\$16.80 ||	28217	9½ ins.	21 lbs.	\$16.80

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlights are furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglare" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlights will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C.-H. IMPERIAL HEADLIGHTS

TYPE WD SERIES—Continued

Front View
Type WDS

With Clear Glass in Guard Door

Side View
Type WDSFront View
Type WDF

With Clear Glass in Plain Door

Side View
Type WDF

Type WDS—Surface Mounting

CLEAR GLASS IN GUARD DOOR

Lamp Mounted Horizontally

Cast Iron Case			Pressed Steel Case		
List No.	Diam. Reflector	Shpg. Wgt. List Price Each	List No.	Diam. Reflector	Shpg. Wgt. List Price Each
GOLD GLASS MIRROR REFLECTOR					
28220	9 $\frac{5}{8}$ ins.	40 lbs. \$20.00	28224	9 $\frac{5}{8}$ ins.	24 lbs. \$20.00
CRYSTAL GLASS MIRROR REFLECTOR					
28221	9 $\frac{5}{8}$ ins.	40 lbs. \$20.00	28225	9 $\frac{5}{8}$ ins.	24 lbs. \$20.00
NICKEL PLATED COPPER REFLECTOR					
28222	9 $\frac{5}{8}$ ins.	37 lbs. \$18.40	28226	9 $\frac{5}{8}$ ins.	21 lbs. \$17.60
POLISHED ALUMINUM REFLECTOR					
28223	9 $\frac{5}{8}$ ins.	37 lbs. \$16.80	28227	9 $\frac{5}{8}$ ins.	21 lbs. \$16.80

Type WDF—Flush Mounting

CLEAR GLASS IN PLAIN DOOR

Lamp Mounted Horizontally

GOLD GLASS MIRROR REFLECTOR					
28230	9 $\frac{5}{8}$ ins.	33 lbs. \$18.88	28234	9 $\frac{5}{8}$ ins.	24 lbs. \$18.88
CRYSTAL GLASS MIRROR REFLECTOR					
28231	9 $\frac{5}{8}$ ins.	33 lbs. \$18.88	28235	9 $\frac{5}{8}$ ins.	24 lbs. \$18.88
NICKEL PLATED COPPER REFLECTOR					
28232	9 $\frac{5}{8}$ ins.	33 lbs. \$17.28	28236	9 $\frac{5}{8}$ ins.	21 lbs. \$16.48
POLISHED ALUMINUM REFLECTOR					
28233	9 $\frac{5}{8}$ ins.	30 lbs. \$15.68	28237	9 $\frac{5}{8}$ ins.	21 lbs. \$15.68

The above headlights will take any 22 to 56 watt standard concentrated filament Mazda lamp. The headlights are furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglare" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlights will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

Railway Material

110

IMPERIAL INCANDESCENT HEADLIGHT

TYPE WD SERIES—Continued



Front View
Type WDF

With Clear Glass in Grid Door



Side View
Type WDF



Front View
Type WDF

With Clear Glass in Guard Door



Side View
Type WDF

Type WDF—Flush Mounting

CLEAR GLASS IN GRID DOOR

Lamp Mounted Horizontally

Cast Iron Case				Pressed Steel Case			
List No.	Diameter of Reflector	Shipping Weight	List Price Each	List No.	Diameter of Reflector	Shipping Weight	List Price Each
GOLD GLASS MIRROR REFLECTOR							
28240	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00	28244	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR							
28241	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00	28245	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR							
28242	9 $\frac{5}{8}$ ins.	32 lbs.	\$18.40	28246	9 $\frac{5}{8}$ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR							
28243	9 $\frac{5}{8}$ ins.	32 lbs.	\$16.80	28247	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.80

Type WDF—Flush Mounting

CLEAR GLASS IN GUARD DOOR

Lamp Mounted Horizontally

GOLD GLASS MIRROR REFLECTOR							
28250	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00	28254	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR							
28251	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00	28255	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR							
28252	9 $\frac{5}{8}$ ins.	32 lbs.	\$18.40	28256	9 $\frac{5}{8}$ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR							
28253	9 $\frac{5}{8}$ ins.	32 lbs.	\$16.80	28257	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.80

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlights are furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglare" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlights will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C-H IMPERIAL INCANDESCENT HEADLIGHTS
TYPE WB SERIESFront View
Type WBS

With Clear Glass in Plain Door

Side View
Type WBSFront View
Type WBS

With Clear Glass in Grid Door

Side View
Type WBS

Type WBS Surface Mounted

CLEAR GLASS IN PLAIN DOOR

Lamp Is Mounted 30 Degrees from the Vertical

GOLD GLASS MIRROR REFLECTOR

Cast Iron Case				Pressed Steel Case			
List No.	Diam. Reflector	Shipping Weight	List Price Each	List No.	Diam. Reflector	Shipping Weight	List Price Each
28260	9 $\frac{5}{8}$ ins.	38 lbs.	\$18.88	28264	9 $\frac{5}{8}$ ins.	24 lbs.	\$18.88
CRYSTAL GLASS MIRROR REFLECTOR							
28261	9 $\frac{5}{8}$ ins.	38 lbs.	\$18.88	28265	9 $\frac{5}{8}$ ins.	24 lbs.	\$18.88
NICKEL PLATED COPPER REFLECTOR							
28262	9 $\frac{5}{8}$ ins.	35 lbs.	\$17.28	28266	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.48
POLISHED ALUMINUM REFLECTOR							
28263	9 $\frac{5}{8}$ ins.	35 lbs.	\$15.68	28267	9 $\frac{5}{8}$ ins.	21 lbs.	\$15.68

Type WBS Surface Mounting

CLEAR GLASS IN GRID DOOR

Lamp Is Mounted 30 Degrees from the Vertical

GOLD GLASS MIRROR REFLECTOR

28270	9 $\frac{5}{8}$ ins.	40 lbs.	\$20.00	28274	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR							
28271	9 $\frac{5}{8}$ ins.	40 lbs.	\$20.00	28275	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR							
28272	9 $\frac{5}{8}$ ins.	37 lbs.	\$18.40	28276	9 $\frac{5}{8}$ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR							
28273	9 $\frac{5}{8}$ ins.	37 lbs.	\$16.80	28277	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.80

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlights are furnished with an adjustable lamp receptacle bracket, which makes them easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglare" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlights will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.
Railway Material

C-H IMPERIAL INCANDESCENT HEADLIGHTS

TYPE WB SERIES



Front View
Type WBS
With Clear Glass in Guard Door



Side View
Type WBS



Front View
Type WBF
With Clear Glass in Plain Door



Side View
Type WBF

Type WBS—Surface Mountings

CLEAR GLASS IN GUARD DOOR

Lamp Mounted 30 Degrees from the Vertical

Cast Iron Case				Pressed Steel Case			
List No.	Diameter of Reflector	Shipping Weight	List Price Each	List No.	Diameter of Reflector	Shipping Weight	List Price Each
GOLD GLASS MIRROR REFLECTOR							
28280	9½ ins.	40 lbs.	\$20.00 || 28284	9½ ins.	24 lbs.	\$20.00	
CRYSTAL GLASS MIRROR REFLECTOR							
28281	9½ ins.	40 lbs.	\$20.00 || 28285	9½ ins.	24 lbs.	\$20.00	
NICKEL PLATED COPPER REFLECTOR							
28282	9½ ins.	37 lbs.	\$18.40 || 28286	9½ ins.	21 lbs.	\$17.60	
POLISHED ALUMINUM REFLECTOR							
28283	9½ ins.	37 lbs.	\$16.80 || 28287	9½ ins.	21 lbs.	\$16.80	

Type WBF—Flush Mounting

CLEAR GLASS IN PLAIN DOOR

Lamp Mounted 30 Degrees from the Vertical

GOLD GLASS MIRROR REFLECTOR							
28290	9½ ins.	33 lbs.	\$18.88 || 28294	9½ ins.	24 lbs.	\$18.88	
CRYSTAL GLASS MIRROR REFLECTOR							
28291	9½ ins.	33 lbs.	\$18.88 || 28295	9½ ins.	24 lbs.	\$18.88	
NICKEL PLATED COPPER REFLECTOR							
28292	9½ ins.	30 lbs.	\$17.28 || 28296	9½ ins.	21 lbs.	\$16.48	
POLISHED ALUMINUM REFLECTOR							
28293	9½ ins.	30 lbs.	\$15.68 || 28297	9½ ins.	21 lbs.	\$15.68	

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlights are furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglar" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlights will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

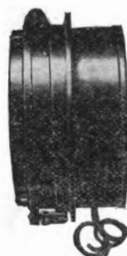
C-H IMPERIAL INCANDESCENT HEADLIGHTS

TYPE WB SERIES



Front View
Type WBF

With Clear Glass in Grid Door



Side View
Type WBF



Front View
Type WBF

With Clear Glass in Guard Door



Side View
Type WBF

Type WBF—Flush Mounting

CLEAR GLASS IN GRID DOOR

Lamp Mounted 30 Degrees from the Vertical

Cast Iron Case				Pressed Steel Case			
List No.	Diameter of Reflector	Shipping Weight	List Price Each	List No.	Diameter of Reflector	Shipping Weight	List Price Each
GOLD GLASS MIRROR REFLECTOR							
28300	9½ ins.	35 lbs.	\$20.00	28304	9½ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR							
28301	9½ ins.	35 lbs.	\$20.00	28305	9½ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR							
28302	9½ ins.	32 lbs.	\$18.40	28306	9½ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR							
28303	9½ ins.	32 lbs.	\$16.80	28307	9½ ins.	21 lbs.	\$16.80

Type WBF—Flush Mounting

CLEAR GLASS IN GUARD DOOR

Lamp Mounted 30 Degrees from the Vertical

GOLD GLASS MIRROR REFLECTOR								
28310	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00	||	28314	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR								
28311	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00	||	28315	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR								
28312	9 $\frac{5}{8}$ ins.	32 lbs.	\$18.40	||	28316	9 $\frac{5}{8}$ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR								
28313	9 $\frac{5}{8}$ ins.	32 lbs.	\$16.80	||	28317	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.80

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlights are furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglar" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlights will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C-H IMPERIAL INCANDESCENT HEADLIGHT

TYPE WC SERIES



Front View—Type WCS



Side View—Type WCS
With Clear Glass in Plain Door



Front View—Type WCS



Side View—Type WCS
With Clear Glass in Grid Door

Type WCS—Surface Mounting

CLEAR GLASS IN PLAIN DOOR

Lamp Mounted Vertically

Cast Iron Case				Pressed Steel Case			
List No.	Diameter of Reflector	Shipping Weight	List Price Each	List No.	Diameter of Reflector	Shipping Weight	List Price Each
GOLD GLASS MIRROR REFLECTOR							
28320	9 $\frac{1}{8}$ ins.	38 lbs.	\$18.88	28324	9 $\frac{1}{8}$ ins.	24 lbs.	\$18.88
CRYSTAL GLASS MIRROR REFLECTOR							
28321	9 $\frac{1}{8}$ ins.	35 lbs.	\$18.88	28325	9 $\frac{1}{8}$ ins.	24 lbs.	\$18.88
NICKEL PLATED COPPER REFLECTOR							
28322	9 $\frac{1}{8}$ ins.	35 lbs.	\$17.28	28326	9 $\frac{1}{8}$ ins.	21 lbs.	\$16.48
POLISHED ALUMINUM REFLECTOR							
28323	9 $\frac{1}{8}$ ins.	35 lbs.	\$15.68	28327	9 $\frac{1}{8}$ ins.	21 lbs.	\$15.68

Type WCS—Surface Mounting

CLEAR GLASS IN GRID DOOR

Lamp Mounted Vertically

GOLD GLASS MIRROR REFLECTOR							
28330	9 $\frac{1}{8}$ ins.	40 lbs.	\$20.00	28334	9 $\frac{1}{8}$ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR							
28331	9 $\frac{1}{8}$ ins.	40 lbs.	\$20.00	28335	9 $\frac{1}{8}$ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR							
28332	9 $\frac{1}{8}$ ins.	37 lbs.	\$18.40	28336	9 $\frac{1}{8}$ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR							
28333	9 $\frac{1}{8}$ ins.	37 lbs.	\$16.80	28337	9 $\frac{1}{8}$ ins.	21 lbs.	\$16.80

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlights are furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglar" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlights will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C-H IMPERIAL INCANDESCENT HEADLIGHTS

TYPE WC SERIES—Continued


 Front View—Type WCS
 With Clear Glass in Guard Door


Side View—Type WCS


 Front View—Type WCF
 With Clear Glass in Plain Door


Side View—Type WCF

Type WCS, Surface Mounting

CLEAR GLASS IN GUARD DOOR

Lamp Mounted Vertically

Cast Iron Case				Pressed Steel Case			
List No.	Diam. Reflector	Shipping Wt.	List Price Each	List No.	Diam. Reflector	Shipping Wt.	List Price Each
GOLD GLASS MIRROR REFLECTOR							
28340	9 $\frac{5}{8}$ ins.	40 lbs.	\$20.00	28344	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
CRYSTAL GLASS MIRROR REFLECTOR							
28341	9 $\frac{5}{8}$ ins.	40 lbs.	\$20.00	28345	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00
NICKEL PLATED COPPER REFLECTOR							
28342	9 $\frac{5}{8}$ ins.	37 lbs.	\$18.40	28346	9 $\frac{5}{8}$ ins.	21 lbs.	\$17.60
POLISHED ALUMINUM REFLECTOR							
28343	9 $\frac{5}{8}$ ins.	37 lbs.	\$16.80	28347	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.80

Type WCF, Flush Mounting

CLEAR GLASS IN PLAIN DOOR

Lamp Mounted Vertically

GOLD GLASS MIRROR REFLECTOR							
28350	9 $\frac{5}{8}$ ins.	33 lbs.	\$16.88	28354	9 $\frac{5}{8}$ ins.	24 lbs.	\$18.88
CRYSTAL GLASS MIRROR REFLECTOR							
28351	9 $\frac{5}{8}$ ins.	33 lbs.	\$18.88	28355	9 $\frac{5}{8}$ ins.	24 lbs.	\$18.88
NICKEL PLATED COPPER REFLECTOR							
28352	9 $\frac{5}{8}$ ins.	30 lbs.	\$17.28	28356	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.48
POLISHED ALUMINUM REFLECTOR							
28353	9 $\frac{5}{8}$ ins.	30 lbs.	\$15.68	28357	9 $\frac{5}{8}$ ins.	21 lbs.	\$15.68

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlight is furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlight will be furnished with "Noglare" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlight will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C-H IMPERIAL INCANDESCENT HEADLIGHTS

TYPE WC SERIES—Continued



Front View—Type WCF
With Clear Glass in Grid Door



Side View—Type WCF



Front View—Type WCF
With Clear Glass in Guard Door



Side View—Type WCF

Type WCF—Flush Mounting

CLEAR GLASS IN GRID DOOR

Lamp Mounted Vertically

Cast Iron Case				Pressed Steel Case			
List No.	Diameter of Reflector	Shipping Weight	List Price Each	List No.	Diameter of Reflector	Shipping Weight	List Price Each
GOLD GLASS MIRROR REFLECTOR							
28360	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00 || 28364	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00	
CRYSTAL GLASS MIRROR REFLECTOR							
28361	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00 || 28365	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00	
NICKEL PLATED COPPER REFLECTOR							
28362	9 $\frac{5}{8}$ ins.	32 lbs.	\$18.40 || 28366	9 $\frac{5}{8}$ ins.	21 lbs.	\$17.60	
POLISHED ALUMINUM REFLECTOR							
28363	9 $\frac{5}{8}$ ins.	32 lbs.	\$16.80 || 28367	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.80	

Type WCF—Flush Mounting

CLEAR GLASS IN GUARD DOOR

Lamp Mounted Vertically

GOLD GLASS MIRROR REFLECTOR							
28370	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00 || 28374	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00	
CRYSTAL GLASS MIRROR REFLECTOR							
28371	9 $\frac{5}{8}$ ins.	35 lbs.	\$20.00 || 28375	9 $\frac{5}{8}$ ins.	24 lbs.	\$20.00	
NICKEL PLATED COPPER ALUMINUM							
28372	9 $\frac{5}{8}$ ins.	32 lbs.	\$18.40 || 28376	9 $\frac{5}{8}$ ins.	21 lbs.	\$17.60	
POLISHED ALUMINUM REFLECTOR							
28373	9 $\frac{5}{8}$ ins.	32 lbs.	\$16.80 || 28377	9 $\frac{5}{8}$ ins.	21 lbs.	\$16.80	

The above headlights will take any 23 to 56 watt standard concentrated filament Mazda lamp. The headlight is furnished with an adjustable lamp receptacle bracket, which makes it easy to properly focus the lamp. This is a desirable feature, because of the variation in the light centers of concentrated filament Mazda lamps.

If specified on the order, the above headlights will be furnished with "Noglare" glass in door, at an increase of \$3.44 in the above list prices.

If specified on the order, the above headlight will be furnished with plate glass in door, at an increase of 80 cents in the above list prices.

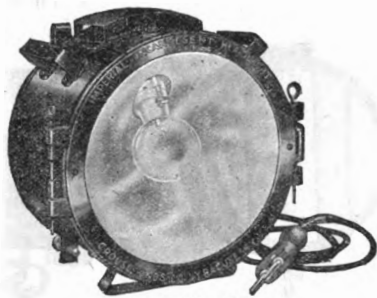
Net weight of headlight: 15 pounds less than shipping weight.

Above list prices do not include incandescent lamp.

Delivery F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

C-H IMPERIAL INCANDESCENT HEADLIGHT

TYPES SD, SA AND SC


 Type SD Headlight
 With Gold Glass Mirror Reflector
 and Plain Glass in Door

 Type SA Headlight
 With Gold Glass Mirror Reflector
 and Plain Glass in Door

Type SD Portable
CLEAR GLASS IN PLAIN DOOR

Lamp Mounted Horizontally

Takes any Mazda Lamp up to 250 Watts

List No.		Diam. Reflector	Shpg. Wt.	List Price Each
GOLD GLASS MIRROR REFLECTOR				
28400	Headlight with single plug and cable	12 ins.	60 lbs.	\$43.20
CRYSTAL GLASS MIRROR REFLECTOR				
28403	Headlight with single plug and cable	12 ins.	60 lbs.	\$43.20
NICKEL PLATED COPPER REFLECTOR				
28406	Headlight with single plug and cable	12 ins.	55 lbs.	\$38.80
POLISHED ALUMINUM REFLECTOR				
28409	Headlight with single plug and cable	12 ins.	55 lbs.	\$37.60

SA Portable
CLEAR GLASS IN PLAIN DOOR

Lamp Mounted 30 Degrees from the Vertical

GOLD GLASS MIRROR REFLECTOR				
28440	Headlight with single plug and cable	12 ins.	60 lbs.	\$43.20
CRYSTAL GLASS MIRROR REFLECTOR				
28443	Headlight with single plug and cable	12 ins.	60 lbs.	\$43.20
NICKEL PLATED COPPER REFLECTOR				
28446	Headlight with single plug and cable	12 ins.	55 lbs.	\$38.80
POLISHED ALUMINUM REFLECTOR				
28449	Headlight with single plug and cable	12 ins.	55 lbs.	\$37.60


 Type SC Headlight
 With Crystal Glass Mirror Reflector and Plain
 Glass in Door

Type SC Portable
CLEAR GLASS IN PLAIN DOOR

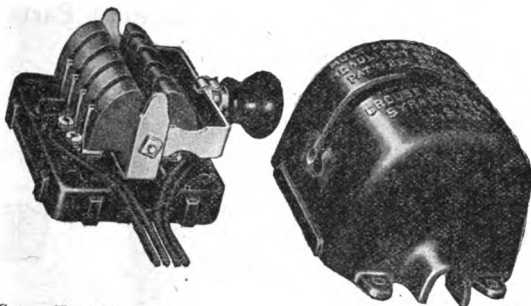
Lamp Mounted Vertically

GOLD GLASS MIRROR REFLECTOR				
28480	Headlight with single plug and cable	12 ins.	60 lbs.	\$43.20
CRYSTAL GLASS MIRROR REFLECTOR				
28483	Headlight with single plug and cable	12 ins.	60 lbs.	\$43.20
NICKEL PLATED COPPER REFLECTOR				
28486	Headlight with single plug and cable	12 ins.	55 lbs.	\$38.80
POLISHED ALUMINUM REFLECTOR				
28489	Headlight with single plug and cable	12 ins.	55 lbs.	\$37.60

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Railway Material

C-H HEADLIGHT ACCESSORIES



Crouse-Hinds Two-way Multiple Break Switch with Cover Removed

Crouse-Hinds Two-way Multiple Break Switch with Cover Removed

The multiple break switch is a distinct improvement over the snap switch. It is for use with headlights or on any circuit not over 600 volts and 10 amperes capacity.

The base is made of a strong composition which is practically impervious to moisture and is not affected by heat. The crossbar which holds the contact blades, is made of the same composition as the base.

Knife blade and corresponding beveled contacts are used. The ends of the blades are so shaped that when the switch is being closed or opened, the lower edges of blades and tops of clips are parallel. This is a feature of considerable importance, as instant contact or release is obtained along the full width of contact. This form of construction eliminates damage to blades and contacts, which occurs where a point on the edge of the blade touches only a corner of the contact when the switch is being opened or closed.

These switches are made in four styles—one-way, two-way, reversing for two-lead resistance and reversing for three-lead resistance. The one-way is for use with straight arc headlights, heaters, pump motors and lighting circuits. The two-way style is for use with combination arc and incandescent headlights. The reversing switches make it possible to reduce the light beam of an Imperial Luminous headlight by reversing the direction of the current through the electrodes. All four styles of switches are the same except in the connections.

Two styles of knob handles—quick-removable and regular—are made for these switches. The quick-removable handle can be taken off by exerting a moderate pull, and put on again with an equal pressure. This can only be done, however, when the switch is in an open position. Some railway electricians consider the removable handle an advantage for double end equipments, in that it discourages unauthorized persons from attempting to operate the switch.

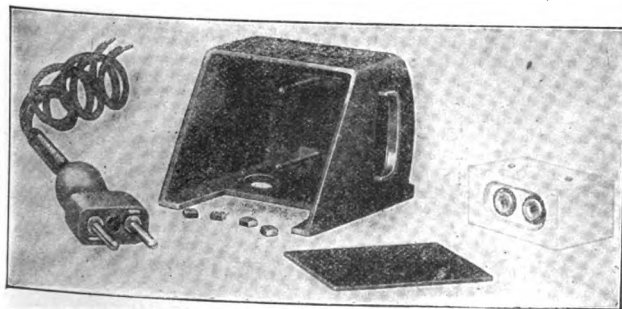
With Regular Handle

List No.	Description	List Price Each
HL-1108	One-way multiple break switch	\$5.68
HL-1408	Two-way multiple break switch	5.68
HL-1508	Reversing multiple break switch, for two-lead resistance	5.68
HL-1518	Reversing multiple break switch, for three-lead resistance	5.68

With Quick-removable Handle

HL-1528	One-way multiple break switch	
HL-1538	Two-way multiple break switch	\$5.68
HL-1548	Reversing multiple break switch	5.68
HL-1558	Reversing multiple break switch, for two-lead resistance	5.68
	Reversing multiple break switch, for three-lead resistance	5.68

Dimensions, height, 6 inches; width, 5½ inches; length, 7½ inches. Shipping dimensions, 7 x 8 x 9 inches.



Double Plug Receptacle Box, Unassembled

Plug Receptacle Boxes

List No. does not include plug shown in above illustration.

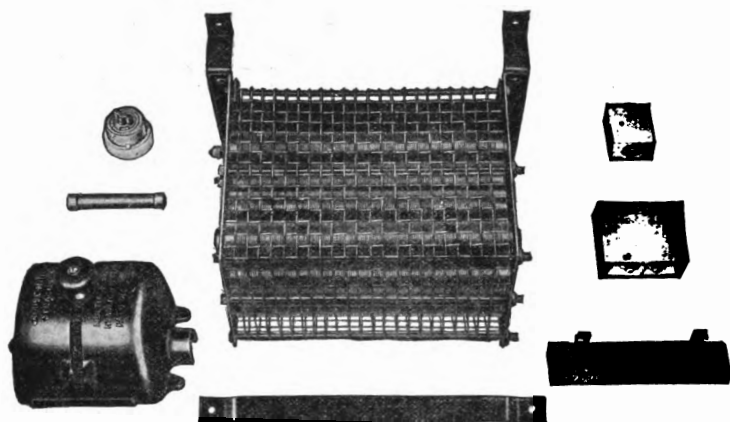
List No.	Description	List Price Each
23501	Box complete with single plug receptacle, but without plug	\$3.52
23502	Box complete with double plug receptacle, but without plug	5.04
23503	Box only; for single plug receptacle	2.40
23504	Box only; for double plug receptacle	2.80

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C-H HEADLIGHT ACCESSORIES

Resistances and Wiring Equipment Parts

INCLUDED IN WIRING EQUIPMENTS



Parts Included in Wiring Equipment

Main Resistance, Plug Receptacles, Fuse Block, Fuse, Switches and Dash Hanger

List No.	Description	List Price Each
HL-2117	Complete resistance, 5 amperes, 550 to 575 volts, 94 ohms (two lead)	\$18.08
HL-2118	Resistance tube and wire, for resistance HL-2117	1.92
HL-120	Wire, for resistance HL-2117	4.48
HL-2115	Complete resistance, 4 amperes, 550 to 575 volts, 117 ohms (two-lead)	15.84
HL-2116	Resistance tube and wire, for resistance HL-2115	1.60
HL-115	Wire, for resistance HL-2115, per lb.	4.48
HL-2119	Complete resistance, 4 amperes, 250 volts, 43 ohms (two-lead)	11.36
HL-2116	Resistance tube and wire, for resistance HL-2119	1.60
HL-115	Wire, for resistance HL-2119, per lb.	4.48
HL-2598	Complete resistance, 2 amperes, 550 to 575 volts, 190 ohms (two-lead)	15.84
HL-2599	Resistance tube and wire, for resistance HL-2598	1.44
HL-599	Wire, for resistance HL-2598, per lb.	4.48
HL-5600	Complete resistance, 2 amperes, 250 volts, 70 ohms (two-lead)	11.36
HL-2599	Resistance tube and wire, for resistance HL-5600	1.44
HL-599	Wire, for resistance HL-5600, per lb.	4.48
HL-5601	Complete resistance, 4 amperes, 550 to 575 volts, 117 to 170 ohms (three-lead)	20.40
HL-2118	Resistance tube and wire, for resistance HL-5601	1.92
HL-120	Wire, for resistance HL-5601, per lb.	4.48
HL-116	Porcelain tube, for resistances HL-2117, 2115, 2119, 2598, 5600, 5601 . . . . .	.64

Wiring Equipment Parts

HL-2105	Single plug receptacle, complete	\$1.12
HL-105	Porcelain block, for receptacle HL-2105 . . . . .	.64
HL-2141	Double plug receptacle, complete	2.24
HL-141	Porcelain block, for receptacle HL-2141	1.28
HL-2108	Plug receptacle complete, less porcelain block, for HL-2105 and HL-2141 . . . . .	.80
HL-110	One-way snap switch	1.36
HL-140	Two-way snap switch	2.72
HL-133	Fuse block, new style (standard), for N. E. C. cartridge fuse	1.36
HL-113	Fuse block, old style, for Type A cartridge fuse	1.36
HL-134	Fuse, 600 volts, 6 amperes, for fuse block HL-13396
HL-114	Fuse, 600 volts, 6 amperes, Type A, for fuse block HL-11396

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COMPANY

Y

Z

How the Western Electric Company Helps Its Agents

The profitable sale of electrical commodities is largely a matter of good retail merchandising.

The Western Electric Company, in seeking the business of the dealer, offers both in volume and variety, a degree of coöperation that is unequalled by any other distributor of electrical supplies.

Here is a synopsis of what the Western Electric Company will do for an agent:

1. Furnish a supply of stuffers, booklets, post cards and other literature designed for mailing direct to the local trade. These will be imprinted with the dealer's name.
2. Supply the dealer, imprinted with his name, attractive cards for street-car advertising.
3. Furnish lantern slides imprinted with the dealer's name for use in moving picture theaters. These are attractive and cover our entire line of advertised specialties.
4. Furnish sets of window cards and complete instructions for making the show window a real business puller.
5. Furnish electrotypes for local newspaper advertising. The use of these identifies the dealer as the local distributor of high-quality electrical products marked with the widely advertised name "Western Electric."
6. Refer inquiries originating in his territory for the dealer to follow up. Our extensive national advertising is creating a wide demand for our products, but we prefer to accept no business direct. All of this advertising directs the reader to the electrical dealer. We must have, therefore, in every community a live dealer with up-to-date merchandising and sales methods, anxious to identify himself as the local Western Electric representative.

On the following pages you will find cataloged the various dealers' helps that we are prepared to furnish. These are all furnished free—order by number. If the dealers' helps shown here do not meet with your ideas and local conditions, let us prepare something especially designed for your use.

INTER-PHONES

Newspaper Printing Plates


T-220
Single Column
 3½ Inches High

T-221
Single Column
 3½ Inches High

T-222
Single Column
 6 Inches High

T-223
Single Column
 6 Inches High

T-224
Double Column
 6 Inches High

Lantern Slides

LS-535

LS-536

LS-537
Window Display


INTER-PHONES

Window Card



C-706

Small Folder



B-111
Descriptive of
Nos. 14, 15, 16 and 17 Outfits

TOY RANGE

Newspaper Printing Plates



R-1
In ordering, specify if plates are to be single
or double column size



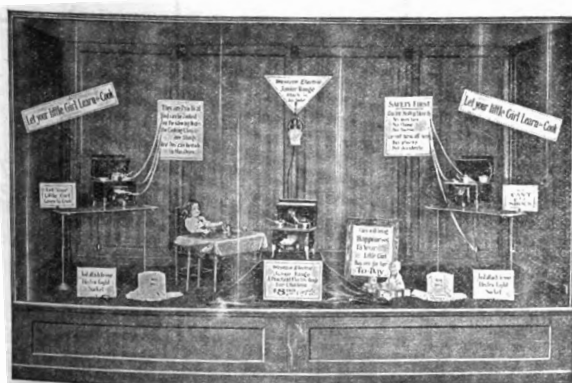
R-2

Lantern Slide



LS-538

Window Display



**Western Electric
COMPANY**

TOY RANGE

Small Folder

Window Card



C-707



B-112

ELECTRIC RANGES

Newspaper Printing Plates

ER-1

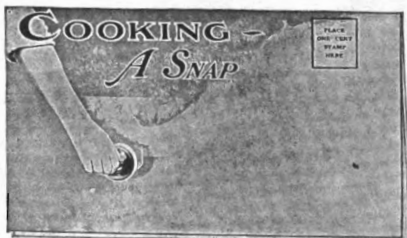
ER-2

Lantern Slide



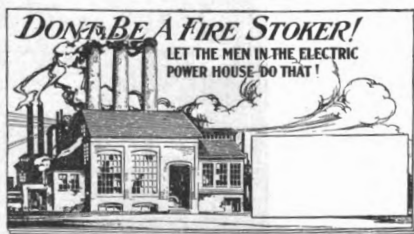
LS-539

Small Folders



B-113

Descriptive of No. 17 Range



B-115

Descriptive of all types except Toy Range

VACUUM CLEANERS

Newspaper Printing Plates

**Don't
Turn Your House
Up-side-down**

THINK of the trouble and work you make for yourself sweeping and dusting all day with the broom and dust rag—adding the dust from one place only to have it settle again somewhere else.

Clean your home with a

**Western Electric
Vacuum Cleaner**

It is so easy—it takes up every particle of dirt and dust quickly and efficiently. There is no dusting necessary and you are through without leaving the least bit of dirt.

Attach to any electric lamp socket. Price \$32.50—may vary.

Costs in and use this new machine.

(Your Name Here)



**V-111
Double Column
6½ inches high**

**All the Cleaning
Done and
the Day
Still
Young**

When you clean with a

**Western Electric
Vacuum Cleaner**

It will do your cleaning so fast that you finish the job that takes so long with the broom and dust rag, just much in any thirty-minute cycle in and out the machine.

(Your Name Here)



**V-112
Single Column
4¼ inches high**

**Cleaner
than a
New Broom
and
Easier**

The

**Western Electric
Vacuum Cleaner**

will clean your floor, draperies, furniture and clothing quickly and effectively—no dusting necessary. Attach to any electric lamp socket. Price \$32.50—may vary.

(Your Name Here)



**V-113
Single Column
4¼ inches high**

**Don't let
your
Housework
Wear You
Out**

Clean your home with a


**Western Electric
Vacuum Cleaner**

and you will not feel all worn out when the work is done. It will do your cleaning so fast that you finish the same that involves to do it with the broom and dust rag. It gets all the dirt and dust from the floor and draperies not a particle of dust escapes.

Attach to any electric lamp socket. Price \$32.50—may vary.

Costs in and use this new machine.

(Your Name Here)



**V-114
Single Column
6½ inches high**

**Don't Work
All Day—**

—A—

**Western Electric
Vacuum Cleaner**

It will do your home cleaning so fast that you finish the same that involves to do it with the broom and dust rag. It gets all the dirt and dust from the floor and draperies not a particle of dust escapes.

Attach to any electric lamp socket. Price \$32.50—may vary.

Costs in and use this new machine at savings for a demonstration in your home.

(Your Name Here)



**V-116
Single Column
6½ inches high**

Lantern Slides



LS-526



LS-527

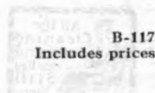
Window Display



VACUUM CLEANERS
Window Card


C-703

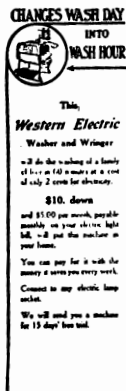
Small Folders

B-116
Does not include prices

B-117
Includes prices

WASHING MACHINES
Newspaper Printing Plates

W-1
Double Column
6 3/4 inches high

W-2
Single Column
6 1/2 inches high

W-7
Single Column
6 1/2 inches high

W-8
Single Column
6 1/2 inches high

Lantern Slides

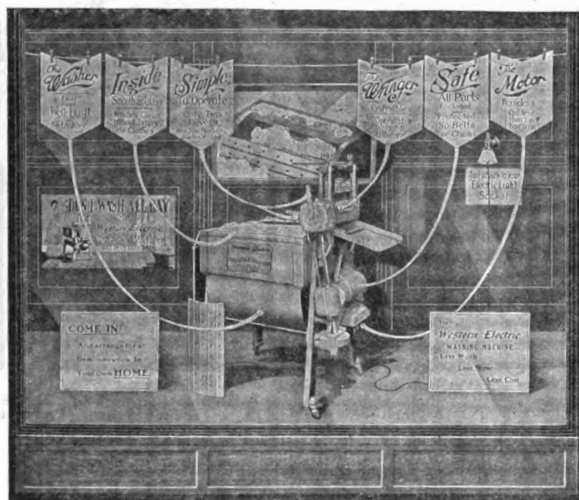

LS-524



LS-525

WASHING MACHINES

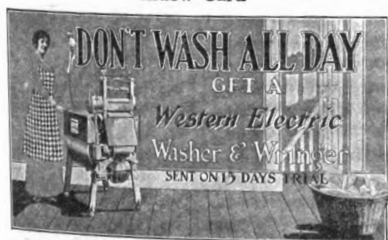
Window Display



W-31

Small Folders

Window Card



C-702



B-118
Does not include prices



B-119
Includes prices

FANS

Lantern Slides



LS-515



LS-517



LS-518

FANS

Newspaper Printing Plates



F-37
Double Column
 6½ inches high



F-36
Single Column
 6½ inches high

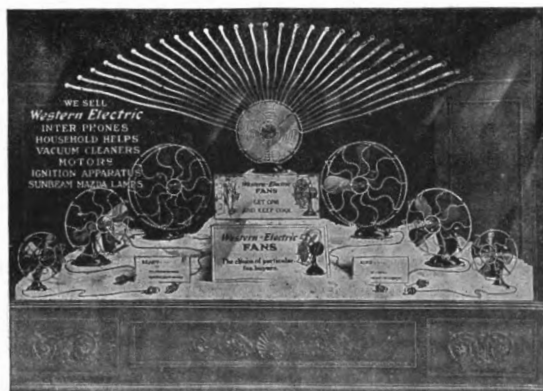


F-43
Double Column
 6½ inches high

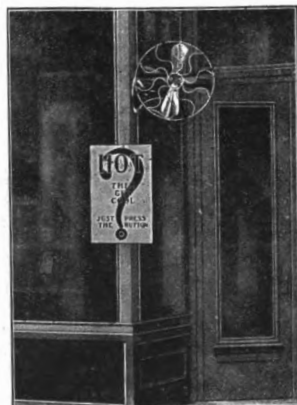


F-44
Single Column
 6½ inches high

Window Displays



W-41



W-42

Window Card



G-704

Small Folder



B-107

ADJUSTABLE TELEPHONE BRACKET

Newspaper Printing Plate



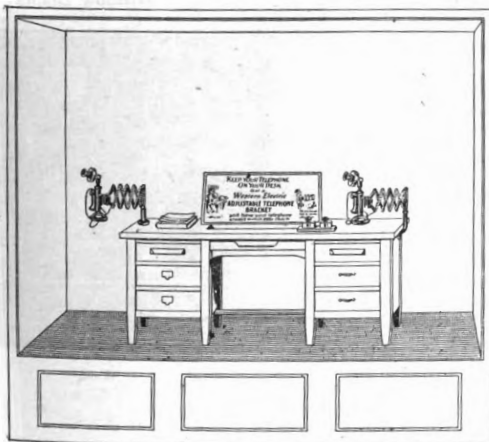
TB-1
Single Column
6 inches high

Window Card



C-705

Window Display



W-22

Lantern Slide



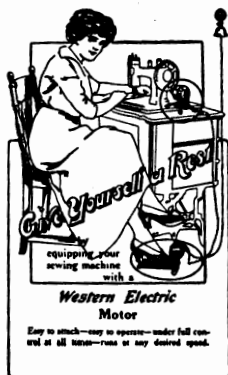
Small Folder



B-152

SEWING MACHINE MOTORS

Newspaper Printing Plate



SM-1

Lantern Slide



LS-540

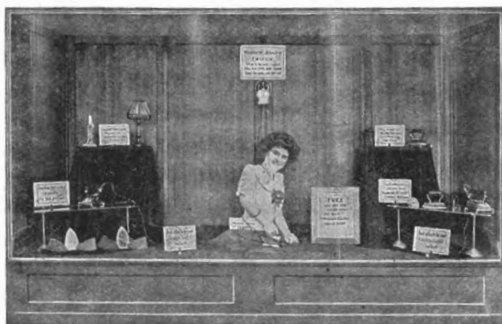
Small Folder



B-115

IRONS

Window Display



W-98

Lantern Slide



LS-530

TOASTER

WARMING PAD

BUSINESS MOTORS

Lantern Slides



LS-529



LS-528



LS-532



LS-533

WINDOW TRANSPARENCIES



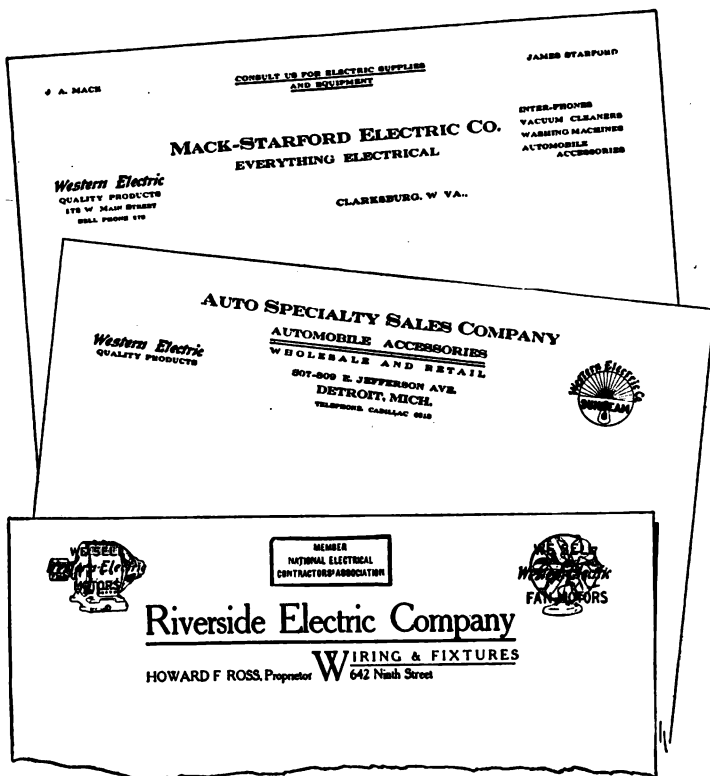
WT-1



WT-2

TRADE-MARK ELECTROTYPES

For use on Letter and Bill Heads—Furnished Free



Newspaper Printing Plates

S-410
← **Single Column**
3½ inches high

S-401
← Double Column
6½ inches high

ORDER FOR SALES HELPS

191

Western Electric Company

Please furnish the sales helps indicated below.

It is agreed that these will be used to the best advantage.

	Sales Help No.	Quantity	Sales Help No.	Quantity
NEWSPAPER PRINTING PLATES				
LANTERN SLIDES				
WINDOW DISPLAYS				
WINDOW CARDS				
SMALL FOLDERS				

The Imprint should read exactly as follows:

(Name of Co.) _____

(By) _____
Digitized by Google

TELEPHONE EQUIPMENT

We here describe the standard types of Western Electric telephones and switchboards. The choice of any particular apparatus to meet specific conditions is more or less a matter of personal preference. The following general principles, however, are intended as guides in selecting suitable equipment.

Selection of Equipment

INTER-PHONE SYSTEMS

Intended to provide communication between various points in one or several buildings without necessitating a connection through a telephone switchboard. From 2 to 24 stations may be used together. No operator is required, as the signaling and talking circuits can be controlled from any station. The ideal system where there is much intercommunication in or between buildings and no outside calls to an exchange.

Index

The various systems for which Inter-phones are adapted are as follows:

Two Stations Only. Two line wires. System No. 14.

Two to Six Stations. Code ringing—common talking. Three to four line wires. System No. 15.

Three to Nine Stations. Selective ringing—common talking. System No. 11.

One Master Station and not more than twelve outlying stations. System No. 12.

One Central Station and any number of outlying stations. Two to three line wires. System No. 16.

Three to Twenty-four Stations. Selective ringing and talking between all stations. System No. 1.

A System Allowing Secret Conversations. Between certain stations, being a modification of System No. 1. System No. 4.

Apartment-House System, providing service between the vestibule and apartments. System No. 7.

Apartment House System, providing service between the (a) vestibule and apartments; (b) apartments and the janitor; (c) vestibule and janitor. System No. 8.

Apartment House System, providing service between the (a) vestibule and apartments; (b) vestibule and janitor; (c) apartments and janitor; (d) apartments and tradesmen. System No. 9.

Apartment House System, adapted to large buildings, similar to System No. 9. System No. 10.

A Mechanical General Alarm or Code Signaling System, providing a mechanical means of signaling by ringing a system of bells by code.

Inter-phone Outfit Sets 14A and B, 15A and B and 16A and B.

SWITCHBOARDS

We are prepared to furnish telephone switchboards of any size or capacity. The scope of this type of equipment is so broad that it is not possible to go into any detail in this catalog, but we will be glad to submit a proposition upon receipt of specifications or to have our engineers call and give you any information you may desire.

PRIVATE EXCHANGE SWITCHBOARDS

Intended primarily to provide communication between various points in one or several buildings, but in addition may be secured without or with provision for connection to a general public telephone exchange (either magneto or central battery).

No. 1801 Switchboard is a unit type board, to which may be connected from 20 to 100 stations. The units fit together like a sectional bookcase, each unit having a capacity of 20 lines. This feature makes it possible to secure a board of 20 lines and to increase its capacity up to 100 lines at any time by simply adding units. This type of board is usually operated by elevator operators, janitors, office boys, stenographers or clerks, and is suitable for apartment houses, hotels, Y. M. C. A. buildings, manufacturing establishments, schools, hospitals, asylums, prisons; in fact, anywhere where there is a large percentage of intercommunication in or between buildings and only a small percentage of outside calls to an exchange.

Cordless Private Branch Exchange Switchboards. The connecting key apparatus is mounted in a small wooden cabinet which may be placed on an ordinary desk or table. In general use where the operator has other duties to perform, and particularly recommended for those small systems having 7 stations or less where a large percentage of calls is to be connected to a general public telephone exchange.

Private Exchange Switchboards (Nos. 1260 to 1290). Are recommended for those systems having 40 or more up to 300 stations. They are constructed to be used where the operator is exclusively busy answering calls and is not supposed to perform clerical duties.

Private Exchange Switchboards (Nos. 1300 to 1350). Provided for conditions similar to those met by the Nos. 1260 to 1290 switchboards but where the operator has clerical duties to perform in addition to answering calls. The board is arranged with a large writing surface and has either one or two tiers of drawers.

SELECTION OF EQUIPMENT—Continued

MAGNETO SWITCHBOARDS

Intended to provide service in small public telephone exchanges having 10 or more up to 300 subscribers.

Magneto Wall Cabinet Switchboards (Type No. 1012). This is the smallest type of switchboard we manufacture and is entirely satisfactory for exchanges having 10 subscribers' lines or less, where the switchboard is without a regular attendant, as when located in a store. The cabinet has a capacity of 10 subscribers' lines and 4 cord circuits but no toll lines. Ringers are used in place of drops.

Magneto Wall Cabinet Switchboards (Type No. 106). This wall cabinet switchboard is similar to type No. 1012 and is entirely satisfactory for exchanges having 10 subscribers' lines or less and where the switchboard is under steady supervision. The cabinet has a capacity of 10 subscribers' lines, 4 cord circuits and 1 toll line. Drops are used in place of ringers.

Sectional Unit Type Switchboards (Type No. 1800). Particularly developed to provide service for the small, rapidly growing telephone exchange having a maximum capacity of 50 lines. The board consists of units which fit together like a sectional bookcase, making it possible to secure an equipment to take care of 10 lines or less but which can be increased to 50 lines at any time by simply adding units. There are units arranged to give every class of service desired.

Non-multiple Magneto Switchboards. These switchboards are designed for the medium size magneto exchange. The smallest board (No. 1200) has a capacity of 60 lines and the largest (No. 1250) a capacity of 330 lines. Additional capacity can be secured by lining up a number of these switchboard sections. However, non-multiple magneto equipment is not recommended for exchanges of more than 330 lines.

CENTRAL BATTERY SWITCHBOARDS

Non-multiple Convertible Central Battery Switchboards. These switchboards are so designed that they can be used originally for magneto service, and can be converted at will for central battery operation. They are furnished in 165 and 330 line capacities.

Non-multiple Central Battery Switchboards. These switchboards are for central battery telephone systems where the ultimate equipment will not exceed 500 lines. This kind of lamp signal, non-multiple switchboard is arranged with or without magneto toll and rural lines ending in combined jacks and signals. Those switchboards equipped with magneto lines have a portion of the cords arranged for combination operation; that is, the answering end is arranged to operate with magneto lines and the calling end with either central battery or magneto lines.

TELEPHONES

These are classified in this catalog as follows:

(a) **Magneto Telephones.** These telephones are, sometimes called local battery telephones. For use in connection with magneto switchboards in small towns or rural systems, or on private lines where two or more instruments are used to communicate with each other. Each instrument requires two or three dry batteries to furnish the necessary talking current. Signaling is accomplished by turning the crank of a magneto generator with which each instrument is equipped.

(b) **Telephones for Use With No. 1801 Switchboards.** These telephones are especially arranged and adapted for use with the No. 1801 Private Exchange Switchboard System.

(c) **Central Battery Telephones.** For use in all standard central battery telephone systems including private exchanges and P. B. X. systems of the central battery class.

In central battery systems it is only necessary to lift the receiver of the telephone instrument from the hook in order to attract the attention of the operator.

(d) **Mine Telephones.** The Western Electric mine telephone is a special adaptation of the world's standard "Bell" telephone, constructed to meet the exacting conditions of mine service.

The metal used is fireproof, moisture-proof and rustproof.

With the mine telephone any part of the mine—above or below ground—can be reached at any moment. Trains can be intercepted at any point and instructions can be changed immediately to meet any new condition. A mine telephone installation will save you unnecessary delays, will prevent accidents, and will enable you to carry on all operations in harmony with each other.

Our mine telephone engineer will gladly give you complete data on that system which is particularly suitable for your mine. We have not attempted here to list the apparatus in detail, but wish to solicit your inquiries.

(e) **Railway Telephones.** As with the mine telephone equipment, we find it manifestly impossible to show all types and combinations of railroad telephone apparatus, but prefer that you take up with our engineer the special problem in hand.

One of the important factors to be considered in the purchase of railway telephone apparatus is the certainty of a permanent source of supply, both for repairs and additional parts.

MISCELLANEOUS TELEPHONE APPARATUS AND ACCESSORIES

There is a Western Electric type of telephone to satisfactorily meet all standard service conditions. For special requirements, such as pole service, fire service and railways, there are special instruments.

Over 8,000,000 Western Electric telephones are in daily use throughout the world, handling efficiently both local and long distance telephone messages.

Our enormous output enables us to purchase our raw material in large quantities at a low cost. This, together with unequalled manufacturing facilities, makes it possible for us to offer our standard telephones at most reasonable prices. We solicit your inquiries.

Telephone Equipment

HAND-SET TYPE INTER-PHONES

The Hand Set, or Hand Microphone as it is sometimes called, is often more convenient than the ordinary wall or desk telephone, and is preferred by many telephone-users, as it can be held and operated with either hand, leaving one hand free.

It is compact, light, and inexpensive, and can be hung on a hook or laid down in any position when not in use.

Hand Set Inter-phones are of two general types, flush and non-flush, as applied to the method of mounting the apparatus box. These are made up as follows:

FLUSH TYPE

- (a) Hand Set
- (b) Flush apparatus box made up of:
 - 1 flush plate (brush brass) No. 12007 W. E. Catalog
 - 1 wall box No. 110985 W. E. Catalog
 - 1 Apparatus Unit No. 382

NON-FLUSH TYPE

- (a) Hand Set
- (b) Non-flush apparatus box No. 383

These two types cover the equipment in general, but there are special features, such as Hand Sets equipped with plugs, long extension cords for bed service, etc., discussed under the systems following.

The contractor's attention is called to the use of standard boxes and face plates, as described below.

The Hand Set

We manufacture two general types of hand sets for Inter-phone service, known as No. 1003-A and 1003-B.

Both of these hand sets are equipped with a grip push bar which is operated by grasping the handle firmly. The operation of this "grip" opens one contact and closes another, performing the function of a switch hook. It is marked "Press to Talk."

The "B" hand set differs from the "A" in that it has, in addition to the "grip," above described, a white button for ringing or signaling the distant station. When operated, it opens one and closes one contact.

The No. 1003-A and No. 1003-B hand sets are uncorded. When corded they are assigned designating code letters and are adapted to the various systems later described.

Associate Apparatus

An Apparatus Box, in which are mounted the signaling buzzer and the connecting terminals for the wires, must be associated with the Hand Set in order to complete the Inter-phone. These apparatus boxes are furnished in two types, viz.: Flush and Non-flush.

Flush Apparatus Box: This consists of three parts: the Wall Box, the Apparatus Unit, and the Face Plate.

An important point to be observed is that the Wall Box and the Face Plate are the same as used in electric-light wiring for push-button switches. This feature is of special importance to the contractor, since it allows him to draw on his own stock for these parts. For this reason, we are prepared to furnish sets complete, including wall box and flush plate, or minus these parts, as desired.

Non-Flush Apparatus Box: This box is intended for use in buildings where it is not convenient to mount the flush type. Finished in dull black with nickel trimmings. Approximate size, 3 1/4" diameter by 1 1/8" deep.

Complete Connection Diagram furnished with each Inter-phone



No. 1003-A Hand Set



No. 1003-B Hand Set



No. 1003-B Hand Set,
Cover Removed



No. 382
Apparatus Unit



Face Plate
No. 12007



Wall Box
No. 580009



No. 383
Non-Flush Apparatus Box



No. 383
Non-Flush Apparatus Box,
Cover Removed

INTER-PHONE SYSTEM NO. 14

Private Line Telephones

Two sets only can be connected on a line. Two conductors are necessary. Batteries are required at both stations.



No. 1327-AA

 Code No.
 1327-AA

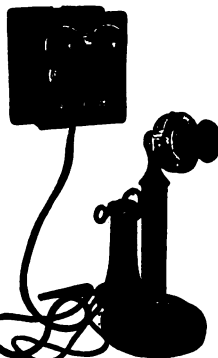
WALL SET

Description

A compact golden oak instrument. The cabinet measures 5 1/4 inches wide, 6 7/8 inches long, 3 1/4 inches deep. Trim-mings are nickel. Includes a ringing button, 1 No. 13 induction coil, 1 No. 179-W receiver, 1 No. 294-W trans-mitter, 1 No. 360-2 1/2 foot receiver cord, 1 No. 101398 bell.

 List Price
 Each

\$7.50



No. 6015-J

 Code No.
 6015-J

DESK SET

Description

Consists of a No. 318-K golden oak desk set box, in which a ringing button, a No. 13 induction coil and a No. 101398 bell are mounted, and a No. 1020-AW black finish desk stand, equipped with 1 No. 143-AW receiver, 1 No. 302-W transmitter, 1 No. 452-6 foot desk stand cord, 1 No. 360-3 foot receiver cord, 2 No. 466 9 7/8 inch transmitter cords.

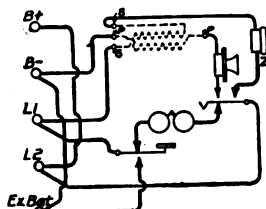
 List Price
 Each

\$16.40

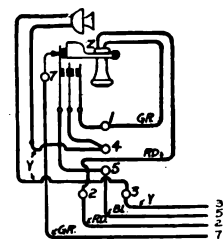
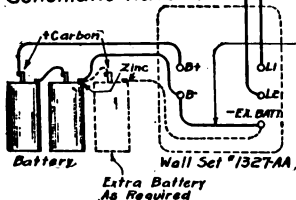
Battery Requirements

Use two Blue Bell dry cells at each station for the talking battery in all cases. For signaling the following additional dry cells will be required at each station when the distance between the sets does not exceed the lengths given:

Length of Line	B. & S. Gauge Copper Wire			
	No. 12	No. 14	No. 16	No. 18
	Number of Cells			
750 feet	1	1	1	1
1000 "	1	1	1	2
1500 "	1	1	1	3
2000 "	1	1	2	
2500 "	1	2	3	
3000 "	1	2		
4000 "	2	3		
5000 "	2			
6000 "	3			



Schematic No. 1327-AA

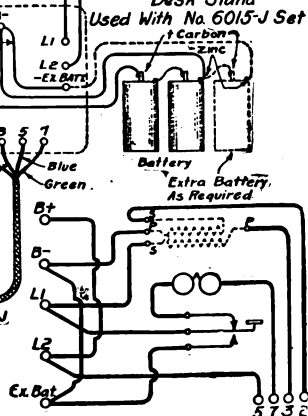
Schematic No. 1020-AW
Desk Stand
Used With No. 6015-J Set

Schematic No. 1327-AA

This Wire Must Be Cut
When More Than Two
Batteries Are Used.



Schematic No. 6015-J



Wiring Diagram—Inter-phone System No. 14

Schematic No. 318-K
Desk Set Box Used With No. 6015-J Set

Complete Connection Diagram furnished with each Inter-phone

Telephone Equipment

INTER-PHONE SYSTEM NO. 15

Code Ringing, Common Talking

A common talking, code-ringing system arranged for two to six stations. Three wires are required when there are only two stations. When there are more than two stations, four wires are necessary. **ONE STATION MUST HAVE A RETARDATION COIL.** Also, where there are more than two stations, the retardation coil set should be located as near the center of the system as possible.

ONE SET OF BATTERIES ONLY IS REQUIRED, WHICH MUST BE CONNECTED TO THE SYSTEM THROUGH THE RETARDATION COIL OR BATTERY STATION.

WALL SETS

Code No.	Description	List Price Each
1327-S	A compact, golden oak instrument, with nickel trimmings. Cabinet measures $5\frac{1}{2}$ inches wide by $6\frac{1}{2}$ inches long by $3\frac{1}{4}$ inches deep. Includes 1 No. 179-W receiver, 1 No. 294-W transmitter, 1 No. 101398 bell, 1 No. 360-2 $\frac{1}{2}$ -ft. receiver cord, 1 No. 51-C retardation coil. Must be used as the battery station.....	\$7.50
1327-T	Same as No. 1327-S except not equipped with retardation coil. Can be used for non-battery stations only.....	6.80
1339-L	A flush mounting metal case instrument, face plate finished regularly in brush brass. Metal wall box is included. Equipped with 1 No. 180-W receiver, 1 No. 294-W transmitter, 1 No. 101400 bell, 1 No. 360-2 $\frac{1}{2}$ -ft. receiver cord, 1 No. 51-C retardation coil. Must be used as the battery station. Size of face plate: $5\frac{1}{2}$ inches wide by $8\frac{1}{2}$ inches long. Size of wall box: $3\frac{1}{2}$ inches wide by $6\frac{1}{2}$ inches long by $2\frac{1}{2}$ inches deep.....	11.30
1339-M	Same as No. 1339-L except not equipped with retardation coil. Can be used for non-battery stations only.....	10.00



No. 1327-S and T. Wall Sets



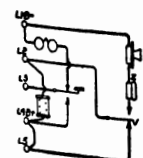
No. 1339-L and M

DESK SETS

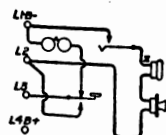
6034-AS	The most compact instrument of its kind on the market. The ringing button is in the stem, and the signal buzzer in the base of the stand. Includes two connecting blocks, 1 No. 51-E retardation coil, and 1 No. 1320-BG black finish desk stand, equipped with 1 No. 179-W receiver, 1 No. 302-W transmitter, 1 No. 433-6-ft. desk stand cord, 1 No. 360-3-ft. receiver cord, and 2 No. 466-11 $\frac{1}{2}$ -in. transmitter cords. Must be used as the battery station.....	\$16.90
6034-AR	This instrument is exactly the same in appearance as the No. 6034-AS except that no retardation coil is furnished. Includes two connecting blocks and a No. 1220-BG black finish desk stand equipped with 1 No. 179-W receiver, 1 No. 302-W transmitter, 1 No. 433-6-ft. desk stand cord, 1 No. 360-3-ft. receiver cord, and 2 No. 466-11 $\frac{1}{2}$ -in. transmitter cords. Can be used for non-battery stations only.....	16.00



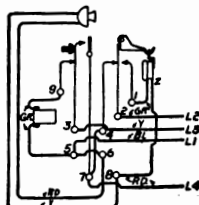
No. 6034-AR. Desk Set



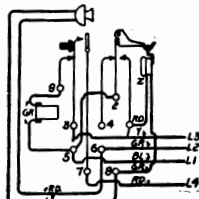
Schematic No. 1327-S & 1339-L



Schematic No. 1327-T & 1339-M



Schematic No. 6034-AS



Schematic No. 6034-AR

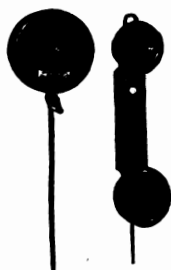
Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE SYSTEM NO. 15 (Continued)
HAND SETS
Flush Type


No. 6042-A



No. 6042-II and J

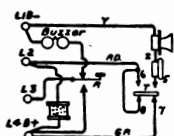


No. 6043-A and B

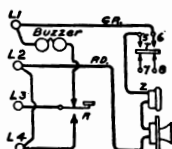
Code No.	Description	List Price Each
6042-A	Consists of 1 No. 382-A apparatus unit, containing 1 push button, 1- 15-ohm buzzer, 1 No. 51-C retardation coil, line terminals and hook for hand set. No. 1003-L hand set. Can be used for the battery station only.....	\$9.30
6042-II	Same as No. 6042-A, but complete with 1 No. 12007 brush brass II. & H. face plate, size $4\frac{1}{2} \times 2\frac{3}{4}$ in.; 1 No. 580009 wall box, size $2'' \times 3'' \times 3''$ deep. Can be used for the battery station only.....	9.70
6042-B	Consists of 1 No. 382-B apparatus unit (same as No. 382-A, less retardation coil), and 1 No. 1003-K hand set. Can be used for non-battery stations only.....	8.40
6042-J	Same as No. 6042-B, but complete with 1 No. 12007 brush brass face plate, size $4\frac{1}{2}$ in. \times $2\frac{3}{4}$ in.; 1 No. 580009 wall box, size $2'' \times 3'' \times 3''$ deep. Can be used for non-battery stations only.....	8.90

Non-Flush Type

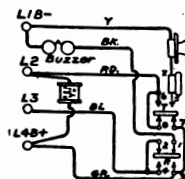
6043-A	Consists of 1 No. 383-A apparatus box, containing 1- 15-ohm buzzer, 1- No. 51-C retardation coil, line terminals, and hook for hand set. 1 No. 1003-M hand set. Can be used for the battery station only.....	10.00
6043-B	Consists of 1 No. 383-B apparatus box (same as the No. 383-A, less retardation coil). 1 No. 1003-N hand set. Can be used for non-battery stations only.....	9.30



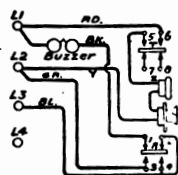
Schematic No. 6042-A-B



Schematic Nos. 6042-II-J



Schematic No. 6043-A



Schematic No. 6043-B

Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE SYSTEM NO. 11

Selective Ringing, Common Talking

Instruments are furnished in 4- and 8-button sizes, having capacities of 5- and 9-stations respectively. Three common wires and one individual wire for each station are necessary. One station, located preferably near the center of the system, must have a retardation coil. One set of batteries is required, which must be connected to the system through this retardation coil station.

WALL SETS

No. 1327 type. These are compact instruments, having golden oak cabinets with nickel trimmings $5\frac{3}{4}$ inches wide by $6\frac{1}{4}$ inches long by $3\frac{1}{4}$ inches deep. Equipped with 1 No. 179-W receiver, 1 No. 394-W transmitter, 1 No. 360-2½ ft. receiver cord, and 1 No. 101398 bell. In addition to the above equipment, the battery station instruments Nos. 1327-J and -L are equipped with 1 No. 51-C retardation coil.

Code No.	Capacity	Use	List Price Each
1327-J	4-buttons	Battery station only.....	\$12.40
1327-K	4-buttons	Non-battery stations only.....	11.80
1327-L	8-buttons	Battery station only.....	13.50
1327-M	8-buttons	Non-battery stations only.....	13.00



No. 1339 type. A flush mounting metal case instrument, face plate regularly finished in brush brass. Metal wall box is included.

Equipped with 1 No. 180-W receiver, 1 No. 294-W transmitter, 1 No. 360-2½-ft. receiver cord, and 1 No. 101400 bell. In addition to the above equipment, the battery station instruments Nos. 1339-B and -D are equipped with 1 No. 51-C retardation coil.

Size of face plate:

4-button— $5\frac{1}{8}$ in. wide by $8\frac{1}{8}$ in. long
8-button— $5\frac{1}{8}$ in. wide by $9\frac{1}{8}$ in. long

Size of wall box:

4-button— $3\frac{1}{8}$ in. wide by $6\frac{5}{8}$ in. long by $2\frac{3}{8}$ in. deep
8-button— $3\frac{1}{8}$ in. wide by $7\frac{1}{8}$ in. long by $2\frac{3}{8}$ in. deep

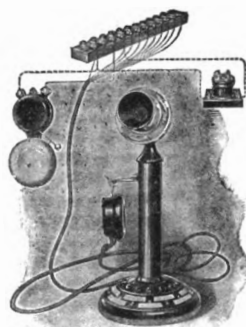


1339-B	4-buttons	Battery station.....	\$17.60
1339-C	4-buttons	Non-battery stations.....	16.90
1339-D	8-buttons	Battery station.....	22.00
1339-E	8-buttons	Non-battery stations.....	21.40

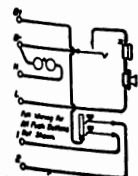
DESK SETS

No. 6034 type. These desk Inter-phones consist of 1 No. 8 type connecting block, 1 No. 11-B bell, and a standard black finish desk stand with ringing buttons in the base, equipped with 1 No. 179-W receiver, 1 No. 302-W transmitter, 1 No. 360-3 ft. receiver cord, 1 No. 494-9½ in. transmitter cord, 1 No. 466-10½ in. transmitter cord, and 1 No. 495-6 ft. 2 conductor cord. In addition the No. 1020-AS 4-button stand is equipped with 1 No. 497-6 ft. 5 conductor cord, and the No. 1020-AT 8-button stand with 1 No. 496-6 ft. 9 conductor cord.

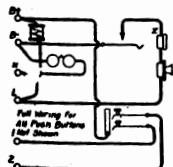
Code No.	Capacity	Desk Stand	Retard. Coil	Connecting Block	Use	List Price Each
6034-R	4-button	1020-AS		8-E	Battery station only..	\$17.90
6034-M	4-button	1020-AS		8-E	Non-battery " " ..	17.00
6034-N	8-button	1020-AT	51-E	8-F	Battery station only..	20.30
6034-P	8-button	1020-AT		8-F	Non-battery " " ..	19.40



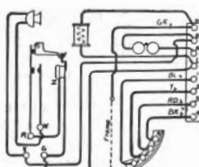
No. 6034-N Desk Set



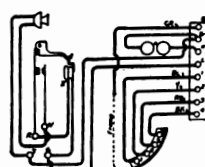
Schematic No. 1327-J, K, L & 1339-C, D



Schematic No. 1327-L & 1339-D

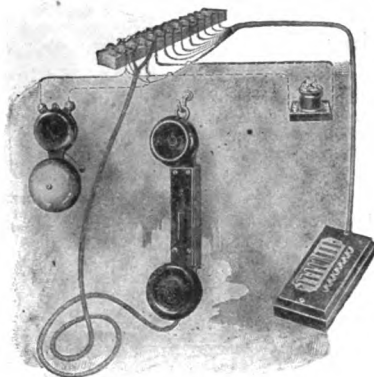


Schematic No. 6034-R, M



Schematic No. 6034-N, P

Complete Connection Diagram furnished with each Inter-Phone

INTER-PHONE SYSTEM NO. 11 (Continued)


No. 6034-BA

HAND SETS

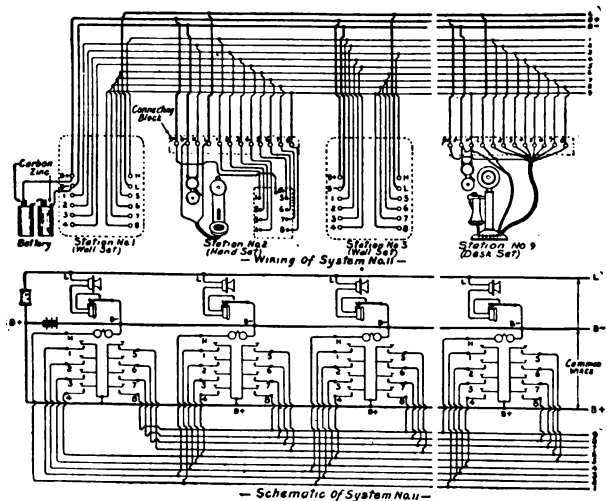
These consist of 1 No. 1003-K hand set, with 1 No. 477-3 ft. cord, 1 No. 141-A switch hook, 1 No. 8 type connecting block, No. 11-B bell, either one 4- or 8-button push button block with 1- 6-ft. connecting cord, and, in the case of the battery stations, with 1 No. 51-E retardation coil.

Code No.	Capacity	Push Button Block	Connecting Cord 6 ft.	Retardation Coil	Use	List Price Each
6034-AY	4-button	No. 111072	No. 431	No. 51-E	Battery station only.....	\$15.30
6034-AZ	4-button	No. 111072	No. 431		Non-battery station only.....	14.30
6034-BA	8-button	No. 111073	No. 432	No. 51-E	Battery station only.....	17.60
6034-BB	8-button	No. 111073	No. 432		Non-battery station only.....	16.80

Battery Requirements

Four to five Blue Bell dry cells are required when the wire distance between the two sets farthest apart is 750 feet or less, and the line wire composed of No. 22 B. & S. gauge copper conductors. On lines of greater length it is recommended that instead of increasing the number of battery cells to more than 5, larger wire be used as follows:

750-1000 feet—No. 20 B. & S. gauge
 1000-1500 feet—No. 18 B. & S. gauge
 1500-2500 feet—No. 16 B. & S. gauge

Connecting Diagrams and Schematics

Connecting Stations

- 1st Operation: Connect the cable conductors exactly the same at all stations.
- 2nd Operation: Then reverse the wires connected to terminals marked H and 1 at station 1; H and 2 at station 2; H and 3 at station 3, etc., up to the last station where no changes should be made.

Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE SYSTEM NO. 12

Master and Outlying Stations

Intended for schools, mercantile establishments, etc., where it is desired to call and be called from a central point, or master station. The master station can call any of the outlying stations selectively, or the outlying stations can call the master station, but cannot call each other. Three common and one individual conductors are required between the master station and the outlying stations. Only one set of batteries is required, which must be located near the master station.

MASTER WALL SETS

No. 1327 Type. These are compact instruments having golden oak cabinets with nickel trimmings, and measure $5\frac{3}{4}$ inches wide by $6\frac{1}{2}$ inches long by $3\frac{1}{4}$ inches deep.

Equipment includes 1 No. 179-W receiver, 1 No. 294-W transmitter, 1 No. 360-2½ foot receiver cord, 1 No. 101398 bell, and 1 No. 51-C retardation coil.

Code No.	Capacity	List Price Each
1327-W	4 buttons	\$12.40
1327-Y	8 buttons	13.50



No. 1327-Y. Master Wall Set

No. 1339 Type. A flush mounting metal case instrument with face plate regularly finished in brush brass. Metal wall box is included.

Size of face plate: 4 button, $5\frac{1}{8}$ inches wide by $8\frac{1}{8}$ inches long.

8 button, $5\frac{1}{8}$ inches wide by $9\frac{1}{8}$ inches long.

Size of wall box: 4 button, $3\frac{1}{8}$ inches wide by $6\frac{1}{2}$ inches long by $2\frac{3}{8}$ inches deep.

8 button, $3\frac{1}{8}$ inches wide by $7\frac{1}{4}$ inches long by $2\frac{3}{8}$ inches deep.

Equipped with 1 No. 180-W receiver, 1 No. 294-W transmitter, 1 No. 360-2½ foot receiver cord, 1 No. 101410 bell, and 1 No. 51-C retardation coil.

Code No.	Capacity	List Price Each
1339-F	4 buttons	\$17.60
1339-G	8 buttons	22.00



No. 1339-G. Master Wall Set

No. 1324 Type. A non-flush metal set having a hinged front and adjustable transmitter. Black finish with nickel trimmings. Made only in the 12-button size. Size of cabinet 10 inches long by $6\frac{1}{2}$ inches wide by $3\frac{1}{2}$ inches deep.

Equipped with 1 No. 143-AW receiver, 1 No. 303-W transmitter, 1 No. 10-3 foot receiver cord, 1 No. 101398 bell, and 1 No. 51-C retardation coil.

Code No.	Capacity	List Price Each
1324-J	12 buttons	\$20.90



No. 1324-J. Master Wall Set

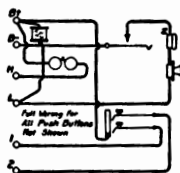
No. 1325 Type. A flush mounting metal set having a hinged front, adjustable transmitter and separable wall box. Black finish with nickel trimmings. Made only in the 12-button size.

Size of face plate: 10 inches long by $6\frac{1}{2}$ inches wide.

Size of wall box: $8\frac{1}{8}$ inches long by 5 inches wide by $2\frac{3}{8}$ inches deep.

Equipped with 1 No. 143-AW receiver, 1 No. 303-W transmitter, 1 No. 419-2½ foot receiver cord, 1 No. 101398 bell, and 1 No. 51-C retardation coil.

Code No.	Capacity	List Price Each
1325-M	12 buttons	\$20.90



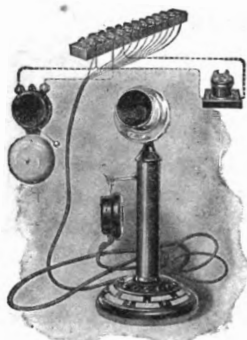
Schematic No. 1327-W-1339-G
1324-J & 1325-M



No. 1325-M. Master Wall Set

Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE SYSTEM NO. 12 (Continued)



No. 6034-Type. Desk Set



No. 6016-R. Desk Set

MASTER DESK SETS

No. 6034 Type. These master desk instruments consist of 1 No. 8 type connecting block, 1 No. 11B bell, 1 No. 51-E retardation coil and a standard black finish desk stand with ringing buttons in the base, equipped with 1 No. 179-W receiver, 1 No. 302-W transmitter, 1 No. 495-6 foot two-conductor cord, 1 No. 360-3 foot receiver cord. In addition the stands are equipped with a 6 foot line cord, having 5 or 9 conductors respectively.

Code No.	Capacity	Desk Stand	Connecting Block	6 Foot Line Cord	List Price Each
6034-L	4 buttons	1020-AS	8-E	497-5 conductor	\$17.90
6034-S	8 buttons	1020-AT	8-F	496-9 conductor	20.30



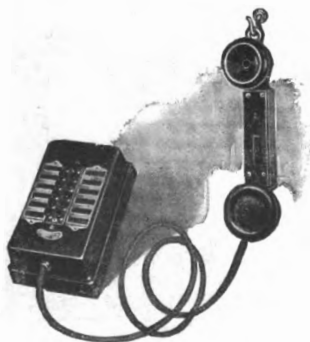
No. 6034-BD

No. 6016 Type. This type consists of 1 No. 328-J 12-button metal key box equipped with 1 No. 51-C retardation coil and 1 special 6 ohm No. 360116 buzzer, 1 No. 1120-AH black finish desk stand equipped with 1 No. 143-AW receiver, 1 No. 302-W transmitter, 1 No. 406 6 foot desk stand cord, and 1 No. 389 2½ foot receiver cord. Made only in the 12-button size.

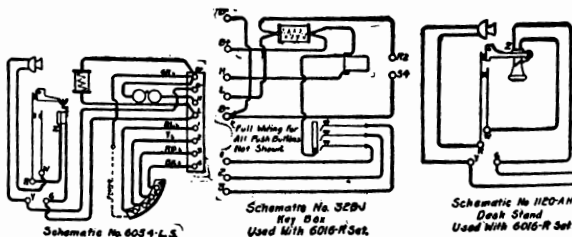
Code No.	Capacity	List Price Each
6016-R	12 Buttons	\$24.80

MASTER HAND SETS

Code No.	Description	List Price Each
6034-BC	Four button. Consists of: 1 No. 1003-K hand set, 1 No. 8-E connecting block, 1 No. 51-E retardation coil, 1 No. 111072 push button block, with a No. 431 6 foot cord, 1 No. 11-B vibrating bell, 1 No. 141-A switch hook.	\$14.00
6034-BD	Eight button. Consists of: 1 No. 1003-K hand set, 1 No. 8-F connecting block, 1 No. 51-E retardation coil, 1 No. 111073 push button block, with a No. 432 6 foot cord, 1 No. 11-B vibrating bell, 1 No. 141-A switch hook.	17.60
6016-AA	Twelve button. Consists of: 1 No. 328-J 12-button metal key box containing 1 special 6 ohm No. 360116 buzzer, 1 No. 51-C retardation coil and terminals, 1 No. 1003-K hand set, and 1 No. 141-A switch hook.	22.10



No. 6016-AA



Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE SYSTEM NO. 12 (Continued)

OUTLYING WALL SET STATIONS

- | Code No. | Description | List Price
Each |
|----------|--|--------------------|
| 1327-U | A compact instrument having a golden oak cabinet with nickel trimmings and measuring 5¼ inches wide by 6⅞ inches long by 3¼ inches deep. Equipment includes 1 No. 179-W receiver, 1 No. 294-W transmitter, 1 No. 360- 2½ foot receiver cord and 1 No. 101398 bell..... | \$6.80 |
| 1339-H | A flush mounting metal case instrument, face plate regularly finished in brush brass. Metal wall box is included. Equipment consists of 1 No. 180-W receiver, 1 No. 294-W transmitter, 1 No. 360- 2½ foot receiver cord and 1 No. 101400 bell. Size of face plate 5⅞ inches wide by 8⅞ inches long. Size of wall box 3½ inches wide by 6⅞ inches long by 2⅝ inches deep..... | 9.00 |



No. 1327-U. Wall Set



No. 1339-H. Wall Set

OUTLYING DESK SET STATIONS

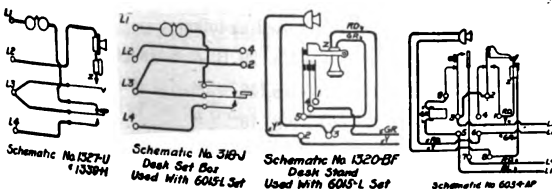
- | Code No. | Description | List Price
Each |
|----------|--|--------------------|
| 6015-L | Consists of a No. 318-J desk set box equipped with a No. 1001-A push button and 1 No. 101399 bell, 1 No. 1320-BF black finish desk stand equipped with 1 No. 143-AW receiver, 1 No. 302-W transmitter, 1 No. 406- 6 foot desk stand cord, 1 No. 412- 2½ foot receiver cord..... | \$14.80 |
| 6034-AP | Consists of a No. 1020-BG black finish desk stand with ringing button in the stem, signal buzzer in the base and equipped with 1 No. 179-W receiver, 1 No. 302-W transmitter, 1 No. 433- 6 foot desk stand cord, 1 No. 360- 3 foot receiver cord, and two connecting blocks..... | 16.00 |



No. 6015-L. Desk Set



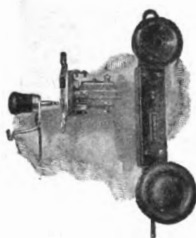
No. 6034-AP. Desk Set



Complete Connection Diagram furnished with each Inter-phone

Telephone Equipment

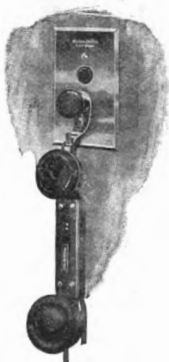
INTER-PHONE SYSTEM NO. 12 (Continued) OUTLYING HAND-SET STATIONS



No. 6042-E

Flush Type

Code No.	Description	List Price Each
6042-E	Consists of 1 No. 382-E apparatus unit, containing 1 push button, 1 15-ohm buzzer, jack and line terminals, and 1 No. 1003-G hand set (equipped with 1 No. 142 plug).....	\$9.90



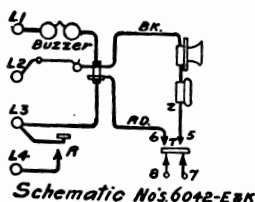
No. 6042-K



No. 6043-E

6042-K	Same as No. 6042-E, but complete with 1 No. 12007 H & H face plate (brush brass), size $4\frac{1}{2}'' \times 2\frac{3}{4}''$, and 1 No. 110985 wall box, size $2'' \times 3'' \times 3''$ deep	10.30
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NOTE.—The No. 1003-G hand-set is equipped with a cord and plug, allowing it to be carried from room to room. This allows the number of hand-sets to be less than the number of apparatus boxes, should the service warrant this condition, and thus lessen the cost of the equipment.



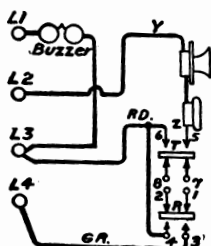
Non-Flush Type

Code No.	Description	List Price Each
6043-E	Consists of 1 No. 383-E apparatus box, containing 1 15-ohm buzzer and line terminals, and 1 No. 1003-J hand-set.....	\$9.00

Battery Requirements

Three to five Blue Bell dry cells are required on lines up to 750 feet composed of No. 22 B. & S. gauge copper wire. On lines of greater length it is recommended that instead of increasing the number of battery cells to more than five, larger wire be used as follows:

750-1000 feet—No. 20 B. & S. gauge
1000-1500 feet—No. 18 " "
1500-2500 feet—No. 16 " "



Schematic No. 6043-E

Complete Connection Diagram furnished with each Inter-phone Telephone Equipment

INTER-PHONE SYSTEM NO. 16

Master and Outlying Telephones

This system provides communication between one centrally located telephone called the master station and one or more up to any number of outlying telephones. The service is particularly adapted for homes, small hotels, public buildings, offices, warehouses and factories, where it is desirable to communicate from different rooms to a central point, and vice versa.

Two kinds of service can be obtained with this system by specifying the proper equipment:

First. One-way Service, which means that any one of the outlying telephones can signal and carry on a conversation with the centrally located master telephone, but the master telephone cannot signal the outlying telephones.

Second. Two-way Service, which means that any one of the outlying telephones can signal and converse with the master telephone, and the master telephone can signal and converse with any one of the outlying telephones selectively as desired.

No provision, however, is made for the outlying telephones to call each other.

For connecting the instruments only a small number of wires are required, which can be run at a cost very little greater than necessary to install an ordinary bell or annunciator system. In case bell or annunciator wiring is in existence, it is possible to connect the inter-phones to it, thereby reducing the cost of installation.

For one-way service only two wires are required—one common and one individual—between the master and each of the outlying telephones.

For two-way service, three wires are required—one common and two individual—between the master and each of the outlying telephones.

The master telephone consists of a hand set and an annunciator equipped with a number of drops—one for each of the outlying telephones. In case two-way service is required the annunciator cabinet is also equipped with a number of push buttons—one for each of the outlying stations.

The outlying telephone consists of a hand set and an apparatus box. The hand set contains a push button, which, when depressed, signals the master telephone. The apparatus box contains connecting terminals and other necessary accessories and can be furnished in two types: non-flush type or flush type.

With the non-flush apparatus box a hand set cord is permanently fastened to the apparatus box terminal. With the flush apparatus box the hand set cord terminates in a plug, which can be inserted into a jack mounted in the apparatus box, in this way establishing instant connection with the system.

In wiring buildings for electric bells, future provision for an inter-phone system can be made at very little expense by installing instead of the usual push buttons our flush apparatus boxes containing push button and jack and consisting of one No. 110985 wall box, one No. 12007 face plate and one No. 382C apparatus unit. In place of the ordinary bell our one-way annunciator containing drops and bell should be installed (the code number of the annunciator depending upon the number of drops: one drop necessary for each push button). The wiring for these instruments is the same as used for any ordinary call bell equipment.

With this apparatus installed, simple call bell service can be obtained. At any time the system can be converted to provide telephone service by purchasing the requisite number of hand sets and connecting them by simply inserting the hand set plug into the jacks of the push button plates already installed. There will be no new wires to run or batteries to buy. Everything will remain the same as before except the added convenience of the telephone.

Hand-set extension cords can be furnished so that in cases of illness or other necessity the hand set can be carried to the bed or other point at a distance from the apparatus box. The first extension cord added increases the standard length of the hand-set cord from three feet to eleven feet, and each additional length added increases it eight feet.

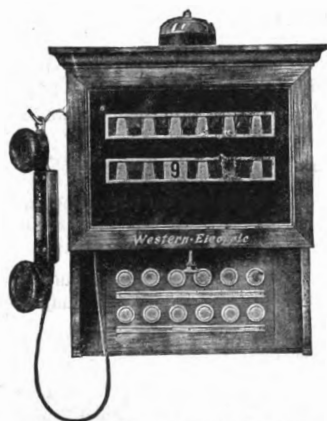
Only one battery is required, which should consist of 3 to 4 Blue Bell dry cells to be used on lines up to 200 feet composed of No. 22 B & S gauge copper wire. On lines of greater length, it is recommended that instead of increasing the number of dry cells to more than 4, larger wire be used as follows:

250 to 400 feet—Use No. 20 B & S gauge copper wire.

400 to 600 feet—Use No. 18 B & S gauge copper wire.

600 to 1000 feet—Use No. 16 B & S gauge copper wire.

INTER-PHONE SYSTEM NO. 16 (Continued)



No. 360005 Master Station Two-way Service



No. 360011 Master Station One-way Service

Master Station

Consists of an annunciator and a No. 1003D Hand Set. The code numbers and prices listed below cover the annunciator only. The No. 1003D Hand Set should be ordered separate.

The finish of the annunciator is golden oak; however, light or dark oak finish can be furnished without additional charge.

For two-way service the annunciator must have ringing buttons—one for each outlying station.

For one-way service the ringing buttons are not necessary.

Annunciator for Two-way Service

List No.	No. Drops	*List Price
360000	2	\$26.20
360001	4	28.50
360002	6	36.90
360003	8	46.90
360004	10	56.40
360005	12	67.80
360006	15	76.70
360007	20	91.90
360008	24	110.00

Annunciator for One-way Service

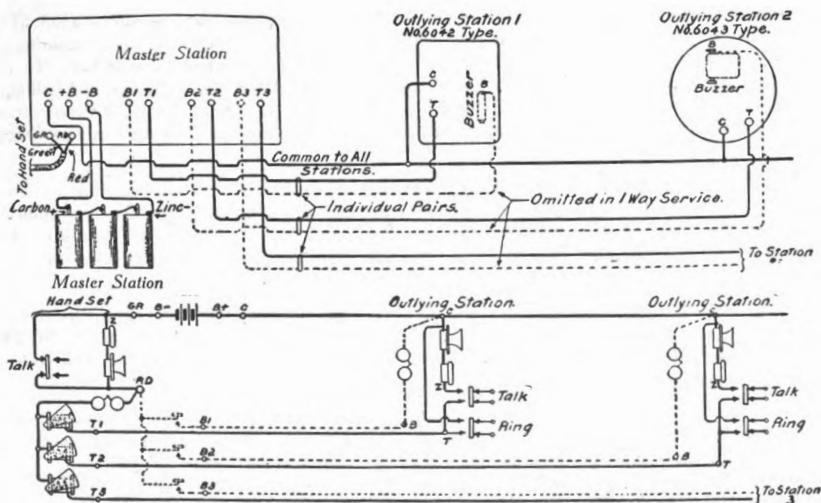
360009	2	\$6.80
360010	4	11.40
360011	6	15.80
360012	8	20.90
360013	10	26.20
360014	12	31.40
360015	15	38.30
360016	20	51.00
360017	24	61.30

NOTE: Master stations can also be furnished in greater capacities than those listed. Price on any size furnished on request.

*Does not include Hand Set.

CONNECTION DIAGRAMS AND SCHEMATIC

Two and One-way Service

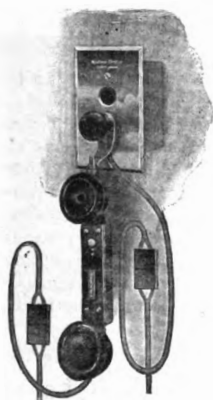


Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE SYSTEM NO. 16 (Continued)



**No. 6042-M and R
Flush Type**



**No. 6042-P and T
Flush Type**



**No. 6043-C and D
Non-Flush Type**



**No. 6043-H and J
Non-Flush Type**

Outlying Stations

ONE-WAY SERVICE—FLUSH TYPE

Code No.	Description	List Price
6042-R	Complete, consisting of: 1 No. 1003-F Hand Set; 1 No. 382-C Apparatus Unit, containing 1 jack and 1 push button (No buzzer furnished); 1 No. 12007 Brush Brass H. & H. Face Plate, $4\frac{1}{2}'' \times 2\frac{3}{4}''$; 1 No. 110985 Wall box, $2'' \times 3'' \times 3''$ deep.....	\$9.00
6042-C	Same as 6042-R, but less face plate and wall box.....	8.50
6042-T	Complete, same as 6042-R, but equipped with an 11-inch Sectional Extension Cord. No. 1003-H replaces No. 1003-F Hand Set.....	11.60
6042-S	Same as 6042-T, but less face plate and wall box.....	11.10

TWO-WAY SERVICE—FLUSH TYPE

Code No.	Description	List Price
6042-M	Complete, consisting of: 1 No. 1003-F Hand Set; 1 No. 382-D Apparatus Unit, containing 1 3-ohm buzzer, 1 jack, 1 push button; 1 No. 12007 Brush Brass H. & H. Face Plate, $4\frac{1}{2}'' \times 2\frac{3}{4}''$; 1 No. 110985 Wall Box, $2'' \times 3'' \times 3''$ deep.....	\$10.40
6042-D	Same as 6042-M, but less face plate and wall box.....	10.00
6042-P	Complete, same as 6042-M, but equipped with an 11-foot Sectional Cord. No. 1003-H replaces No. 1003-F Hand Set.....	13.10
6042-N	Same as 6042-P, but less face plate and wall box.....	12.60

ONE-WAY SERVICE—NON-FLUSH TYPE

Code No.	Description	List Price
6043-C	Complete, consisting of: 1 No. 383-C Apparatus Box, containing line terminals only (less buzzer); 1 No. 1003-E Hand Set.....	\$7.00
6043-J	Same as No. 6043-C, but equipped with an 11-foot Sectional Extension Cord. In other words, a No. 1003-S Hand Set is furnished in place of the No. 1003-E.....	9.90

TWO-WAY SERVICE—NON-FLUSH TYPE

Code No.	Description	List Price
6043-D	Complete, consisting of: 1 No. 383-D Apparatus Box, containing 1 3-ohm buzzer and line terminals; 1 No. 1003-E Hand Set.....	\$8.10
6043-H	Same as No. 6043-D, but equipped with an 11-foot Sectional Extension Cord. In other words, a No. 1003-S Hand Set is furnished in place of the No. 1003-E.....	11.10

Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE SYSTEM NO. 1

General

For general use where a high grade of intercommunication is desired, System No. 1 is recommended. It permits of any station calling any other, and is absolutely non-interfering. That is to say, as many conversations can be carried on at one time as there are pairs of stations, without any conversation interfering with another. All Inter-phones listed under this system are suitable for either "full metallic" or "common return" wiring. We recommend "full metallic" because of its absolute freedom from cross-talk. There can be as many stations in the system as there are buttons on the Inter-phone sets. No extra button is required for ringing, because each button, when depressed to its extreme position, puts ringing current on the line.



No. 1324 Type. Wall Set

Wiring

The wiring consists, in full metallic circuits, of 2 No. 22 B. & S. gauge wires for each station, plus 4 No. 16 B. & S. gauge battery wires for the system.

In common return circuits the wiring consists of 1 No. 22 B. & S. gauge wire for each station, plus 3 No. 16 B. & S. gauge battery wires for the system.

For example: A 12-station metallic circuit system requires 24 No. 22 B. & S. gauge and 4 No. 16 B. & S. gauge wires.

A 12-station common return system requires 12 No. 22 B. & S. gauge and 3 No. 16 B. & S. gauge wires.

We carry a full line of cable for system No. 1.

WALL SETS

No. 1324 Type. An all metal set having a hinged face, movable transmitter and hand receiver. Black finish with nickel trimmings. Furnished in 6 and 12-button capacities only.

Equipped with 1 No. 143-AW receiver, 1 No. 311-W transmitter, 1 No. 101398 bell, 1 No. 10- 3 foot receiver cord and 1 No. 51-C retardation coil.

Size of case, 6 $\frac{3}{4}$ inches wide by 10 inches long by 3 $\frac{1}{2}$ inches deep.

Code No.	Capacity	List Price Each
1324-A	12 buttons	\$28.10
1324-F	6 buttons	24.70



No. 1325 Type. Wall Set

No. 1325 Type. A flush mounting, all metal set, having hinged face, movable transmitter and hand receiver. Black finish with nickel trimmings. Wall box is metal, detachable and suitable for terminating conduit during construction of building. Made only in 6 and 12-button capacities.

Equipped with 1 No. 143-AW receiver, 1 No. 311-W transmitter, 1 No. 101398 bell, 1 No. 10- 3 foot receiver cord and 1 No. 51-C retardation coil.

Size of face plate, 6 $\frac{3}{4}$ inches wide by 10 inches long.

Size of wall box, 5 inches wide by 8 $\frac{1}{4}$ inches long by 2 $\frac{3}{4}$ inches deep.

Code No.	Capacity	List Price Each
1325-A	12 buttons	\$28.10
1325-F	6 buttons	24.70

Complete Connection Diagram furnished with each Inter-*phone*

INTER-PHONE SYSTEM NO. 1 (Continued)



No. 1355 Type. Wall Set



Interior of No. 1355 Set

WALL SETS

No. 1355 Type. A flush mounting, all metal set, having a hinged face, adjustable transmitter and standard hand receiver. Black finish with nickel trimmings. Wall box is metal, detachable and suitable for terminating conduit during construction of building. Made in 16, 20, and 24 button capacities.

Equipped with 1 No. 143-AW receiver, 1 No. 311-W transmitter, 1 No. 101398 bell, 1 No. 10- 3 foot receiver cord and 1 No. 51-C retardation coil.

Size of face plate, 6 $\frac{1}{4}$ inches wide by 14 $\frac{1}{2}$ inches long.

Size of wall box, 5 $\frac{1}{4}$ inches wide by 12 $\frac{1}{2}$ inches long by 3 $\frac{1}{2}$ inches deep.

Code No.	Capacity	List Price Each
1355-A	16 buttons	\$36.60
1355-E	20 buttons	39.40
1355-F	24 buttons	42.20

No. 1349 Type. The case is golden oak with black and nickel trimmings. Transmitter is mounted flush. Furnished in 6, 12, 16, 20, and 24 line capacities.

Equipped with 1 No. 143-AW receiver, 1 No. 325-W transmitter, 1 No. 101398 bell, 1 No. 178- 3 foot receiver cord and 1 No. 51-C retardation coil.

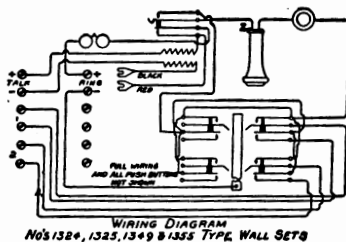
Size of cabinet: 6 and 12-line capacity, 6 $\frac{1}{4}$ inches wide by 9 $\frac{1}{4}$ inches long by 4 inches deep.

Size of cabinet: 16, 20, and 24-line size, 7 $\frac{1}{4}$ inches wide by 13 $\frac{1}{4}$ inches long by 4 inches deep.

Code No.	Capacity	List Price Each
1349-A	6 buttons	\$23.60
1349-E	12 buttons	27.00
1349-F	16 buttons	32.10
1349-G	20 buttons	34.90
1349-H	24 buttons	37.70



No. 1349 Type. Wall Set



WIRING DIAGRAM
No. 1324, 1325, 1349 & 1355 TYPE WALL SETS

Complete Connection Diagram furnished with each Inter-Phone

INTER-PHONE SYSTEM NO. 1 (Continued)

DESK SETS

No. 6016 Type. Consists of a No. 328 type metal key box finished in black with nickel trimmings equipped with 1 No. 360113 buzzer and 1 No. 51-C retardation coil; 1 No. 1120-BE black finish desk stand, equipped with 1 No. 329-W transmitter, 1 No. 143-AW receiver, 1 No. 231-6 foot desk-stand cord, and 1 No. 196-2½ foot receiver cord. Cable can enter the key box from underneath or from either end. Made in 6, 12, 16, 20, and 24-line capacities.



No. 6016-K. Desk Set

Code No.	Capacity	Key Box	List Price Each
6016-K	12 buttons	328-A	\$29.60
6016-L	24 buttons	328-E	41.10
6016-M	6 buttons	328-F	25.90
6016-N	16 buttons	328-G	35.50
6016-P	20 buttons	328-H	38.30

Size of Key Box

Size of key box: 6 and 12-button, 5 inches wide by 7½ inches long by 2½ inches deep.

Size of key box: 16, 20, and 24 button, 5¼ inches wide by 10¼ inches long by 2½ inches deep.

HAND SETS

If it is desired to use a hand set instead of the standard desk stand furnished with the above No. 6015 sets, either the No. 1001-J or 1002-D Hand Sets can be used.

In the majority of cases the No. 1001-J will be found preferable and is recommended.

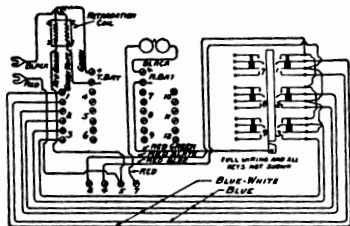
Battery Requirements

Two separate sets of Blue Bell dry cells are required: 1 set for talking and 1 set for ringing.

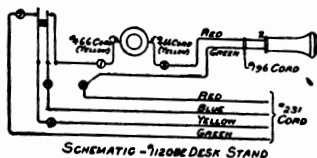
Use 5 Blue Bell dry cells for the talking circuit in all cases.

For the ringing circuit, the following number of Blue Bell dry cells will be required when the distance between the stations farthest apart does not exceed the lengths given below. This information is based on the use of standard Inter-phone cable Nos. 164-150 (No. 22 B. & S. gauge line wires and No. 16 B. & S. gauge battery feed wires).

Lengths of Line	No. of Cells
300 feet	4
1000 feet	5
1500 feet	7



NO 328-A SUB-SET DIAGRAM OF CONNECTIONS



SCHEMATIC - 1120BE DESK STAND

Complete Connection Diagram furnished with each Inter-phone
Telephone Equipment

APARTMENT HOUSE INTER-PHONES

Systems Nos. 7, 8, 9 and 10

INTRODUCTORY

At the present time two different methods of communicating between the vestibule and suites of apartment houses are in use, the first being the speaking tube and the second the telephone. Between



No. 1262. Vestibule Inter-phone with Letter Boxes

the two there is everything to be said in favor of the telephone. Speaking tubes are antiquated because they are unsanitary, unflexible, and uneconomical in the long run. The speaking tube does not have one advantage over the telephone for apartment house intercommunication, and the time will come very shortly when speaking tubes will be only a remembrance to architects and builders of apartment houses.

General Information. The telephone systems described herein are designed for use in all apartment buildings in which branch exchange telephone switchboards cannot be installed for economic reasons. The systems throughout are planned with the utmost care so that the actual work of installing is reduced to a minimum, and the telephone sets are of neat and attractive design.

The following points are pertinent in their application to apartment house service:

1. The Apartment House Inter-phone System removes the necessity for a hall boy. It is always on the job night or day, and its up-keep is insignificant in comparison with the hall boy's wages.
2. The Apartment House Inter-phone System takes the place of speaking tubes. It does all that speaking tubes can possibly do and in addition is perfectly flexible so that it can be added to with no inconvenience, and is sanitary and economical in the long run. Its cost of installation as compared to the cost of installing a speaking tube system of similar comprehensiveness is much less and the appearance of the vestibule is better.
3. The circuits of Western Electric Apartment House Inter-phone Systems are especially adapted to this class of work, the talking current being fed separately through retardation coils at the janitor's, tradesmen's and vestibule Inter-phone sets. The retardation coils are bridged by condensers so that the transmission circuits are perfect. There will not be the least interference in conversations taking place simultaneously between each of the three master stations and three different apartments.
4. A door opener button, in addition to a janitor's button, is provided on the Suite Wall Sets, and the circuits are so arranged that the regular telephone ringing battery can be used for operating the door opener, thus eliminating a set of batteries which would otherwise be required.
5. Only two individual wires are required to each apartment and one common wire throughout the system.
6. One Janitor's Equipment can be made to serve any number of vestibules and apartments up to a sum total of seventy; that is to say, if the same janitor serves several buildings, each having one or more vestibule entrances, or one building having several vestibule entrances, but one Janitor's Equipment is required for the whole system.
7. With each telephone set a complete wiring diagram is furnished.
8. All telephone sets and all accessories necessary for the complete installation are provided with screw connections so that an entire system can be installed without the use of a soldering iron.

APARTMENT HOUSE SYSTEMS

Apartment House Inter-phones are furnished in four different systems as follows:

- System No. 7—Provides service between the vestibule and the apartments.
- System No. 8—Provides service between the { vestibule and the apartments.
vestibule and the janitor.
apartments and the janitor.
- System No. 9—Provides service between the { vestibule and the apartments.
vestibule and the janitor.
apartments and the janitor.
tradesmen and the apartments.

System No. 10—Provides the same service as system No. 9, but on a larger scale.

The systems are flexible, being adapted to expansion from one system into another without making any changes in the apparatus other than supplying additional equipment. Electric door openers can be supplied for any system to be operated by a push button on the suite sets.

Complete Connection Diagram furnished with each Inter-phone

APARTMENT HOUSE INTER-PHONES

Systems Nos. 7, 8, 9 and 10 (Continued)

NON-FLUSH SUITE WALL SETS

Compact golden oak wall sets arranged with either one or two buttons, as desired. The two-button sets have the buttons marked "Jan." and "door." The one-button sets are unmarked.

Equipped with 1 No. 179-W receiver, 1 No. 294-W transmitter, 1 No. 101398 bell, and 1 No. 360-2½ foot receiver cord.

Size of cabinet, 5¾ inches wide by 6⅞ inches long by 3¼ inches deep.

Code No.	Capacity	List Price Each
1327-N	2 button (marked "Jan." and "Door").....	\$7.60
1327-AB	1 button (unmarked).....	6.80



No. 1327-N. Suite Set

FLUSH SUITE WALL SETS

Flush mounting metal sets finished regularly in brush brass. Metal wall box is a part of the set. Arranged with either one or two buttons.

Equipped with 1 No. 180-W receiver, 1 No. 294-W transmitter, 1 No. 101400 bell, and 1 No. 360-2½ foot receiver cord.

Size of face 5⅞ inches wide by 8⅞ inches long. Size of wall box 3½ inches wide by 6⅞ inches long by 2⅜ inches deep.

Code No.	Capacity	List Price Each
1339-A	2 buttons (marked "Jan." and "Door").....	\$9.80
1339-R	1 button (unmarked).....	9.00



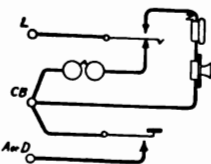
No. 1339-A. Suite Set

SUITE DESK SET

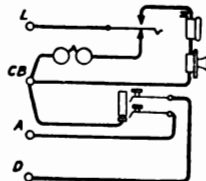
Code No.	Description	List Price Each
6034-AW	Consists of a No. 1520-BG black finish desk stand with push button in the stem and buzzer in the base, equipped with 1 No. 179-W receiver, 1 No. 302-W transmitter, 1 No. 433-6 foot desk stand cord, 1 No. 360-3 foot receiver cord and 2 connecting blocks. Only one push button is furnished and is unmarked.....	\$15.90



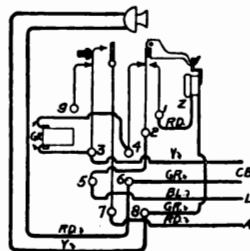
No. 6034-AW. Suite Set



Schematic No. 1327-AB & 1339-R



(Schematic No. 1327-N & 1339-A)



Schematic No. 6034-AW

Complete Connection Diagram furnished with each Inter-phone.

APARTMENT-HOUSE INTER-PHONES **Systems Nos. 7, 8, 9 and 10 (Continued)**

SUITE HAND SETS

The flush sets are either equipped with one or two ringing buttons. If equipped with one, this ringing button is in the apparatus unit and can be used for either calling the janitor or operating the electric door opener. A separately mounted push button can also be used with this set as described above. If equipped with two buttons, the one in the hand set is used for operating the door opener, and the one in the apparatus unit for calling the janitor.

It should be noted that the non-flush sets are provided with only one ringing button, which can be used for either calling the janitor or operating the electric door opener. When two ringing buttons are required with the non-flush set, a separate push button must be used.

FLUSH TYPE

One Ringing Button

Code No.	Description	List Price
6042-G Consists of:	1 No. 382-G Apparatus Unit, containing 1 15-ohm buzzer, 1 push button and line terminals;	
	1 No. 1003-C Hand Set.....	\$8.60
No. 6042-L	6042-L Same as No. 6042-G, but complete with	
	1 No. 110985 Wall Box, size 2" x 3" x 3" deep;	
	1 No. 12007 Brush Brass "H. & H." Face Plate, size 4½" x 2¾".....	9.10

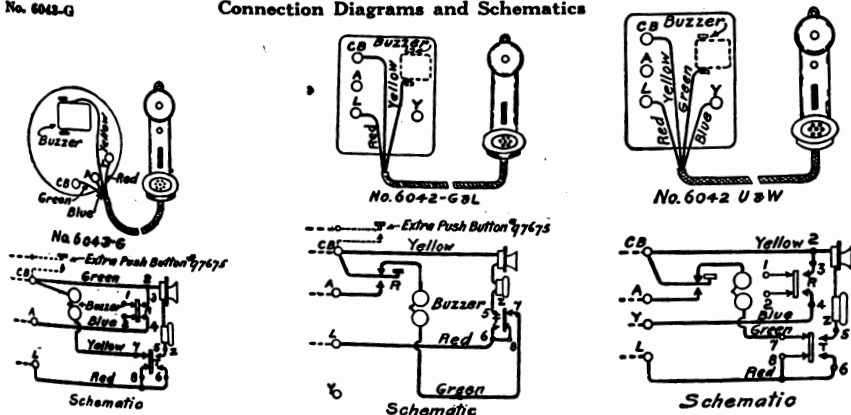
Two Ringing Buttons

6042-U Same as No. 6042-G, but with	1 No. 1003-T Hand Set instead of the No. 1003-C Hand Set.....	9.50
6042-W Same as No. 6042-U, but complete with	1 No. 110985 Wall Box, size 2" x 3" x 3" deep;	
	1 No. 12007 Brush Brass "H. & H." Face Plate, size 4½" x 2¾".....	9.90

NON-FLUSH TYPE

6043-G Consists of:	1 No. 383-G Apparatus Box, containing 1 15-ohm buzzer and line terminals; 1 No. 1003-P Hand Set.....	9.20
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Connection Diagrams and Schematics



Complete Connection Diagram furnished with each Inter-phone

APARTMENT HOUSE INTER-PHONES

Systems Nos. 7, 8, 9 and 10 (Continued)

VESTIBULE SET

No. 1362 Type. Flush mounting, brush brass finish vestibule set, equipped with 1 No. 180-W receiver, 1 No. 294-W transmitter, 1 No. 360-2½ foot receiver cord.

Furnished as listed below in 7, 13, 17, 21, and 25-button sizes. (The odd button is for janitor's line.) Intermediate sizes can be furnished on order at the price of the nearest larger size.

The 7 and 13-button vestibule sets are designed to mount alongside of a group of two-nest letter boxes No. 12013.

The 17, 21, and 25-button sets are designed to mount alongside of a group of four-nest letter boxes No. 116937.

Size of face plate:

7 and 13-button sets, 7½ inches wide by 11½ inches long.

17, 21, and 25-button sets, 7½ inches wide by 16½ inches long.

Size of wall box:

7 and 13-button sets, 5¼ inches wide by 8¾ inches long by 3½ inches deep.

17, 21, and 25-button sets, 5¼ inches wide by 12¾ inches long by 3½ inches deep.

Code No.	Capacity	List Price Each
1362-G	7 buttons	\$36.80
1362-H	13 buttons	41.30
1362-D	17 buttons	45.00
1362-E	21 buttons	49.40
1362-F	25 buttons	53.80

JANITOR'S SET

No. 1350 Type. Golden oak cabinet with nickel and black trimmings.

Equipped with 1 No. 179-W receiver, 1 No. 294-W transmitter, 1 No. 360-2½ foot receiver cord and 1 No. 1-L resistance coil. No ringer is provided, as a bell is furnished with the annunciator which must be used with this set.

Furnished as listed below in 7, 13, and 25-button sizes only. (The odd button is for the vestibule line.)

Size of cabinet:

7 and 13-button sets, 6½ inches wide by 9¾ inches long by 4 inches deep.

25-button set, 7½ inches wide by 13¼ inches long by 4 inches deep.

Code No.	Capacity	List Price Each
1350-A	7 buttons	\$19.50
1350-E	13 buttons	22.90
1350-G	25 buttons	29.60

JANITOR'S ANNUNCIATOR

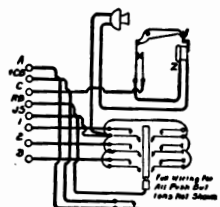
This annunciator is required to indicate to the janitor which line called. Furnished in oak as standard, but other finishes can be furnished on order at slight increase in price.

Code No.	No. of Drops	Arrangement of Drops	List Price Each
361332	4	1 horizontal row	\$ 6.30
361333	6	2 horizontal rows	8.30
361334	8	2 horizontal rows	11.20
361335	10	2 horizontal rows	13.10
361336	12	2 horizontal rows	15.50
361337	15	3 horizontal rows	19.10
361338	18	3 horizontal rows	23.60
361339	25	5 horizontal rows	31.50

Complete Connection Diagram furnished with each Inter-Phone



No. 1362-Type. Vestibule Set



Schematic No. 1362-DEFGH



No. 1350-Type.
Janitor's Set



Janitor's Annunciator

APARTMENT HOUSE INTER-PHONES **Systems No. 7, 8, 9 and 10 (Continued)**

JANITOR'S TELEPHONE SWITCHBOARD

In case one janitor must serve more than one vestibule, it is necessary to use this switchboard which combines the functions of the No. 1350 type set and the annunciator. In other words, when there are several vestibule lines running to the janitor's equipment, this switchboard must be used. *Number of vestibule drops must be specified.*

Prices do not include Hand Set. See note.

Code No.	No. of Drops	Arrangement of Drops	List Price Each
1040	10	2 Horizontal Rows	\$56.30
1041	14	2 Horizontal Rows	75.00
1042	18	2 Horizontal Rows	85.50
1043	20	2 Horizontal Rows	92.00
1044	24	2 Horizontal Rows	110.00
1045	30	3 Horizontal Rows	128.20
1046	36	3 Horizontal Rows	153.80
1047	42	3 Horizontal Rows	178.80
1048	48	4 Horizontal Rows	204.50
1049	56	4 Horizontal Rows	230.00
1050	60	5 Horizontal Rows	246.30
1051	70	5 Horizontal Rows	287.00

NOTE.—Hand Set No. 1002-E, or No. 1003-K, can be used with this annunciator and must be ordered separately.

TRADESMEN'S SETS

Golden oak cabinet with nickel and black trimmings. No bell is provided, as the apartments will not want to call this station. Size of cabinet No. 1350-A and E, 6 $\frac{5}{8}$ inches wide by 9 $\frac{3}{4}$ inches long by 4 inches deep. Size of cabinet No. 1350-G, 7 $\frac{5}{8}$ inches wide by 13 $\frac{1}{4}$ inches long by 4 inches deep. Furnished in 7, 13, and 24 button sizes.

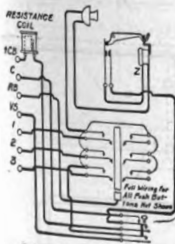
Code No.	Capacity	Description	List Price Each
1350-A	7 buttons	.....	\$19.50
1350-E	13 buttons	.....	22.50
1350-G	25 buttons	.....	29.50



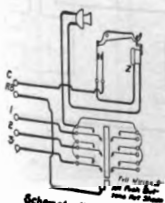
Janitor's Telephone Switchboard



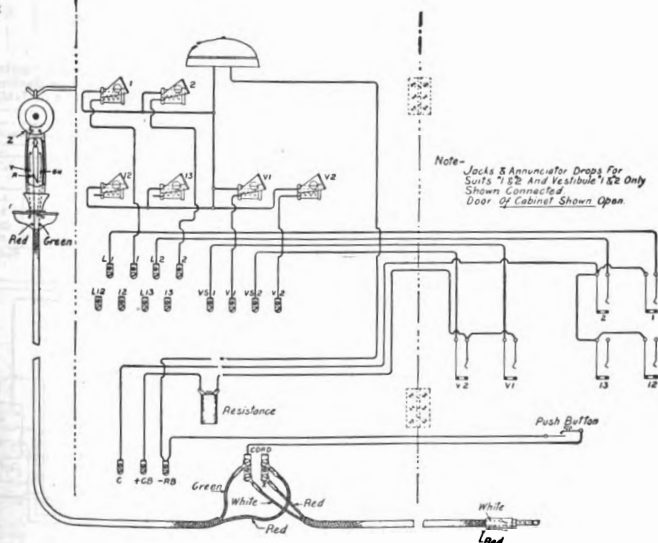
No. 1350-E.
Tradesmen's Set



Schematic No. 1350-A & G.



Schematic No. 1350-F

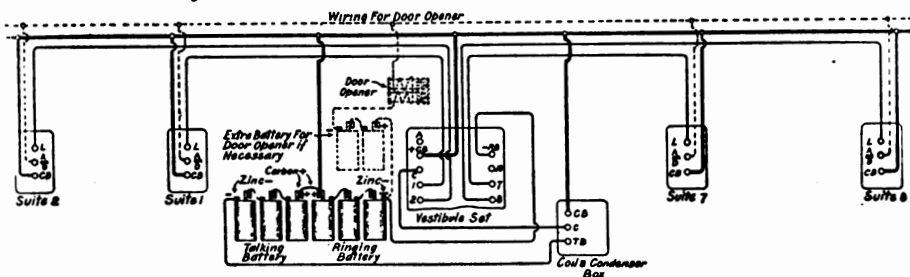


Note—Jacks & Annunciator Drops for Suits 1, 2, 3 And Vestibule 1, 2 Only Shown Connected. Door of Cabinet Shown Open.

WIRING DIAGRAM **JACK TYPE JANITOR'S SWITCHBOARD** **FOR** **APARTMENT HOUSE TELEPHONE EQUIPMENT**

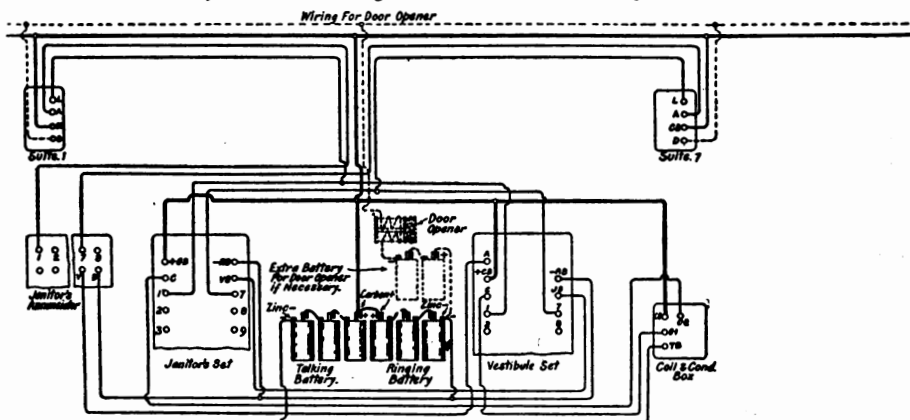
Complete Connection Diagram furnished with each Inter-phone

CIRCUITS OF APARTMENT HOUSE INTER-PHONES Systems No. 7, 8, 9 and 10 (Continued)

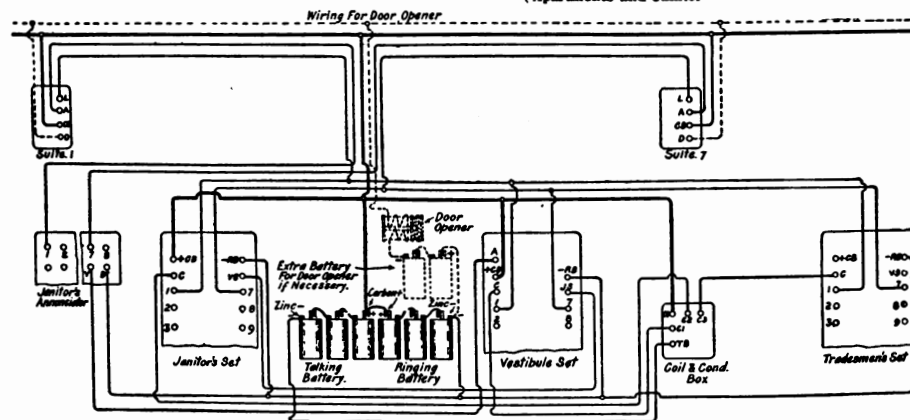


- SYSTEM 7 -

System No. 7. Providing Service between Vestibule and Apartments



- SYSTEM 8 -

System No. 8. Providing Service between Vestibule and Apartments
Vestibule and Janitor
Apartments and Janitor

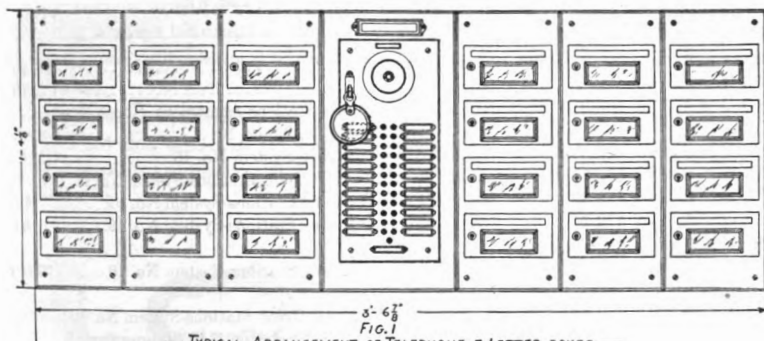
- SYSTEM 9 -

System No. 9. Providing Service between Vestibule and Apartments
Vestibule and Janitor
Janitor and Apartments
Tradesmen and Apartments

Complete Connection Diagram furnished with each Inter-phone

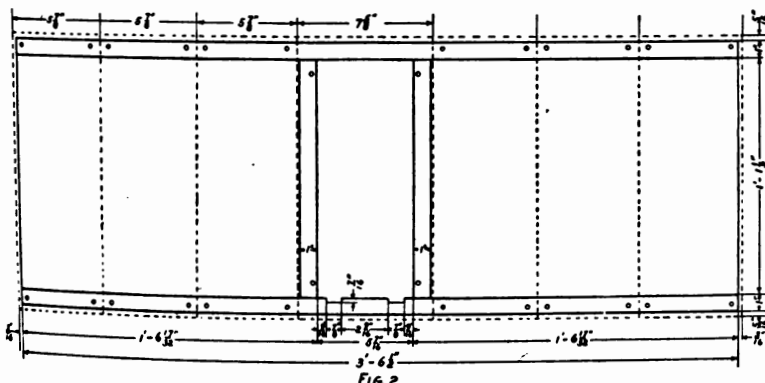
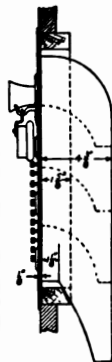
APARTMENT HOUSE INTER-PHONES Systems No. 7, 8, 9 and 10 (Continued)

MOUNTING NO. 1362—D, E AND F SETS AND FOUR NEST LETTER BOXES

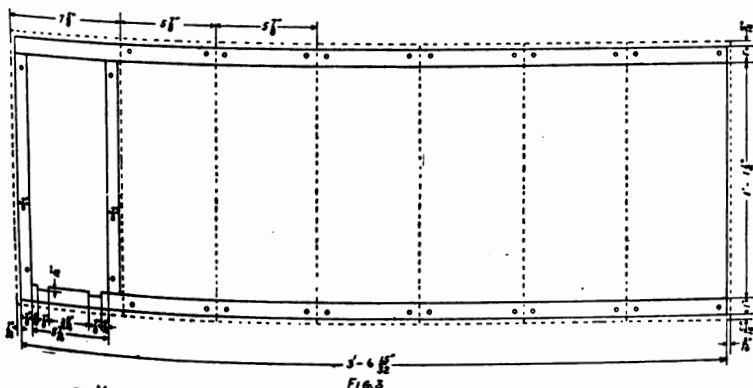


— TYPICAL ARRANGEMENT OF TELEPHONE & LETTER-BOXES. —

NOTE—FOR EACH NEST OF 4 LETTER-BOXES OMITTED THE
OVERALL LENGTH OF OPENING IS REDUCED 5"



— METHOD OF MOUNTING TELEPHONE & LETTER-BOXES AS SHOWN IN FIG. 1 —





— METHOD OF MOUNTING TELEPHONE & LETTER-BOXES WITH ALL LETTER-BOXES GROUPED ON ONE SIDE. —

Complete Connection Diagram furnished with each Inter-Phone

Telephone Equipmen

HAND SETS No. 1003 Type

Code No.	Type	Cord	Plug	Used With	List Price
1003-A	A	None	None		\$4.40
1003-B	B	None	None		5.10
1003-C	A	No. 506 3 ft.	None	Flush Suite Stations-Apartment House Systems Nos. 7, 8, 9, and 10.....	5.40
1003-D	A	No. 477 3 ft.	None	Master Station-System No. 16.....	5.30
1003-E	B	No. 507 3 ft.	None	Non-Flush Outlying Stations-System No. 16..	5.80
1003-F	B	No. 478 3 ft.	No. 142	Flush Outlying Stations-System No. 16.....	7.40
1003-G	A	No. 478 3 ft.	No. 142	Flush Outlying Stations-System No. 12.....	6.60
1003-H	B	1 No. 489 2½ ft. 1 No. 488 8 ft. 1 No. 486 6 in.	No. 142	Flush Outlying Stations-System No. 16.....	10.00
No. 1003-A 1003-J	B	No. 480 3 ft.	None	Non-Flush Outlying Stations-System No. 12.	5.90
1003-K	A	No. 477 3 ft.	None	Flush Non-Retardation Coil Stations-System No. 15—Master Station-System No. 12. All Stations-System No. 11. Janitor's Switchboard System No. 10. Hotel Annunciator Switchboards Nos. 1031 to 1039 (see switchboard Sales Letter No. 1001-30).....	5.20
1003-L	A	No. 481 3 ft.	None	Flush Retardation Coil Stations-System No. 15.....	5.40
1003-M	B	No. 484 3 ft.	None	Non-Flush Retardation Coil Stations-System No. 15.....	6.20
1003-N	B	No. 505 3 ft.	None	Non-Flush Non-Retardation Coil Stations-System No. 15.....	6.20
1003-P	B	No. 483 3 ft.	None	Non-Flush Suite Stations-Apartment House Systems No. 7, 8, 9, and 10.....	6.10
1003-S	B	1 No. 489 2½ ft. 1 No. 488 8 ft. 1 No. 490 6 in.	None	Non-Flush Outlying Stations-System No. 16	8.80
1003-T	B	No. 504 3 ft.	None	Flush Suite Stations-Apartment House Systems No. 7, 8, 9, and 10. When the button in the flush plate is used for calling the janitor and the ringing button in the hand set for operating the door opener.....	6.20

Extension Cord


No. 488 Cord

 Code No.
 488

Description
 Black silk-covered, 2 conductor extension cord. Has a plug connection on each end. Used as a part of the No. 1003-H and S Hand Sets. Length 8 feet.

List Price
 Each

\$1.80

Complete Connection Diagram furnished with each Inter-telephone Equipment

INTER-PHONE OUTFITS

Selecting the proper combination of Inter-phones and the necessary material to install and connect them requires a more or less complete study of the subject. In order to save our customers this expenditure of time we have arranged to furnish in standard packages, complete Inter-phone systems of small capacities, thus assuring our customers of receiving all and at the same time the proper kind and amount of material (including complete instructions) to install an Inter-phone system without difficulty. Batteries are not included in the outfits and must be ordered separately. For average conditions, four or five dry cells will be sufficient.

These outfits are primarily intended to provide a means of communication between any two points, such as, office and shop, sales-room and shipping department, executive's office and file clerk, or in the home between bedroom and kitchen, house and garage, etc. Outfits can be furnished in the following combinations:



Outfit No. 14-A



Outfit No. 14-B



Outfit No. 15-A



Outfit No. 15-B

Nos. 14 and 15 Outfits

The Nos. 14 and 15 Outfits are intended to provide communication between two points only. The No. 14 outfit contains wall sets—the No. 15 outfit contains hand sets.

Outfit No.	Description	List Price
14	Includes one No. 1327-S and one No. 1327-T wall Inter-phone, but no installing and wiring material.	\$14.30
15	Includes one No. 6043-A and one No. 6043-B hand Inter-phone, but no installing and wiring material.	17.50
14-A	For use where the wire is to be run entirely under cover—not exposed to moisture or weather. Contents: One No. 14 Outfit as above described, 75 feet insulated, 3-conductor Copper Wire, 2 Battery Connectors, Insulated Nails for fastening wire, and illustrated installing instruction	16.40
15-A	Includes a No. 15 Outfit together with installing and wiring material as described under Outfit No. 14-A.	19.60
14-B	For use where the wire is to be run in the open, between or outside of buildings and thus exposed to weather and moisture. Contents: One No. 14 Outfit as above described, 150 feet outside, 3-conductor Copper Wire, 2 Brackets with screws, hooks and knobs to attach wire to buildings, 2 Porcelain Tubes to insulate wires when entering building, 2 Battery Connectors, 25 Insulated Nails for fastening wire inside building, and illustrated installing instruction.	20.60
15-B	Includes a No. 15 Outfit together with installing and wiring materials as described under Outfit No. 14-A.	23.80

Complete Connection Diagram furnished with each Inter-phone

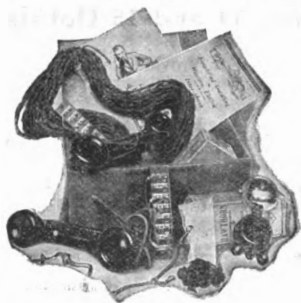
INTER-PHONE OUTFITS (Continued)



No. 16 Outfits

The No. 16 Outfit is intended to be used for transforming any existing call bell, buzzer or annunciator circuit, consisting of one bell, buzzer or annunciator and one or more push buttons, into a practical working telephone line. This can be done by using the existing wires, bell and batteries, replacing the push button with a hand Inter-phone and connecting the other hand Inter-phone to the wire near the bell.

Outfit No.	Description	List Price
16-A	To be used with any existing circuit, consisting of one bell or buzzer and one push button only. Contents: Two No. 1003-K Hand Inter-phones, 2 Connecting Blocks with mounting screws, 25 feet Insulated, twisted pair Copper Wire, 20 Insulated Nails for fastening wire, 2 Hooks for holding hand sets, and illustrated installing instruction	\$11.60
16-B	To be used in addition to No. 16-A Outfit if existing bell, buzzer or annunciator system has two or more push buttons. In such cases, the requirements would be: One (only) No. 16-A Outfit, containing two hand sets—one for bell, buzzer or annunciator station, the other to replace one of the push buttons and one (or more) No. 16-B Outfits. One required for each additional push button in the system that are to be changed over to Inter-phone stations. Contents of No. 16-B Outfit: One No. 1003-K Hand Inter-phone, 1 Connecting Block with mounting screws, 12 feet Insulated, twisted pair Copper Wire, 10 Insulated Nails for fastening wire, 1 Hook for holding hand set, and illustrated installing instruction	6.00



Outfit No. 17

No. 17 Outfits

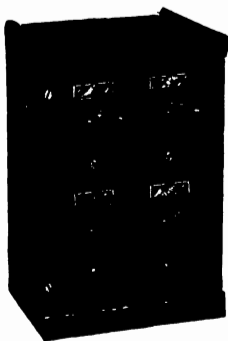
The No. 17 Outfit is a simple equipment for providing intercommunication between two points separated by a distance not exceeding 80 feet, where the wire can be installed wholly indoors or thoroughly protected from moisture and weather.

Outfit No.	Description	List Price
17	Contents: 2 Hand Inter-phones, 2 Connecting Blocks with mounting screws, 80 feet Insulated, twisted pair Copper Wire, 60 Insulated Nails for fastening wire, 2 Hooks for holding hand sets, 2 Bells with 2½-inch gongs, 2 Battery Connectors, and illustrated installing instruction	\$15.30

Complete Connection Diagram furnished with each Inter-phone

MECHANICAL SIGNALING SYSTEMS

General



No. 1-A. Signaling Set

APPLICATION. In every mercantile establishment it is often necessary to communicate immediately with the manager, superintendent or other executive who is not at his desk or within hearing range of his telephone bell at the moment.

In schools the principal, his assistant or the janitor are frequently wanted when they may be in any one of several places about the building.

The same is true of hotels and Y. M. C. A. buildings where the presence of the janitor, engineer or manager may be urgently needed at the office.

In hospitals the house doctor or head nurse may be wanted in a hurry when they are on their rounds.

In prisons or asylums the superintendent, warden, head keeper, or other official is apt to be suddenly wanted on an important matter.

To call different telephones (if such equipment is part of the building) one at a time, or to send a messenger in order to locate the desired person, frequently takes a considerable period of time, but with a mechanical code signaling system installed, the operator, clerk or other employee in the office or other central point gives a turn to a revolving key marked with the name of the individual wanted, which instantly signals the person desired wherever he may be.

DESCRIPTION. The equipment consists of a centrally located wooden cabinet equipped with revolving contact keys. A number of bells are mounted in different parts of the building which, when actuated from the central key cabinet, will ring simultaneously.

OPERATION. The key cabinet is equipped with a number of revolving keys. When the handle of a key is turned one-half revolution it slowly moves back to its original position, making and breaking an electrical contact a number of times at different intervals, thus forming a combination which is repeated four times before the key comes to a final stop. Each key produces a combination different from any of the other keys.

By placing the bells in such locations that, no matter where a person may be, he will always be within hearing distance of one of them, and by installing at a central point a key cabinet equipped with as many keys as there are persons in the organization who are apt to be frequently wanted on important matters, a call can be sent out for any one of them just by turning the key assigned to him. All bells will immediately sound the proper combination, and on hearing his call the person wanted steps to the nearest telephone and is in communication with the office immediately.

CAPACITY. The system can be furnished with keys for sending out 4, 6, 8, 10, 12, 14 and 16 different signals, thus producing maximum calling facilities for sixteen persons, which is usually all that average conditions require. A special signal used for fires, etc., can also be included in any of the above mentioned number of signals.

BELLS. It has been found that single stroke bells with 6-inch gongs will give satisfactory service under ordinary conditions. Any number and various sizes of bells can be combined to form one system.

INSTALLATION. The signaling system can be used alone or in connection with an Inter-phone System.

1. **Independently.** The signaling system can be installed and operated entirely separate and apart from any other system, and requires only two wires for its operation. As many bells as desired can be connected and made to simultaneously sound any desired code by turning the proper key in the key cabinet.

2. **With Intercommunicating Telephone Systems.** These signal sets can be connected directly to our Inter-phones without any change in the wiring of the instruments, or special bells. In this case, the bells on the instruments sound the code signals simultaneously whenever any one of the calling keys in the key cabinet is set in motion.

In case, however, loud ringing bells are required, or bells in locations where telephones are not installed, it will be found more satisfactory to install this code signaling system independently of any other equipment.

3. **With Private Exchange or Private Branch Exchange Telephone Systems.** A mechanical signaling system, when installed in connection with telephone systems of this class, should be put in as a separate system without special regard for the location of the various telephone instruments, the object being rather to so locate the bells that they will be best heard from every nook and corner of the plant.

MECHANICAL SIGNALING SYSTEMS (Continued)

CONNECTION DIAGRAMS. No connection diagrams are given for the reason that there are many different signaling systems in which the code signaling sets can be used. We furnish, upon application, detail information covering the connection of these sets with Inter-phones and with large and small bells and buzzers. If your requirements are stated, we will be very glad to work up a suitable signaling system and make you a quotation.

REQUIREMENTS. The following apparatus and accessories are usually required.

The key cabinet (state capacity) with 4 (or less) up to 16 keys.

Any number and size of bells.

One resistance coil and condenser box (to prevent sparking at contacts).

One or more relay boxes, depending upon the number and size of bells and the length and size of wire.

Necessary wire to connect the apparatus.

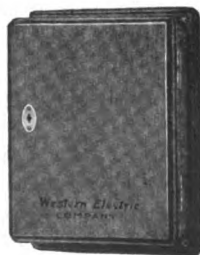
One or more batteries consisting of four or more cells, depending upon the number and size of bells and the length and size of wire.



No. 2-A
Code Signaling Set



Model "ASS"
Single-Stroke En-
closed Type



No. 262-F
Coil and Condenser Box

Telephone Equipment

Code Signaling Sets

The cabinets are made of golden oak, quarter-sawn. The metal face is finished in dull black with nickel trimmings. The sets are made only in 4 and 6 key sizes (each key providing a different signal), but they can be mounted side by side when 8, 10, 12, 14 or 16 signals are required.

Code No.	No. of Signals	Description	List Price Each
1-A	4	Used for 4 signals.....	\$77.60
1-B	4	Used with 1A for 8 signals.....	77.60
1-C	4	Used with 2A for 10 signals.....	77.60
1-E	4	Used with 1A and 1B for 12 signals...	77.60
1-F	4	Used with 2A and 1C for 14 signals...	77.60
1-D	4	Used with 1A, 1B and 1E for 16 signals.....	77.60
2-A	6	Used for 6 signals.....	100.10
2-B	6	Used with 1A for 10 signals.....	100.10
2-C	6	Used with 2A for 12 signals.....	100.10
2-E	6	Used with 1A and 1B for 14 signals..	100.10
2-D	6	Used with 2A and 1C for 16 signals..	100.10

Each of the above key cabinets may be ordered partially equipped. Deduct for each key omitted, list \$5.45.

Bells

Single stroke, enclosed type, Faraday Model "ASS."

List No.	Description
361111.....	4-inch gong
361113.....	6-inch gong
361114.....	8-inch gong

Prices on request.

Coil, Condenser and Relay Boxes

With each code signaling set a resistance coil and condenser box, No. 262F, is required to prevent excessive sparking at the contacts. This box is made of quarter-sawn oak to match the set.

A relay box is necessary under certain conditions, depending upon the number and size of bells and the length and size of wire. This box contains a resistance coil and a condenser in addition to the relay. It is similar in appearance to the No. 262F, and is known as the No. 262G Relay Box.

Code No.	Description	List Price Each
262-F	Coil and Condenser Box. Used to prevent sparking at contacts.....	\$6.30
262-G	Relay Box.....	11.30

INTER-PHONE ACCESSORIES

Cable



Cable for Interior
Use



Cable for Outside
Use

Three general types of cable are provided. Each type has its particular use, and care should be taken to order the proper cable for any desired purpose. These types are as follows:

1. Interior cable with outside braiding treated with gray fire-proof paint. Use only in dry places.
2. Interior cable with green glazed cotton outside braiding. Use only in dry places where exposed to view.
3. Outside cable, lead covered. Always use this cable outside, and inside in every case where there is apt to be moisture even in a small degree.

Lead-covered cables are not listed with separate code numbers. Any fire-proofed type of cable may be ordered with a lead sheath.

All cables are provided with a standard color scheme, so that each conductor can be distinguished from any other. The pairs are properly twisted to prevent inductive disturbances.

CABLES FOR SYSTEMS NO. 11 AND NO. 12

Code No.	Conductors No. 22 B. & S.	Used with	Covering	Approx. Outside Dim.	List Price Per 100 Feet
161	8	4 button system	Fire-proof Braid	$\frac{1}{16}$ inch	\$7.90
161 (Lead)	8	4 button system	Lead Sheath	$\frac{1}{16}$ inch	14.30
162	8	4 button system	Green Cotton Braid	$\frac{1}{16}$ inch	6.80
162	12	8 button system	Fire-proof Braid	$\frac{1}{16}$ inch	10.10
162 (Lead)	12	8 button system	Lead Sheath	$\frac{1}{16}$ inch	15.50
163	12	8 button system	Green Cotton Braid	$\frac{1}{16}$ inch	13.50

CABLES FOR SYSTEMS NOS. 1, 4, 7, 8, 9, 10

Code No.	Conductors B. & S. Gauge	Covering	Approx. Outside Dim.	List Price Per 100 Feet
164	6 singles No. 22, 2 pair No. 16, 2 spare single No. 22	Fire-proof Braid	$\frac{1}{16}$ in.	\$17.30
164 (Lead)	6 " " " " " " " "	Lead Sheath	$\frac{1}{16}$ in.	19.70
165	6 " " " " " " " "	Green Cotton Braid	$\frac{1}{16}$ in.	18.00
134	6 pair " " " " " " " "	Fire-proof Braid	$\frac{1}{16}$ in.	16.90
134 (Lead)	6 " " " " " " " "	Lead Sheath	$\frac{1}{16}$ in.	22.70
155	6 " " " " " " " "	Green Cotton Braid	$\frac{1}{16}$ in.	18.00
141	12 " " " " " " " "	Fire-proof Braid	$\frac{1}{16}$ in.	21.40
141 (Lead)	12 " " " " " " " "	Lead Sheath	$\frac{1}{16}$ in.	29.60
156	12 " " " " " " " "	Green Cotton Braid	$\frac{1}{16}$ in.	26.30
157	16 " " " " " " " "	Fire-proof Braid	$\frac{1}{16}$ in.	25.90
157 (Lead)	16 " " " " " " " "	Lead Sheath	$\frac{1}{16}$ in.	34.40
159	16 " " " " " " " "	Green Cotton Braid	$\frac{1}{16}$ in.	29.30
158	20 " " " " " " " "	Fire-proof Braid	$\frac{1}{16}$ in.	30.40
158 (Lead)	20 " " " " " " " "	Lead Sheath	$\frac{1}{16}$ in.	41.60
160	20 " " " " " " " "	Green Cotton Braid	$\frac{1}{16}$ in.	33.80
136	24 " " " " " " " "	Fire-proof Braid	$\frac{1}{16}$ in.	34.90
136 (Lead)	24 " " " " " " " "	Lead Sheath	$\frac{1}{16}$ in.	43.00
150	25 " " " " " " " "	Green Cotton Braid	$\frac{1}{16}$ in.	35.30

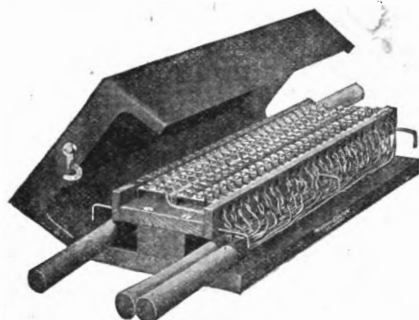
Complete Connection Diagram furnished with each Inter-phone

INTER-PHONE ACCESSORIES

Cable Terminals

The No. 19 type cable terminal is admirably suited for interior distributing work. It was designed after a great deal of study, and is thought to be the best of its kind on the market. Made of hard wood, numbered and shellacked, and equipped with a japanned sheet metal cover.

Code No.	Capacity in Pairs	Length	Width	Depth	List Price Each
19-A	14	8 in.	5½ in.	2½ in.	\$3.50
19-B	26	14 in.	5½ in.	2½ in.	4.50



No. 19-B. Cable Terminal

Connecting Blocks

Brass studs embedded in a hard composition base. Studs fitted with two nuts (one a split check nut) and two washers.

Code No.	Capacity in Pairs	Length	Width	List Price Each
6-A	7	5½ in.	1½ in.	\$.80
6-B	11	8½ in.	1½ in.	1.06
6-C	16	12½ in.	1½ in.	1.50
6-D	21	16½ in.	1½ in.	2.00
6-E	26	18½ in.	1½ in.	2.50



No. 6-B. Connecting Block

Hand Sets

Code No.	Description	List Price Each
1001-J	A nickel finish instrument for use in systems 1 and 4 in place of regular desk stand. Adapted for hard usage. Push button is located in the side, performing the function of a switch hook, and must be operated when talking. Can also be used in place of the desk stand in systems 11 and 12. Equipped with a 6-foot cord. Approximate weight, 30½ oz. A No. 1-B Hanger should be used for supporting or holding the hand set when not in use.....	\$15.90

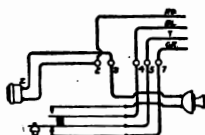
No. 1001-J
Hand Set

1002-D	For use in systems 1 and 4 in place of regular desk stand. Will not stand abuse like No. 1001-J. Switch hook is located in the handle and operates automatically.....	\$12.30
1002-E	For use in system 10 in connection with janitor's switchboard. Can also be used in place of regular desk stand in systems 11 and 12.....	12.10

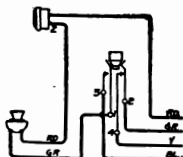
No. 1002 Type. Hand Set

Hand Set Hanger

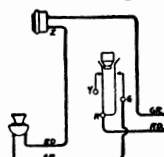
Code No.	Description	List Price Each
1-B	A black finish hanger for holding No. 1001 Hand Type Hand Sets.....	\$3.00

Hand Set
Hanger

Schematic No. 1001-J



Schematic No. 1002-D



Schematic No. 1002-E

Complete Connection Diagram furnished with each Inter-phone

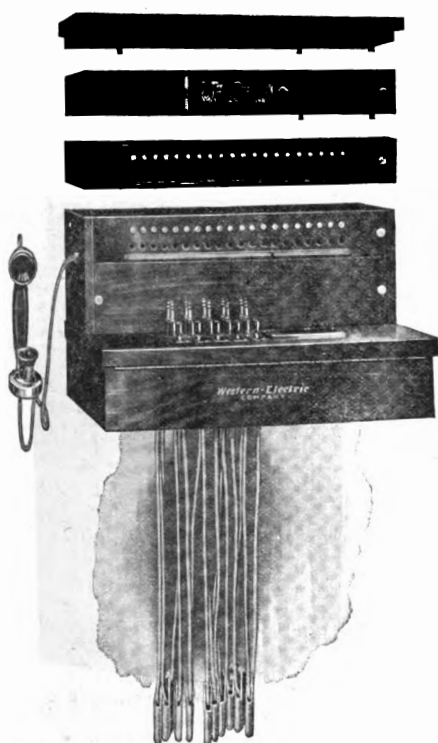
SWITCHBOARDS

Private Exchange and P. B. X. Switchboards

Primarily intended to provide communication between various points in one or several buildings, but in addition may be secured without or with provision for connection to a general public telephone exchange (either magneto or central battery).

No. 1801 SWITCHBOARD

This equipment meets the demand for a thoroughly reliable yet inexpensive telephone switchboard. All the apparatus necessary for the operation of the board is contained within the framework. The units fit together like a sectional bookcase. It is possible to make a switchboard of any capacity from 20 up to 100 lines by simply adding units. This type of switchboard is usually operated by the office boy, stenographer or clerk. The equipment can be arranged for connection with a general public telephone system, either magneto or central battery. This board is suitable for apartment houses, hospitals, schools, manufacturing establishments, prisons and asylums, in fact, anywhere where intercommunication is desired.



No. 1801 Switchboard, Showing Flexibility of Unit System and Ease with which Different Units can be Assembled to Meet a Variety of Operating Conditions.

SYSTEMS

To meet the different classes of service required of a switchboard of this type, four different arrangements are provided and classed respectively as systems "A," "B," "C," and "D."

System A. Provides for intercommunication between switchboard and station only. No intercommunication between any two stations through board. No connection with outside telephone exchange.

System B. Provides for intercommunication between switchboard and stations and intercommunication between stations through board. No connection with outside exchange.

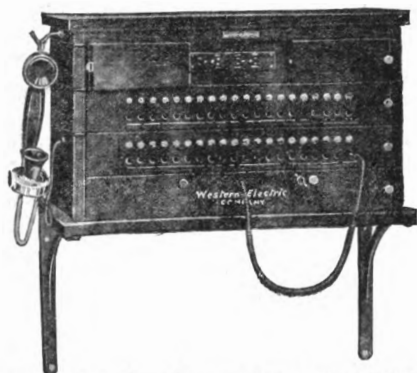
System C. Provides for intercommunication between switchboards and stations and intercommunication between stations through board and connections to outside telephone exchange (magneto or central battery).

Note: Telephone sets used with the above systems are equipped with direct current bells. The wiring consists of two individual and one common conductor from switchboard to each station.

System D. Is the same as **System C** except the telephones used are equipped with alternating current bells. The wiring consists of two individual conductors from switchboard to each station.

PRIVATE EXCHANGE AND P. B. X. SWITCHBOARDS

No. 1801 Switchboard



No. 1801 Switchboard System "A." Equipped With

- 1—Top Unit
- 1—Simultaneous Ringing, Listening and Talking Unit
- 1—Line Unit
- 1—Cord Unit
- 1—Supporting Unit

LIST OF UNITS

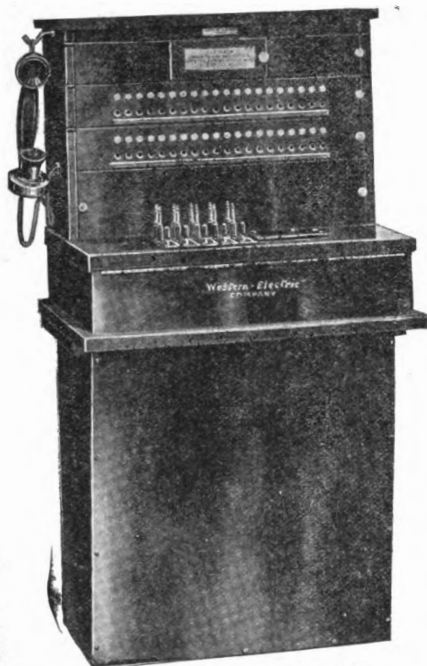
A complete No. 1801 switchboard consists of at least three or more units or sections, as follows:

(A) One supporting unit. (B) One cord unit. NOTE: The cord unit always contains 20 line circuits. (C) One top unit, and as many line units as are necessary to increase capacity of switchboard from 20 to the desired number of lines.

The following table lists standard units. These units are carried in stock packed in individual boxes. It is necessary, to avoid expense and delay, that standard units be ordered exactly as listed.

Care should be taken to select units which are designed to be used together.

The following tables give information as to the proper units to order for any class of service:



No. 1801 Switchboard System "B"

SUPPORTING UNITS

All Systems		Description
Code No.	Used with Cord Units	
K-1	JA-1 and JB-1.	Consists of two spanned brackets for supporting the switchboard on the wall.
K-2	JA-2, JB-2, JA-3, JB-3, JA-4, JB-4, JA-5, JB-5, JA-6, JB-6, JA-7, JB-7.	Consists of a shelf supported by two brackets, and a casing to cover the cords, adapted to support the switchboard on the wall.
K-3	JA-2, JB-2, JA-3, JB-3, JA-4, JB-4, JA-5, JB-5, JA-6, JB-6, JA-7, JB-7.	Consists of a flat top desk with a hole cut in the top into which the base of the cord units is placed. The desk serves as a casing for the cords, and also contains one tier of drawers.

CORD UNITS

System "A"

Code No.	Used with	Apparatus or Circuits Incl.	Remarks
JA-1	All line units and G-1 top unit.	1 operator's hand set, 1 operator's cord, 1 night alarm circuit, 20 regular line circuits (5 wired for long line service).*	Provides for communication between the operator and the stations only; no intercommunication between stations is possible.
JB-1	All line units and HA-7 simultaneous ringing and talking units.	Same as JA-1 except equipped with desk stand instead of hand set.	

*If service for a number of long lines (up to 5) is required, use HA-2 line unit.

PRIVATE EXCHANGE AND P. B. X. SWITCHBOARDS

NO. 1801 Switchboard

Cord Units (Continued)

SYSTEM "B"

Code No.	Used with	Apparatus or Circuits Incl.	Remarks	
JA-2	All line units and HA-7 simultaneous ringing and talking units.	G-1 top unit.	1 operator's hand set, 5 operator's connecting cords with ringing and listening keys, 1 night alarm circuit, 20 regular lines (5 wired for long line service).*	Provides for communication between the operator and stations, and facilities for five simultaneous communications between different stations.
JB-2	All line units and HA-7 simultaneous ringing and talking units.	G-2 top unit.	Same as JA-2 except equipped with desk stand instead of hand set.	Provides for communication between the operator and the stations, and facilities for five simultaneous connections between different stations.

SYSTEM "C"

JA-3	All line units and HA-7 simultaneous ringing and talking units.	G-1 top unit.	1 operator's hand set, 5 operator's connecting cord circuits, 2 plug-ended trunks to central battery telephone exchange, 1 night alarm circuit, 20 regular line circuits (5 wired for long line service).*	Provides for communication between the operator and the stations, facilities for five simultaneous connections between different stations, and two trunk connections to a central battery telephone exchange.
JB-3	All line units and HA-7 simultaneous ringing and talking units.	G-2 top unit.	Same as JA-3 except equipped with desk stand instead of hand set.	Provides for communication between the operator and the stations, facilities for five simultaneous connections between different stations, and two trunk connections to a central battery telephone exchange.
JA-5	All line units and HA-7 simultaneous ringing and talking units.	G-1 top unit.	1 operator's hand set, 5 operator's connecting cord circuits, 2 plug-ended trunks to magneto telephone exchange, 1 night alarm circuit, 20 regular line circuits (5 wired for long line service).*	Provides for communication between the operator and the stations, facilities for five simultaneous connections between different stations, and two trunk connections to a magneto telephone exchange.
JB-5	All line units and HA-7 simultaneous ringing and talking units.	G-2 top unit.	Same as JA-5 except equipped with desk stand instead of hand set.	Provides for communication between the operator and the stations, facilities for five simultaneous connections between different stations, and two trunk connections to a magneto telephone exchange.

SYSTEM "D"

JA-4	All line units.	G-1 top unit.	1 operator's hand set, 5 operator's connecting cord circuits, 2 plug-ended trunks to central battery telephone exchange, 1 night alarm circuit, 1 hand generator, 20 regular line circuits (5 wired for long line service).*	Provides for communication between the operator and the stations, facilities for five simultaneous connections between different stations, and two trunk connections to central battery telephone exchange.
JB-4	All line units.	G-2 top unit.	Same as JA-4 except equipped with desk stand instead of hand set.	Provides for communication between the operator and the stations, facilities for five simultaneous connections between different stations, and two trunk connections to a central battery telephone exchange.

*If service for a number of long lines (up to 5) is required, use a HA-2 line unit.
Note: HA-7 simultaneous ringing, listening and talking units cannot be used with System "D" cord units.

PRIVATE EXCHANGE AND P. B. X. SWITCHBOARDS

No. 1801 Switchboard

Cord Units (Continued)

System "D" (Continued)

Code No.	Used with	Apparatus or Circuits Incl.	Remarks
JA-6	All line units. G-1 top unit.	1 operator's hand set, 5 operator's connecting cord circuits, 2 plug-ended trunks to a magneto telephone exchange, 1 night alarm circuit, 20 regular line circuits (5 wired for long line service).*	Provides for communication between the operator and the stations, facilities for five simultaneous conversations between stations, and two trunk connections to a magneto exchange.
JB-6	All line units. G-2 top unit.	Same as JA-6 except equipped with desk set instead of hand set.	Provides for communication between the operator and the stations, facilities for five simultaneous conversations between stations, and two trunk connections to a magneto telephone exchange.

SYSTEM "D"—WITHOUT TRUNK CONNECTION

JA-7	All line units. G-1 top unit.	1 operator's hand set, 5 operator's connecting cord circuits, 1 night alarm circuit, 1 hand generator, 20 regular line circuits (5 wired for long line service).*	Provides for communication between the operator and the stations, and for five simultaneous connections between stations.
JB-7	All line units. G-2 top unit.	Same as JA-7 except equipped with desk set instead of hand set.	Provides for communication between the operator and the stations, and for five simultaneous connections between stations.

*If service for a number of long lines (up to 5) is required, use a HA-2 line units.

Line Units

HA-1	All cord units. All top units.	Wired for 20 line circuits, equipped for five, the remaining fifteen spaces blanked.	
HB-1	All cord units. All top units.	Wired for 20 line circuits, equipped for ten, the remaining ten spaces blanked.	
HC-1	All cord units. All top units.	Wired for 20 lines, equipped for 15, the remaining 5 spaces blanked.	
HD-1	All cord units. All top units.	Wired and equipped for 20 lines.	
HA-2	All cord units. All top units.	Wired and equipped with five relays only.	Provides relays for five long lines for use when there are five or less lines to be accommodated which are over 800 feet in length.

SIMULTANEOUS RINGING, TALKING AND LISTENING UNITS

HA-7	All system "A," "B" and "C" cord units.	Wired for and equipped with key for simultaneous ringing, talking and listening.	Provides facilities for ringing, talking and listening to all the stations in system simultaneously.
HA-6	All system "A," "B" and "C" cord units.	Equipped with key for answering all local calls at any designated station.	

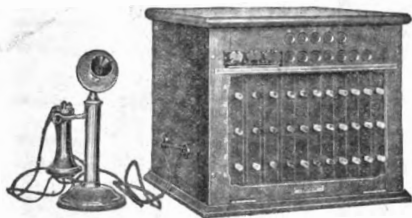
Top Units

G-1	JA-1, JA-2, JA-3, JA-4, JA-5, JA-6, and JA-7 cord units also HA-6 and HA-7 units.	All line units.	1 hook for hand set.
G-2	JB-1, JB-2, JB-3, JB-4, JB-5, JB-6, and JB-7 cord units also HA-6 and HA-7 units.	All line units.	None.

PRIVATE EXCHANGE AND P. B. X. SWITCHBOARDS

Cordless P.B.X. Switchboards

These switchboards are intended to provide not only communication between various points in one or several buildings, but also where a large percentage of calls are to be connected to a general public telephone exchange (either magneto or central battery).



No. 505-B Cordless Switchboard. 7 Local Lines; 3 Trunk Lines

FOR CENTRAL BATTERY SERVICE

Switchboard No. 505B is particularly adapted for use in offices, banks, factories, stores, etc., where the maximum number of local stations does not exceed 7, and the number of trunk lines to the general public telephone exchange does not exceed 3.

It is very compact and can be mounted on an ordinary desk or table.

On account of the small space occupied, it is quite desirable for use where the operator has other duties to perform, such as stenographer, clerk, or office boy.

Connections are established by means of keys.

The operator's telephone consists of a desk stand complete with transmitter, receiver, and three-foot cord.

This switchboard is built from either quarter-sawed oak with a light finish (Code No. 102D), or birch finished to resemble mahogany (Code No. 104M). The current necessary to operate the No. 505B board can be supplied either from the general public telephone exchange over spare wires, or by means of a small local storage battery; 16 to 26 volts are necessary for satisfactory operation. When a local storage battery is installed, 11 cells will be found to give satisfactory results.

Standard central battery telephones described in this catalog can be used in connection with this switchboard.

The telephone bells are usually rung by means of a hand generator furnished with the switchboard, but provision is made so that ringing current can be furnished from the central office over cable pairs.

Code No.	No. of local lines	No. of trunk lines to central battery or magneto exchange	No. of simultaneous connections possible
505B	7	3	5

FOR MAGNETO SERVICE

A magneto cordless private branch exchange switchboard is also manufactured, equipped for ten magneto lines which can be used for either trunk or local connections, that is, the board can be used for 10 local lines, or 1 trunk and 9 local lines or 2 trunk and 8 local lines, etc.

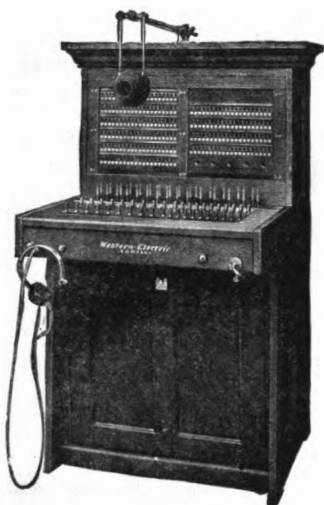
This switchboard is similar in appearance to the No. 505B. It is designed for magneto service only and requires but six dry cells for its operation: three for the operator's telephone and three for the night alarm. Standard Magneto Telephones described in this catalog can be used with this switchboard.

IN ORDERING BE SURE TO SPECIFY

- The switchboard code number.
- Whether for central battery or magneto service.
- The finish—whether oak or birch-mahogany.
- The type of night alarm buzzer required, whether for direct or alternating current. (Specify direct current unless a constant supply of ringing current is supplied from the central office or other source.)
- Whether black or nickel finish desk stand is wanted.

NOTE: These switchboards are only furnished completely equipped; no partial equipments will be supplied.

PRIVATE EXCHANGE AND P. B. X. SWITCHBOARDS



No. 1260-1290 Private Exchange Switchboards
 No. 1262 Shown



No. 1300-1350 Private Exchange Switchboards
 No. 1301 Shown

Cabinet and Desk Types

These switchboards are of the central battery, lamp signal type, and are operated in practically the same manner as our largest telephone exchange equipment. They can be used either for "private exchange service," that is, intercommunication in a private telephone system only, or "private branch exchange service," that is, intercommunication in a private telephone system with connection to a magneto or central battery public telephone exchange.

LINE CIRCUITS

The regular line circuit consists of a lamp placed in series with the battery and line, through the inside contacts of a cutoff jack.

LENGTH OF LINES

When lines have a resistance greater than 100 ohms, which is the approximate equivalent of 3000 ft. of No. 22, or 6000 ft. No. 19 B. & S. gauge copper wire, we recommend the use of relays in connection with the line circuit, making it possible to operate lines of any length up to those having a resistance of 750 ohms, which is the limit usually calculated for central battery lines.

BATTERY

They may be operated from either a 22 or 40 volt battery.

TELEPHONES

Any of our standard central battery telephones can be used with these switchboards.

WOODWORK

The standard woodwork in which these switchboards can be furnished is quarter-sawed oak with a rich golden finish (Code No. 103D), or birch, finished to resemble mahogany (Code No. 104K).

Switchboards Nos. 1260 to 1290 are of the cabinet type, and are suited to the most severe operating conditions. They are intended for use where the operator is busy answering calls and has no time for other duties.

Nos. 1300 to 1350 are of the desk type, and have a large writing or desk surface and either one or two tiers of drawers. They are suitable for use in offices where the operator has time for certain clerical duties.

PRIVATE EXCHANGE AND P. B. X. SWITCHBOARDS

LIST OF CODE NUMBERS AND CAPACITIES

Turret and Desk Code Numbers and Number of Operators' Positions				Line Capacity	Cord Capacity	Trunk Circuit Capacity	
Code Number of Switchboard	Cabinet or Turret Number	Desk Number	Number of Operators' Positions	Central Battery Line Circuits Lamp Signals	Cord Circuits Central Battery	Plug-ended Exchange Trunk Circuits Capacity	Plug-ended Exchange Trunk Circuits Wired for
1260	T-64740	.....	1	60	10	10	5
1261	T-64740	.....	1	100	10	10	5
1262	T-64740	.....	1	200	10	10	5
1270	T-64738	.....	2	L.Pos. 60	10	10	5
.....	.....	.....	.....	R.Pos. 60	10	10	5
1271	T-64738	.....	2	L.Pos. 100	10	10	5
.....	.....	.....	.....	R.Pos. 100	10	10	5
1272	T-64738	.....	2	L.Pos. 200	10	10	5
.....	.....	.....	.....	R.Pos. 200	10	10	5
1280	T-64737	.....	1	300	10	10	5
1290	T-64739	.....	2	L.Pos. 300	10	10	5
.....	.....	.....	.....	R.Pos. 300	10	10	5
1300	T-64744	T-64745	1	60	10	10	5
1301	T-64744	T-64745	1	100	10	10	5
1302	T-64744	T-64745	1	200	10	10	5
1310	T-64743	T-64745	1	300	10	10	5
1320	T-64744	T-64746	1	60	10	10	5
1321	T-64744	T-64746	1	100	10	10	5
1322	T-64744	T-64746	1	200	10	10	5
1330	T-64743	T-64746	1	300	10	10	5
1340	T-64742	T-64747	2	L.Pos. 60	10	10	5
.....	.....	.....	.....	R.Pos. 60	10	10	5
1341	T-64742	T-64747	2	L.Pos. 100	10	10	5
.....	.....	.....	.....	R.Pos. 100	10	10	5
1342	T-64742	T-64747	2	L.Pos. 200	10	10	5
.....	.....	.....	.....	R.Pos. 200	10	10	5
1350	T-64741	T-64747	2	L.Pos. 300	10	10	5
.....	.....	.....	.....	R.Pos. 300	10	10	5

The desk types of sections are wired for 15 line relays per position, and have capacity for mounting 30 per position.

The cabinet types of sections are wired for 20 line relays per position, and have capacity for mounting 40 per position.

INFORMATION FOR ORDERING

Every order should give the following information:

- Code number of switchboard.
- Equipment:
 - Number of subscribers' lines with relays.
 - Number of subscribers' lines less relays.
 - Number of pairs of cords.
 - Number of plug-ended trunk circuits to central battery office.
 - Number of plug-ended circuits to magneto office.
 - Number of holding jacks, if required.
 - Whether trunks are to be arranged for charging a storage battery at the branch exchange.
- Kind of woodwork:

Whether quarter-sawed oak with golden oak finish (Code No. 103-D), or birch with mahogany finish (Code No. 104-K).
- If a special finish is desired, a sample should accompany order.
- Type of transmitter desired:

Switchboards are regularly furnished with the "suspended" type. The "chest" type can be furnished if desired.
- Whether the exchange will operate on 22 or 40 volts.
- If it is desired to connect the switchboard with a distributing box, the order must specify number of feet of cable required from base of switchboard.

NOTE.—No line cable is regularly furnished for the lines or trunks.

NOTICE.—In this connection we desire to announce that we are prepared to furnish complete equipment, such as building cable, braided rubber-covered copper wire, etc., for wiring branch exchange equipments in hotels, schools, etc. Advise us of your requirements, and we will send you literature and suggestions.

MAGNETO SWITCHBOARDS

Are intended to provide service in small public telephone exchanges having 10 or more up to 300 lines.

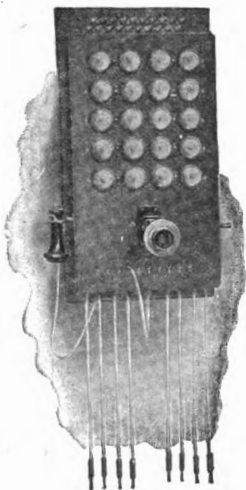
General

Western Electric Switchboards have been the recognized standard of the leading telephone companies throughout the country for the past thirty-five years and have satisfactorily met every operating condition.

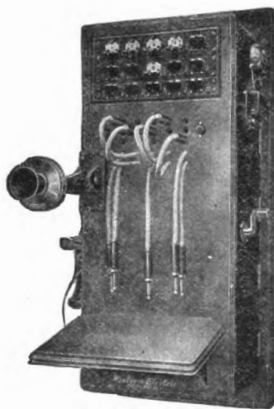
All lumber used in their construction is thoroughly seasoned and kiln dried, which prevents warping and cracking. All joints are tongued and grooved and securely fastened with a superior quality of glue. All joints between the sides, front and top are reinforced with steel angles.

The exterior surface is given a very pleasing golden oak finish and the interior an ample coat of shellac to completely fill all pores.

Western Electric Switchboards are entirely free from "crosstalk," on account of the fact that all signal and drop windings are enclosed in soft Norway iron shells and all wiring done with double silk and single cotton covered wire. All keys, cords, plugs, jacks, signals, etc., are standard apparatus the same as used in the largest exchange switchboards.



No. 1012 Switchboard



No. 106 Switchboard

No. 1012 Wall Switchboard

This switchboard is entirely satisfactory for small exchanges of 10 lines or less, where the switchboard is without a regular attendant, such as when located in a store. The cord circuits are not provided with "ring-off" signals, and if accurate and rapid operating is required the use of the No. 1800 switchboard is recommended.

The light finish quarter-sawed oak cabinet is hinged in front to allow inspection of the apparatus and wiring. A five-bar hand generator is furnished. The ringers are of 1000 ohms resistance, unless otherwise ordered, and are equipped with indicators to show which line is calling. The operator answers, listens in, and rings with a cord provided for that purpose. Connections are made by the other cords without the use of keys.

Capacity	
Line circuits	10
Cord circuits	4
Dimensions of cabinet: Height, 2 feet 5½ inches; width, 1 foot 3½ inches; depth, 6¾ inches.	
Code No.	List Price
1012 Ten subscribers' lines, 4 cord circuit.	\$89.50

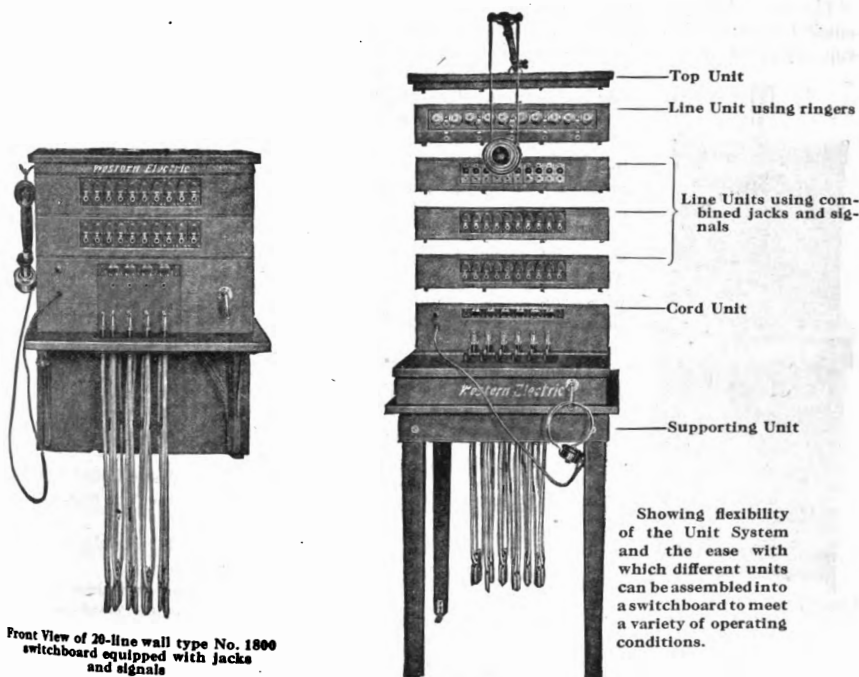
No. 106 Wall Switchboard

The cabinet is made of black walnut and the front is hinged to allow of easy access to the apparatus. The cabinet has a capacity of 10 subscriber lines, 1 toll line, and 4 cord circuits with supervisory drops. A five-bar hand generator, night alarm circuit is furnished. The drops are 500 ohms resistance and are bridged across the line. The operator answers, listens in, and rings with either of two duplicate cords provided for that purpose; connections are made by the other cords without the use of keys.

Equipment	
Code No.	List Price
106B Ten subscriber lines equipped with No. 19 drops, one toll line, and four cord circuits.	\$107.40
Telephone Equipment	

MAGNETO SWITCHBOARDS

No. 1800 Sectional Unit Type



Front View of 20-line wall type No. 1800 switchboard equipped with jacks and signals

This is the equipment for the small, rapidly growing telephone exchange having a maximum capacity of 50 lines. The sections are built up like a sectional bookcase. You buy just as much equipment as your present needs require, and by adding sections the switchboard grows with your business. Every kind of service that is met with in small exchanges can be provided for in these switchboards by apparatus most suited to that service. Their flexibility of operation and their ease of increase in size make them especially adaptable for the small exchange.

Some of the good features of this type of switchboard are:

1. The ease with which a switchboard can be assembled to meet any line or operating condition.
2. You buy at one time only as much switchboard capacity as you need.
3. The switchboard capacity can be increased as your business grows, thus requiring a minimum expenditure of capital at all times.
4. All the operating features of a large Western Electric switchboard have been retained in this Sectional Unit board, from the standpoints of both circuit and mechanical arrangement.
5. Standard Western Electric quality apparatus and material is used throughout.
6. The accessibility to all terminals and apparatus.
7. The strength and rugged construction of the parts subject to wear and rough usage, and the fine appearance of the complete assembled switchboard.

A complete No. 1800 switchboard consists of at least four or more units or sections, as follows:

- (a) One supporting unit.
- (b) One cord unit.
- (c) One line unit (capacity 10 lines).
- (d) One top unit, and

As many line units as are necessary to increase the capacity from 10 to the desired number of lines (not exceeding 50.)

Write us advising your requirements, and our engineers will prepare a specification covering a switchboard adapted to your needs, and tell you how much it will cost. All without obligation on your part to purchase.

MAGNETO SWITCHBOARDS

No. 1200 Type With Self-restored Line Signals

The No. 1200 type Switchboards are designed for the medium-sized magneto exchange. The smallest board—the No. 1200—has an ultimate capacity of 60 lines, and the largest—the No. 1250—a capacity of 300 lines. Additional capacity can be secured by lining up two or more of these switchboard sections. However, magneto equipment is not recommended for exchanges of more than 330 lines.

For larger installations, and often for those much smaller, Central Battery equipment is recommended. If, owing to local conditions, it is impossible to install Central Battery equipment, our No. 1013 type of Magneto Multiple Switchboard is the proper equipment. Detailed information furnished upon request.

All lumber used in the construction of these switchboard cabinets is thoroughly seasoned and kiln dried which prevents any warping or cracking. All joints in the woodwork are tongued and grooved, and are securely fastened with a fine quality of glue, no butt joints being used. All joints between the sides, front and roof are reinforced with steel angles.

The apparatus in the face of the switchboard is supported by a rigid steel framework, which is fastened by heavy wood screws to the front, sides and top of the switchboard section. The apparatus is fastened to this steel framework by machine screws, insuring permanent alignment.

The key-shelf is strengthened by steel bars to which the operator's keys are fastened by means of machine screws.

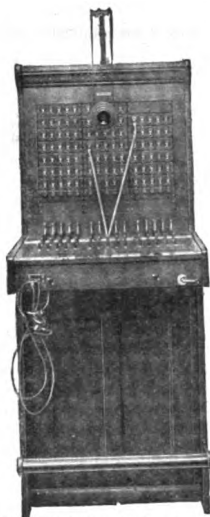
The plug-shelf is covered with $\frac{1}{8}$ -inch selected sole leather to afford protection against the impact of the falling plugs when the operator pulls down a connection.

All of these switchboard sections are fitted with removable rear doors which are of the same wood as the remainder of the section.

Polished brass foot-rails are provided on all of these switchboards.

The exterior surface of all cabinets is given a rich, deep golden-oak finish.

(Code No. 103C.) This finish presents a very pleasing appearance. The outer coat of varnish is hand-rubbed and of such character as to not scratch easily or show ordinary wear. The interior surface of all cabinets is given a shellac finish which fills the pores of the wood and effectually prevents warping or decay.



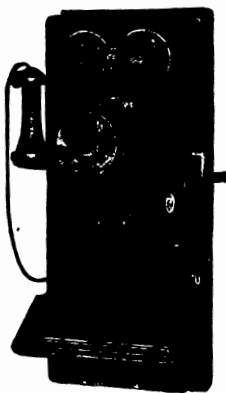
Central Office Switchboard
 No. 1220. Capacity 195 Lines.
 15 Pairs of Cords

The following table gives capacities

Code Number of Switch- boards	Number of Positions	Line Capacity Combined Jacks and Signals		Cord Capacity		Capacity Lamp and Jack Ended Transfer Circuits	Number of Lines Wired in Outside Cable Which Runs to Protection
		With Single Supervision Cord Circuits	With Double Supervision Cord Circuits	Cord Circuits (Total)	Cord Circuits Wired for Re- peating Coil and Key		
1200	1	60	45	8	3	10	60
1220	1	105	90	10	3	15	100
1230	2 { L. Pos. R. Pos.	105	90	10	3	15	100
		105	90	10	3	15	100
1240	1	165	150	15	5	15	150
1250	2 { L. Pos. R. Pos.	165	150	15	5	15	150
		165	150	15	5	15	150

MAGNETO TELEPHONES

These telephones are used in conjunction with the Nos. 1012 and 106 Wall Switchboards, the No. 1800 Sectional Unit Switchboard and the No. 1200 Type Switchboards, as described on the foregoing pages or with any other standard magneto telephone system. The following are a few of our representative types.



No. 1317 Type Telephone

DEFINITIONS OF TERMS

The following definitions of terms used in connection with our telephone sets later described may be helpful.

Bridging. When two or more telephone instruments have each one line terminal or binding post connected to one wire or conductor of the line, and the other terminal or binding post connected to the remaining line wire or ground (in the case of a grounded or common return circuit), they are said to be bridged across the line and are called bridging telephones.

Series. When two or more telephone instruments are so connected to a line that the current, both ringing and talking, flowing in the circuit, must pass through each instrument in succession, they are said to be connected in series, and are called series telephones.

Series telephone systems are seldom used in present day service and their use is not recommended. The use of bridging equipment is recommended as being much more satisfactory.

Code Ringing. When two or more telephones are connected to a line (either series or bridging) it is necessary to use a different ring for each, such as two short, three short, one long and a short, two long and two short or other combinations, so that each party will know when he is wanted and will not have to answer the telephone each time the bell rings. Such a set of prearranged signals or rings is called a code and telephones for this service are known as Code Ringing Sets.

Four-party Selective Ringing Using Pulsating Current. Four telephones arranged for this service can be connected to a metallic (two wire) circuit and the bell of any one of the four rung at the will of the switchboard operator without ringing the others on the line, provided the switchboard is equipped with a generator or other ringing machine delivering pulsating current, such as our No. 48B Hand Generator or No. 84E Interrupter.

Telephones arranged for this service can only signal the central office and cannot call each other without the assistance of the operator.

Selective Central Office Signaling. Bridging telephones arranged for this service and equipped with a push button, connected to a metallic (two wire) circuit can call each other without signaling the central office, or, by pushing the button while turning the generator crank, signal the central office without ringing the bells of the other telephones on the line.

This is accomplished by bridging the telephones across the line and wiring them so that the generators are normally connected to the two wires of the line, but when the push button is operated they are connected between one side of the line and ground. The switchboard drop is also permanently connected between the line and ground and of course is only operated when the generator is turned while the button is pushed.

Light Loaded Lines. A light loaded line is one less than ten miles long and equipped with not more than ten telephones.

Moderate Loaded Lines. A medium loaded line is one ten to thirty miles in length and equipped with from ten to thirty telephones.

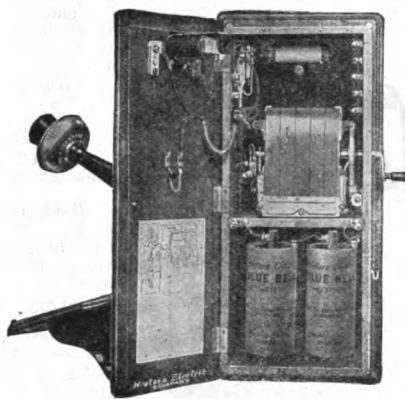
Heavy Loaded Lines. A heavy loaded line is one thirty to fifty miles long and equipped with from thirty to sixty telephones.

CONDENSERS

On rural lines, trouble sometimes occurs due to parties "listening in" whenever their bells ring, regardless of whether the call is for them or not. Whenever this is done, it is usually impossible to ring on the line after the receiver is off the hook. To overcome this feature it is customary to furnish telephones equipped with a condenser wired in the receiver circuit.

The Nos. 1317 R. & S. and 1305 S. & T. Wall Telephones and the corresponding desk telephones are so equipped, and all other Nos. 1317 and 1305 Telephones have terminals provided so that a condenser can be connected at any time. Screw mounting holes are provided so that no drilling is necessary.

MAGNETO TELEPHONES

No. 1317 Type Telephone

No. 1317 N or P, Open
No. 1317 Type

The No. 1317 wall type telephone listed below is the most extensively used and satisfactory magneto telephone on the market to-day.

They are all equipped with one No. 350W transmitter, one No. 143AW receiver, one No. 13 induction coil, one 2½ foot No. 419 receiver cord and two No. 338 battery cords.

All sets are wired for a 2 M. F. No. 21W condenser, to be inserted in receiver circuit. If condenser is desired it should be so stated on the order, excepting the Nos. 1317R and 1317S sets, which are already equipped with condenser. The telephones operated by harmonic current are equipped with a 1 M. F. No. 21F condenser.

Two Blue Bell Batteries and a No. 60A protector are furnished with each telephone and are included in the price.

Instructions for installing will be furnished on request.

Ringers Operated by Alternating Current (Code Ringing)

Code No.	Ringers	Generator	Condenser	Service	List Price
1317N	No. 38FG...1600 ohms	48A (5 bar A.C.)	.....	Moderate load lines	\$22.70
*1317R	No. 38FG...1600 ohms	48A (5 bar A.C.)	21-W	Moderate load lines	23.70
1317P	No. 38BG...2500 ohms	48A (5 bar A.C.)	.....	Heavy load lines	23.00
*1317S	No. 38BG...2500 ohms	48A (5 bar A.C.)	21-W	Heavy load lines	23.90
1317AH	No. 38AG...1000 ohms	22A (3 bar A.C.)	.....	Light load lines	18.80
1317BA	No. 38FG...1600 ohms	48A (5 bar A.C.)	1006A	Center selective	23.30
1317AM	No. 51JG...50 ohms	22B (3 bar A.C.)	.....	Series	18.00

Ringers Operated by Harmonic Current (Four-Party Selective)

1317Y	No. 41SG...460 ohms	22T (3 bar A.C.)	.....	33 cycles	\$22.70
1317AA	No. 41TG...460 ohms	22T (3 bar A.C.)	.....	50 cycles	22.70
1317AB	No. 41UG...460 ohms	22T (3 bar A.C.)	.....	66 cycles	22.70
1317AC	No. 41RG...1800 ohms	22T (3 bar A.C.)	.....	16 cycles	22.70

Ringers Operated by Pulsating Current (Four-Party Selective)

1317AJ	No. 46BG...2500 ohms	22E (2 bar A.C.)	Used for any one of the four parties	\$19.50
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MAGNETO TELEPHONES



No. 1305



No. 1305—Open

No. 1305 Type

The No. 1305 type telephone is intended for use in places where it is desirable to use a telephone smaller than the No. 1317 type. This set is not equipped with a writing shelf, nor is any provision made for installing the batteries in the telephone. The batteries are supposed to be mounted in some out-of-the-way place, either in a little battery box or on a shelf.

Batteries and protector are not included in the following prices and are not furnished unless specified in order.

DESIGN AND CONSTRUCTION

The cabinet and apparatus of this set are of the same high standard of material and workmanship as is used in the No. 1317 type telephone.

The standard of transmission and the ringing efficiency of these two sets are the same.

The following telephones are all equipped with one No. 329W transmitter, one No. 3A transmitter bracket, one No. 143AW receiver, one No. 13 induction coil, one 2½ foot No. 419 receiver cord, and one 5½ inch No. 179 transmitter cord.

The gongs on these sets have a black enamel finish.

A wiring diagram is pasted in every set.

Instructions for installing will be furnished on request.

Ringers Operated by Alternating Current (Code Ringing)

Code No.	Ringers	Generator	Condenser	Service	List Price
1305R	38FG-1600 ohms	48A (5 bar A.C.)	....	Moderate load lines	\$23.20
1305S	38FG-1600 ohms	48A (5 bar A.C.)	21W	Moderate load lines	25.00
1305M	38BG-2500 ohms	48A (5 bar A.C.)	....	Heavy load lines	23.20
1305T	38BG-2500 ohms	48A (5 bar A.C.)	21W	Heavy load lines	25.00
1305P	51AG-1000 ohms	22A (3 bar A.C.)	....	Light load lines	16.40
1305N	51JG- 50 ohms	22B (3 bar A.C.)	....	Series	17.80

Ringers Operated by Harmonic Current (Four-party Selective)

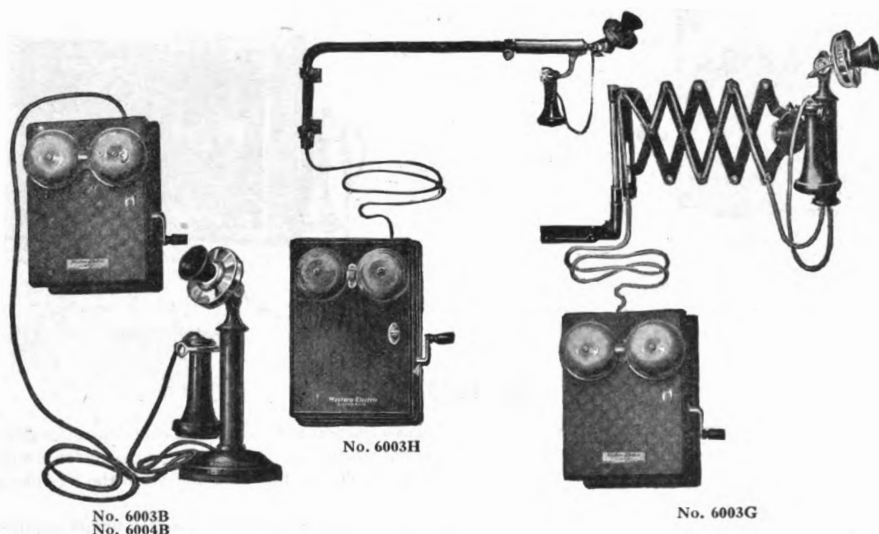
1305W	41SG- 460 ohms	22T (3 bar A.C.)	21F	33 cycles	\$22.30
1305Y	41TG- 460 ohms	22T (3 bar A.C.)	21F	50 cycles	22.30
1305AA	41UG- 460 ohms	22T (3 bar A.C.)	21F	66 cycles	22.30
1305AB	41RG-1800 ohms	22T (3 bar A.C.)	21F	16 cycles	22.30

Ringers Operated by Pulsating Current (Four-party Selective)

1305U	49BG-2500 ohms	22E (2 bar A.C.)	Used for any one of the four parties	\$18.80
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Telephone Equipment

MAGNETO TELEPHONES



Desk Type Magneto Telephones

The desk telephone and the telephone with extension arms are being used more and more every day. This is due to their convenience and neat appearance, and also to the improvements in design and manufacture, which have resulted in making an instrument that is practically as free from trouble as a wall set.

DESIGN AND CONSTRUCTION

The desk stands are carefully designed and constructed of the best materials obtainable. The working parts are held firmly within the upright tube or handle and by taking out only one screw can be removed as a unit for the purpose of connecting or disconnecting the cords or for inspection.

The finish of our desk stands is a special dull black japan. Nickel plated finish will be furnished if specified at an additional cost of 25 cents.

The following telephones are all equipped with one No. 329W transmitter and one No. 143AW receiver.

A wiring diagram is pasted in every set.

Instructions for installing will be furnished on request.

The gongs on the desk set boxes have a black enamel finish.

Batteries and protector are not included in the following prices and are not furnished unless specified in order.

LIST OF DESK TYPE MAGNETO TELEPHONES

Ringers Operated by Alternating Current (Code Ringing)

Code No.	Desk Set Box	Desk Stand or Arm	Ringers	Generator	Service	List Price
6003B	315H	1020PC (stand)	51AG-1000 ohms	22A (3 bar)	Light load lines	20.20
6003G	315H	1048AC (bracket)	51AG-1000 ohms	22A (3 bar)	Light load lines	23.20
6003H	315H	1020AC (arm)	51AG-1000 ohms	22A (3 bar)	Light load lines	28.20
6004B	300K	1020PC (stand)	51BG-2500 ohms	48A (5 bar)	Heavy load lines	25.60
6025A	315G	1320CN (stand)	51JG- 50 ohms	22B (3 bar)	Series	20.40

Ringers Operated by Harmonic Current (Four-party Selective)

6031A	354A	1020AL (stand)	41SG- 460 ohms	22T (3 bar)	33 cycles	\$23.60
6031B	354E	1020AL (stand)	41TG- 285 ohms	22T (3 bar)	50 cycles	23.60
6031C	354F	1020AL (stand)	41UG- 200 ohms	22T (3 bar)	66 cycles	23.60
6031D	354G	1020AL (stand)	41RG-1800 ohms	22T (3 bar)	16 cycles	23.60

Ringers Operated by Pulsating Current (Four-party Selective)

6003C	315J	1020PC (stand)	49BG-2500 ohms	22E (2 bar)	Used for any one of the four parties	\$21.10
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TELEPHONES

For Use with No. 1801 Switchboards



No. 1327H



No. 1339N—Special



No. 6034AU

Systems "A" and "B"

WALL TELEPHONES

Code No.	Description	List Price
1327H	Compact, non-flush wooden wall telephone with direct current vibrating bell. Golden oak finish.	\$7.90
1339N Special	Per specifications No. D-6952. Compact, flush metal wall telephone with direct current vibrating bell. Brush brass finish.	11.70

DESK TELEPHONES

6034AU	Black finish desk stand equipped with direct current vibrating buzzer mounted in the base	14.40
6034AT	Black finish desk stand with a separately mounted direct current vibrating bell. No mounting for bell is furnished.	14.40



No. 1293AR



No. 1333S or
No. 1333AY



No. 1357B or
No. 1357D

System "C"

INDUCTION COIL TYPE

These telephones are equipped with standard induction coil talking circuits which give the highest transmission efficiency obtainable. They are therefore recommended for all installations connected to an outside telephone exchange where long distance conversations are liable to occur.

WALL TELEPHONES

Code No.	Description	List Price
1293AR	Compact, wooden wall telephone with direct current vibrating bell. Black finish.	\$13.50
1333S	Compact, metal wall telephone with direct current vibrating bell. Black finish.	15.80
1357B	Compact, semi-flush metal wall telephone with direct current vibrating bell with black finish.	20.10

TELEPHONES
System "C" (Continued)


No. 6035B



No. 6015K

DESK TELEPHONES

Code No.	Description	List Price
6000AE	Black finish desk stand and wooden desk set box, equipped with direct current vibrating bell. Golden oak finish.....	\$17.90
6035B	Black finish desk stand and flush metal desk set box, equipped with direct current vibrating bell. Black Japan finish.....	23.10

SERIES TYPE

To meet the demand for somewhat lower priced telephones than the induction coil equipment before described, the following "series" type sets are furnished.

For practically all ordinary service they will be found to be entirely satisfactory, but where a high grade of long distance service is required in cases of connection between the private system and the public exchange, the induction coil sets should be used.

WALL TELEPHONES

1333AY	Compact, metal wall telephone with direct current vibrating bell. Black Japan finish....	\$12.50
1357D	Compact, semi-flush metal wall telephone with direct current vibrating bell. Black Japan finish.....	14.00

DESK TELEPHONES

6015K	Black finish desk stand and wooden desk set box, equipped with direct current vibrating bell. Golden oak finish.....	\$15.50
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System "D"

NOTE: Any standard central battery telephone as described elsewhere can be used with System "D."

CENTRAL BATTERY TELEPHONES

The central battery telephone is used in conjunction with the 505B cordless switchboard, the 1260 to 1350 private exchange switchboards or the 1801 switchboard system "D." It is also used in connection with any standard central battery exchange system.

Wall Telephones



No. 1333B



No. 1357A

No. 1333B Type

Code No.	Description	List Price
1333B	Compact metal wall telephone. Includes 1 No. 6AG 1000-ohm biased ringer, 1 No. 21D condenser, 1 No. 140S switch hook, 1 No. 20 induction coil, 1 No. 311W transmitter, 1 No. 143AW receiver, 1 receiver cord.....	\$14.50

No. 1357A. Semi-flush Type

1357A	Semi-flush metal wall telephone for hotels and residences. Includes 1 No. 16BG 2500-ohm biased ringer, 1 No. 21D condenser, 1 No. 140U switch hook, 1 No. 20 induction coil, 1 No. 7A transmitter bracket, 1 No. 311W transmitter, 1 No. 143AW receiver, and 1 receiver cord.....	\$18.90
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Desk Telephones



No. 6032W

No. 6032W. With Black Finish Stand and Metal Box

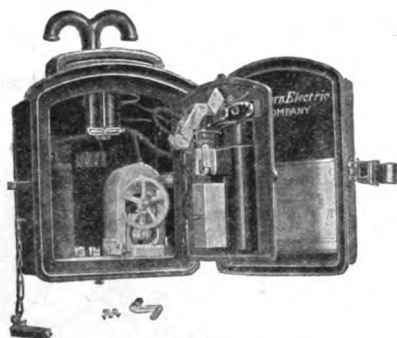
Code No.	Description	List Price
6032W	Black finish desk stand and metal desk set box. Includes 1 No. 334A desk set box, containing 1 No. 6AG 1000-ohm biased ringer, 1 No. 21D condenser, 1 No. 20 induction coil, and 1 No. 1020AL desk stand, equipped with 1 No. 329W transmitter and 1 No. 143AW receiver.....	\$17.30

MINE TELEPHONE APPARATUS

The severe conditions encountered underground make it necessary to provide unusually well protected telephone apparatus for use in mines. For use above ground, in conjunction with the mine telephones, standard telephone instruments can be used unless it is proposed to place them in exposed locations. In that event metal telephones should be used.



No. 1336 Type Set
With Outer Door Open



No. 1336 Type Set
With Both Inner and Outer Doors Open

Mine Telephones

The following descriptions cover the Western Electric Mine Telephone and regular telephones generally used above ground. Mine telephone systems usually consist of several instruments connected across one pair of wires forming a party line. Local battery magneto telephones are used and signaling done by code ringing. When there are more lines than one, they are usually terminated in a switchboard located at some central point, such as the superintendent's office.

For further information on mine telephone equipment write for hand book entitled "Mine Telephone Systems and How to Install Them," which covers the entire mine telephone field.



No. 1317 Type Telephone



No. 6004B-Desk Telephone
Telephone Equipment

Metal Telephones

Code No.	Description	List Price
1336A	Iron box telephone for heavy load service. Not equipped with ringer. Contains 5 bar A. C. generator, switch hook, induction coil, transmitter and receiver.	\$51.00
1336E	Iron box telephone for heavy load service. Equipped with 2500 ohm ringer, 5 bar A. C. generator, switch hook, induction coil, transmitter and receiver.	54.00

Wooden Wall Telephones

1317P	For use in buildings above ground. Contains a 2500 ohm unbiased ringer, 5 bar A. C. generator, induction coil, switch hook, transmitter, receiver and cords. Two Blue Bell batteries and a No. 60A protector are furnished with each telephone and are included in the price.	\$23.00
1317S	Same as No. 1317P, but with condenser in series with receiver.	23.90

Desk Telephones

6004B	For use in buildings above ground. The telephone includes 1 No. 300K desk set box, containing a 2500 ohm unbiased ringer, 5 bar A. C. generator and induction coil; 1 No. 1020PC desk stand, comprising stand, receiver, transmitter and cords.	\$25.60
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BATTERY REQUIREMENTS

Two "Blue Bell" dry batteries are necessary for the satisfactory operation of any of the above telephones.

Batteries are not regularly furnished, however (except in the case of No. 1317 sets), unless so specified on order. Batteries for use in metal type telephones on underground service should be ordered with special impregnated cartons which protect the cells from moisture.

NOTE: The above telephones may be equipped with a condenser wired in the receiver circuit, and will be so furnished if specified on the order. This will insure good signaling in case a number of receivers are off their hooks.

MINE RESCUE EQUIPMENT



Mine Rescue Crew Using Rescue Telephone Apparatus

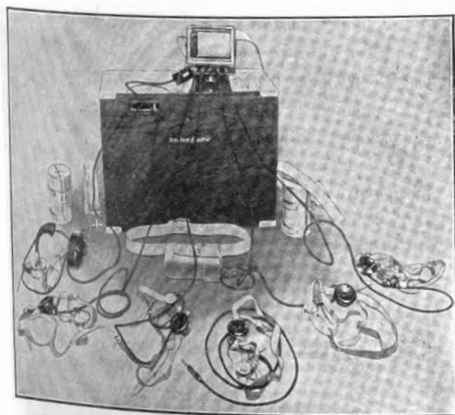
In cases of explosions, cave-ins, etc., in mines or underground work, it is found necessary, and urgently recommended by the U. S. Bureau of Mines, to establish a means of communication between the rescue party and the surface or base of supplies.

To take care of the increasing demand for communication between the rescue party down in the mine and the men on the surface, who are directing the rescue work, the Western Electric Company has designed a flexible and reliable equipment to fulfill the requirements of this service.

A high grade of transmission on a line up to 3,300 feet can be established between the rescue party and the surface. From one to five rescue men can be in the circuit at the same time and constantly communicate between themselves and the surface.



Cable Reel Box

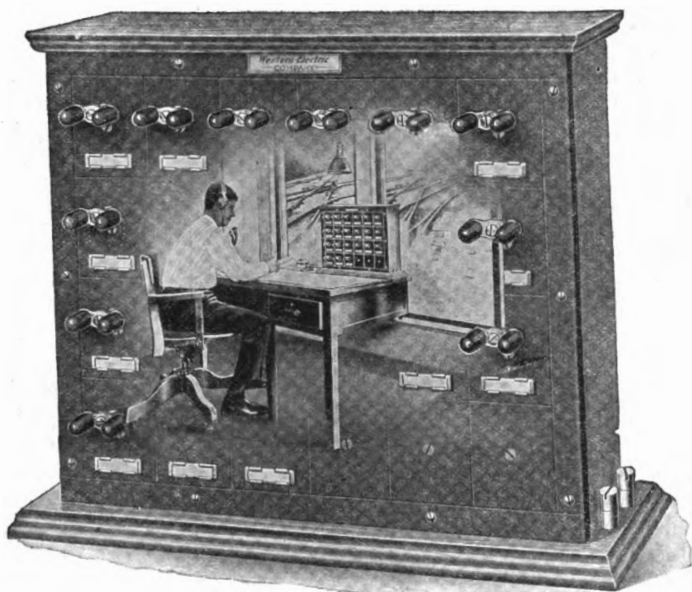


**Battery and Apparatus Box, Showing Apparatus
Prices on application.**

A special throat transmitter is used by the rescue party, causing no interference when standard oxygen helmets are used.

The apparatus is light, portable, strong and well-designed to meet the severe requirements of the service which it is to perform.

For detailed or additional information, write our nearest house.

RAILWAY TELEPHONE APPARATUS

Train Dispatcher's Equipment Showing No. 50 Type Selector Key Case

Railway Telephone Train Dispatching Equipment

We have not attempted to list here detailed information with regard to railway telephone train dispatching material, but only wish to call attention to the fact that we are prepared to furnish complete equipment especially adapted to your own local needs.



**No. 1330F Portable Set
Telephone Equipment**

At each distributing house a railway telephone engineer is located, who will cheerfully render any assistance desired by our customers. As all installations are so highly special, in practically every case particular equipment is necessary to take care of the local service conditions. To secure the best results, it is necessary to have special telephones for use on lines exposed to high tension wires and special portable telephone sets for emergency use.

Detailed information and prices on request.

Western Electric TELEPHONE BOOTHS



Folding Door Telephone Booths

The telephone booths shown are our standard types furnished in oak. We carry these in stock and are prepared to ship them promptly; also booths made of other woods than oak and booths of special finish and size. These special booths, however, are considerably more expensive than the standard booths which we carry in stock.

The booths are constructed from carefully selected, thoroughly seasoned, kiln-dried timber, and are perfect in design, material and workmanship.

The booths are shipped "knock down" and can be readily set up.

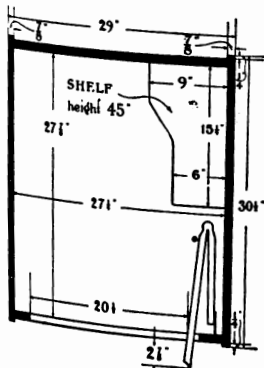
A shelf is furnished as standard equipment for each booth.

The standard booths have the door hinged on the right-hand side facing the booth.

These booths are compact enough to be used in narrow passageways—they are equipped with glass panels and door and are a serviceable telephone booth for business offices, banks, factories, stores, clubs, hotels and restaurants.

The folding door features are that the door operates both ways by pulling the handle, it remains in any position, and stays closed without use of catches. There are no tracks in the floor to gather dirt and become clogged. The ventilation is perfect. The door when operated extends only four inches beyond the face of booth.

Construction: Outside finished on front, sides and back.



Dimensions

Mfr. No.	Type No.	List Price Each
200001	2	Folding door telephone booth..... \$120.00

Delivery F. O. B. Factory, Brooklyn, N. Y., or Milwaukee, Wis.
For warehouse deliveries write nearest house.

Western Electric **TELEPHONE BOOTHS**



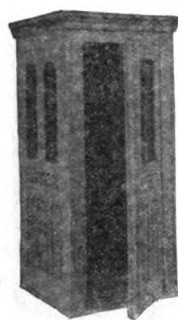
No. 13



No. 30



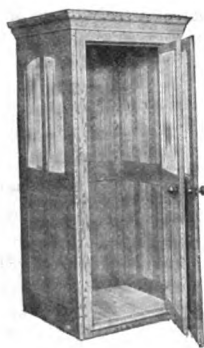
No. 40



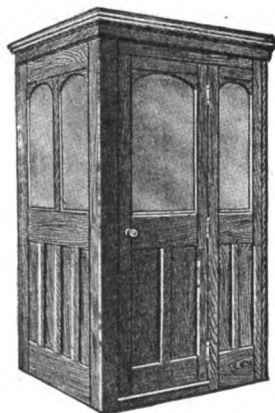
No. 48

Sound Proof Telephone Booths

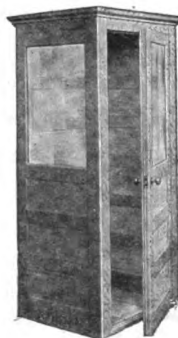
List No.	Mfr. No.		Size		*List Price Each
			Outside	Inside	
200002	13	Oak	38 x 38 ins.	30 x 30 ins.	\$132.00
200003	30	Oak	35 x 32 ins.	27 x 24 ins.	123.00
200004	40	Oak	32 x 37 ins.	26 x 31 ins.	117.00
200005	48	Oak	38 x 38 ins.	30 x 30 ins.	126.00



No. 20



No. 21



No. 25



No. 20A

Sound Proof Telephone Booths

List No.	Mfr. No.	Size			†List Price Each
		Outside	Inside		
200006	20	36½ x 33 ins.	32 x 26 ins.	Glass in door only	\$111.00
200007	20	36½ x 33 ins.	32 x 26 ins.	Glass in door and one side	120.00
200008	21	43 x 39 ins.	38 x 32 ins.	Glass in door only	129.00
200009	21	43 x 39 ins.	38 x 32 ins.	Glass in door and one side	138.80
200010	25	30 x 36 ins.	25½ x 31½ ins.	Glass in door only	84.00
200011	25	30 x 36 ins.	25½ x 31½ ins.	Glass in door and one side	90.00
200012	20A	30½ x 39 ins.	26 x 32 ins.	Glass in door only	111.00
200013	20A	30½ x 39 ins.	26 x 32 ins.	Glass in door and one side	120.00

*Delivery: F. O. B. Factory, Jamestown N. Y. For warehouse deliveries write nearest house.

†Delivery: F. O. B. Factory, Milwaukee, Wis. For warehouse deliveries write nearest house.

Telephone Booths

TELEPHONE AND TELEGRAPH CABLE



Cable

Lead-covered Cable

The use of lead-covered cable provides a convenient method for doing away with cumbersome and unsightly open-wire construction for telephone and telegraph lines and also makes it possible to place wires underground. In the first case, the lead-covered cable protects the wires from sleet and wind storms, as the wires will not suffer injury even though poles may be blown down; its use cuts down maintenance expense as it is not subject to the troubles that are inherent in open-wire construction, and, furthermore, it is inconspicuous and inexpensive. In the second case, the wires are fully protected from the corrosion that would take place with any other form of inexpensive insulation or covering.

Lead-covered cable in its simplest and most usual form takes for its manufacture four different raw materials—copper for the wire, paper for the insulation, and pure lead or an alloy of lead and antimony for the sheath. These raw materials are all subjected to thorough inspection before they are made a part of Western Electric lead-covered cable, so that all such materials which find their way to stock will be up to specification standards, and the first step taken to insure a high quality standard.

The methods used in the manufacture of the cable are the result of careful study and experience dating back to the early days of cable making. Enormous quantities of lead-covered cable are manufactured at the Hawthorne (Illinois) plant of the Western Electric Company in all sizes from a two-pair to a 600 pair No. 22 B. & S. Gauge Cable. No. 19 B. & S. Gauge Cable is made in sizes up to 300 pairs. Besides the lead-covered cable there is also a large amount of submarine cable manufactured each year. This is lead-covered cable with a heavy lead sheath which is given several servings of jute roving saturated with pine tar and the whole covered with either a single or a double armoring of steel wire followed by more servings of jute and pine tar.

All cable is thoroughly tested during and after the manufacturing processes for electrical characteristics. These tests are made to determine the presence of crosses, opens and grounds, to measure the insulation resistance and electrostatic capacity and to determine the conductivity. Breakdown tests are also made.

The methods employed in the inspecting and testing of raw materials, the carefully developed design and manufacturing methods, the thorough process inspections and the final testing cannot do other than produce commercially perfect cable.

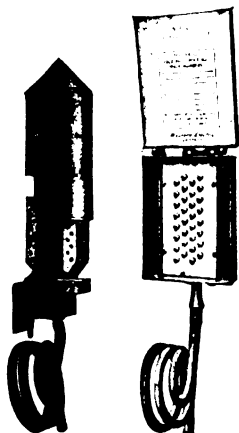
Every possible precaution is taken to keep out faults in the finished product so that the customer after installing the cable may be spared any annoyance or extra expense after the lines are ready to be cut into service.

Cable for use in aerial or underground lines must have an insulating resistance of at least 500 megohms per mile, and that for inside use, 100 megohms per mile.

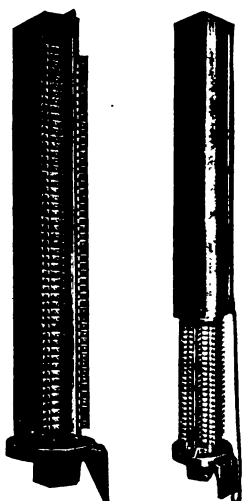
The electrostatic capacity is reduced to a minimum so that transmission efficiency will be correspondingly high. Capacities, mutual and grounded, specified by the customer, are guaranteed to be those capacities and no more. Should the final tests show the capacities to be greater and the insulation resistance less than those called for in the specifications, that cable will not be shipped.

Engineers, qualified by experience to advise on all questions of cable installation, are located at each of our distributing houses. They are at the customer's service for consultation.

Prices on request.

TELEPHONE APPARATUS
Cable Terminals


No. 8 Type Cable Terminal Open No. 14 Type Cable Terminal Open


 Showing Detail With Cover Removed
 No. 18 Type Cable Terminal

NO. 8 TYPE

Wooden sealing chamber equipped with binding posts and provided with galvanized iron hood. Regularly supplied with 6 foot cable stub attached. Prices are F. O. B. Hawthorne, Ill.

Code No.	Capacity Pairs	Protective Devices	Size Inches	List Price
8A	10	None.....	6¼	\$6.70
8C	26	None.....	6¼	10.60
8E	51	None.....	6¼	17.30
8F	61	None.....	6¼	on appl.

NO. 14 TYPE

Galvanized iron case and cover and porcelain terminal block. Regularly supplied with 6 foot cable stub attached. Prices are F. O. B. Hawthorne, Ill.

Code No.	Capacity Pairs	Protective Devices	Size Inches	List Price
14B	11	None.....	7½ x 7½	\$8.70
14D	26	None.....	7½ x 14½	16.70
14E	21	None.....	7½ x 12½	on appl.

NO. 18 TYPE

Wooden sealing chamber provided with galvanized iron hood. Regularly supplied with 6 foot cable stub attached. Prices are F. O. B. Hawthorne, Ill.

Code No.	Capacity Pairs	Protective Devices	Size Diam. Inches	List Price
18A	10	Fuses and carbon cut-outs.....	8½	\$19.50
18C	25	Fuses and carbon cut-outs.....	8½	35.70
18D	30	Fuses and carbon cut-outs.....	8½	47.30
18E	50	Fuses and carbon cut-outs.....	8½	68.10
18F	60	Fuses and carbon cut-outs.....	8½	90.40

NO. 15 TYPE

Wooden box for joining underground and aerial cables. These prices do not include protection. Prices are F. O. B. Hawthorne Ill.

Code No.	Capacity Pairs	Protective Devices	Size Inches	List Price
15A	100	77B Protector.....	20 x 33 x 9½	\$19.30
15B	200	77B Protector.....	22 x 63 x 9½	28.20

NO. 17 TYPE

Wooden box for joining underground to aerial cables or for open wire distribution. These prices do not include protection. Prices are F. O. B. Hawthorne, Ill.

Code No.	Capacity Pairs	Protectors	Size Inches	List Price
17A	25	7F or 61B	15 x 44½ x 10½	\$12.90
17B	30	7F or 61B	15 x 51½ x 10½	13.60
17C	50	7F or 61B	22 x 44½ x 10½	15.40
17F	100	7F or 61B	22 x 37¾ x 10½	19.30
17H	120	7F or 61B	32½ x 51½ x 11½	20.50
17J	150	7F or 61B	32½ x 62¼ x 11½	25.20
17K	200	7F or 61B	32½ x 78¾ x 11½	30.40

NO. 19 TYPE

Wooden base provided with connecting strip and metal cover. Used for connecting cables in Inter-phone systems.

Code No.	Capacity Pairs	Protective Devices	Size Inches	List Price
19A	14	None	8 x 5½ x 2½	\$3.50
19B	26	None	14 x 5½ x 2½	4.50

TELEPHONE APPARATUS

Gray Coin Collectors or Pay Stations

Coin collectors are used at public pay stations or wherever it is desired to collect the toll charge on a cash basis.

No electrical connections are necessary, it only being necessary to fasten the coin collector to the telephone by means of two or three screws.

The signals are given the operator automatically when the coins are deposited in the proper slot, there being no levers to push or pull.

Mr. No.	Type	Slots for	Size, Inches	List Price Each
11	Wall Telephone	Nickel, Dime, and Quarter	9 x 4½ x 3	\$16.00
14	Desk Telephone	"	9 x 4½ x 3	22.00

Delivery F.O.B. factory, Hartford, Conn. For warehouse deliveries write nearest house.



No. 11 Coin Collector

Condensers

Used in telephones on party lines where ringing trouble often occurs, due to parties "listening in" or leaving their receivers off the hook.

Telephones equipped with one of these condensers wired in series with the receiver overcome this difficulty, and it is possible to ring satisfactorily on a line with several receivers off provided the telephones are so equipped.

Code No.	Use	Capacity	List Price Each
21-W	Magneto telephones, for wiring in series with receiver	1 m.f.	\$1.00



No. 21-W Condenser

Cords

FOR TELEPHONE SETS AND SWITCHBOARDS

There is a Western Electric cord to fit any telephone set or switchboard. If none of the cords described below meet your requirements, write us, sending if possible a sample cord (an old one will do) or a sketch, paying particular attention to the kind of tip required.

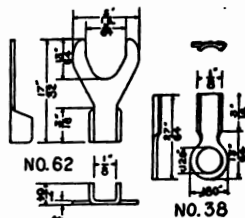
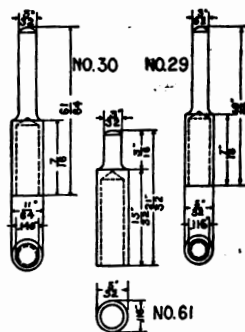
Always specify length of cord when ordering.

Wall Telephone Receiver Cords

Code No.	Description	Used with	Standard Length	Cord Tip	List Price Each
10	Two conductor tinsel cord, green silk covering.	Receiver on wall set.	3 ft.	No. 29 (receiver end)	
92	Two conductor tinsel cord, red and blue twisted covering.	No. 143 A.W. Receiver on wall set.	3 ft.	No. 62 (set end) No. 62 (set end) No. 30 (receiver end)	\$0.29 .19
454	Same as No. 92, except for tips.	Receiver on wall set.	3 ft.	No. 30 (both ends)	.195

Desk Stand Cords

Code No.	Description	Used with	Standard Length	Cord Tip	List Price Each
389	Two conductor tinsel cord, green silk covering.	Receiver on No. 1020 desk stand.	2½ or 3 ft.	No. 62 (stand end) No. 29 (receiver end)	.27 .295
180	Three conductor tinsel cord, green silk covering.	No. 1020 desk stand to connect it with desk set box.	6 ft.	No. 62 (both ends)	.68



Cord Tips

Telephone Equipment

TELEPHONE APPARATUS

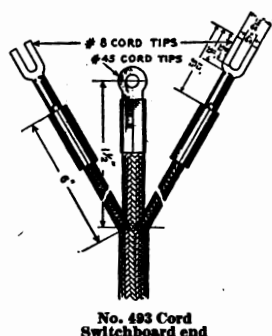
Cords (Continued)

Switchboard Cords (No plugs included)

It is customary to use 4-ft. switchboard and 6-ft. operator's telephone cords on small magneto and private exchanges, and 6-ft. switchboard and operator's telephone cords on other boards.

These lengths are carried in stock, but others will be furnished on request. The switchboard cords are regularly made in three colors, red, white, and green. The white cords are furnished unless the color is specified.

In ordering, specify the code number, length, color, and if plugs are to be attached, give the code number of the plugs. No extra charge is made for attaching plugs to cords.



Code No.	Description	Used with	Standard Length	Cord Tips	List Price Each
493	Two conductor tinsel cord. Furnished in white, red, or green covering as specified.	No. 47 plugs on switchboards	4 or 6 ft. 3 ins.	Specify No. 8 cord tips	4 ft. \$0.73 6 ft. .94
87	Four conductor tinsel cord, green silk covering.	Operator's head receiver and chest transmitter when attached to No. 103 or No. 112 plug	6 ft.	No. 38 (plug end) No. 29 (receiver end) No. 38 (transmitter end)	1.38
437	Single conductor tinsel cord, green silk covering.	Swinging type switchboard transmitter	6 ft.	No. 29 (trans. end) No. 62 (swbd. end)	.18
30	Two conductor tinsel cord, green silk covering.	Switchboard head receiver when attached to No. 85 plug	4½ or 6 ft.	No. 47 (plug end) No. 29 (receiver end)	4½ ft. .54 6 ft. .645
369	Two conductor tinsel cord, green silk covering.	Switchboard head receiver when attached to No. 136 plug	4½ ft. or 6 ft. 3 in.	No. 38 (plug end) No. 29 (receiver end)	4½ ft. .54 6 ft. .645

Magneto Desk Set Boxes

FOR BRIDGING SERVICE—CODE RINGING

Can be used with No. 1020-AL Desk Stands and No. 1002-AC Hand Set



Nos. 315 and 300 Type Desk Set Box

Code No.	Description	List Price Each
315-H	For light load service. Includes 1 No. 51-AG 1000-ohm ringer, 1 No. 22-A 3-bar A.C. generator, 1 No. 13 induction coil.	\$10.20
300-L	For moderate load service. Includes 1 No. 51-FG 1600-ohm ringer, 1 No. 48-A 5-bar A.C. generator, 1 No. 13 induction coil.	15.60
300-M	For moderate load service. Differs from the No. 300-L in being equipped with a condenser. Includes 1 No. 51-FG 1600-ohm ringer, 1 No. 48-A 5-bar A.C. generator, 1 No. 21-W condenser, 1 No. 13 induction coil.	16.90
300-K	For heavy load service. Includes 1 No. 51-BG 2500-ohm ringer, 1 No. 48-A 5-bar A.C. generator, 1 No. 13 induction coil.	15.60
300-N	For heavy load service. Differs from the No. 300-K in being equipped with a condenser. Includes 1 No. 51-BG 2500-ohm ringer, 1 No. 48-A 5-bar A.C. generator, 1 No. 21-W condenser, 1 No. 13 induction coil.	16.90

FOR FOUR-PARTY SELECTIVE RINGING USING PULSATING CURRENT

Can be used with same Desk Stand and Hand Set as listed above.

315-J	Includes No. 49-BG 2500-ohm ringer, 1 No. 22-E 2-bar generator, and 1 No. 13 induction coil.	\$11.10
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TELEPHONE APPARATUS

Desk Stands

WITH TRANSMITTERS, RECEIVERS AND CORDS

Code No.	Description	Finish	List Price Each
1020-AL	For regular bridging magneto service. Insulated transmitter. Includes 1 No. 20-AL desk stand, 1 No. 329-W transmitter, 1 No. 143-AW receiver and 1 No. 450 combination cord	Black	\$10.00
1020-PC	Same as No. 1020-AL except using No. 20-PC nickel finish stand	Nickel	10.60



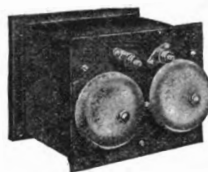
No. 1020-AL

Extension Bells

These Extension Bells are intended for auxiliary use in connection with wall, desk, or telephone arm telephones. They consist of a ringer on a suitable mounting and two line terminals or binding posts.

NO. 127 TYPE

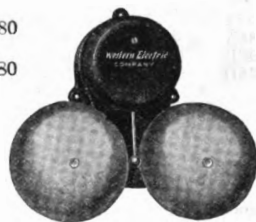
Code No.	Description	List Price Each
127-E	1000-ohm high efficiency ringer No. 38-AG mounted in wooden box, with two outside binding posts	\$3.90
127-F	2500-ohm high efficiency ringer No. 38-BG mounted in wooden box, with two outside binding posts	4.80
127-G	1600-ohm high efficiency ringer No. 38-FG mounted in wooden box, with two outside binding posts	4.80



No. 127 Extension Bell

NO. 392 LOUD RINGING TYPE

392-A	1100-ohm loud ringing unbiased bell, having a metal base and cover and 6" galvanized gongs. Base and cover black finish, and all parts effectively treated to withstand the action of moisture and fumes. Equipped with a No. 21-D Condenser mounted in base	\$7.80
392-B	2850-ohm bell, otherwise the same as No. 392-A	8.30
392-E	1600-ohm bell, otherwise the same as No. 392-A	8.10



No. 392 Loud Ringing Extension Bell

Mica Fuses

These fuses are furnished either with copper or foil tips, in either Western Union or Postal style. The fuse is mounted on a mica base, or enclosed between two strips of mica.

When ordering, always specify ampere capacity desired and it is best to send sample of fuse wanted (an old one will do). If this is not possible, be sure and give the following information:

- Length.
- Style (whether Western Union or Postal).
- Kind of terminals or tips (copper or tin foil).
- Use (whether for exchange or telephone protection).



Mica Fuse, Western Union Style



Mica Fuse, Postal Style

Tubular Fuses

FOR WESTERN ELECTRIC PROTECTORS

With Fiber Shell

These fuses are regularly furnished in 7 amperes capacity unless otherwise specified, although fuses of from 1 to 8 amperes capacity can be furnished if so ordered. The No. 12 fuse contains a heat coil.

Code No.	Used with Protectors Nos.	List Price Per 100
7-A	7-F	\$16.00
11-C	58-A, 58-B	21.40
12-A	12-A	45.00



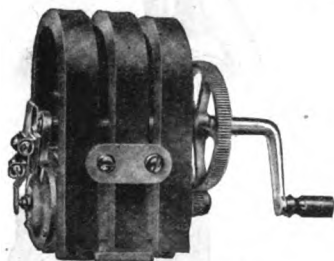
No. 7-A Fuse



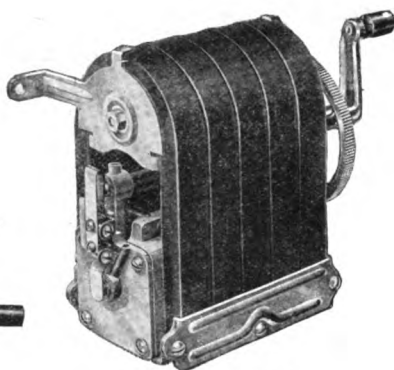
No. 11-C Fuse



No. 12-A Fuse

TELEPHONE APPARATUS


No. 22A Generator



No. 48A Generator



No. 1002AC Hand Set

Hand Generators

Code No.	No. of Bars	Current	Used in	List Price Each
22A	3	Alternating	Magneto telephone sets	\$4.80
48A	5	Alternating	Magneto telephone sets	7.30
48B	5	Alternating and pulsating	Magneto telephones and switchboards	8.80
48H	5	Alternating	Switchboards	7.10

Hand Sets

Code No.	Description	List Price Each
1002AC	For use in place of a regular bridging desk stand or transmitter arm. Equipped with No. 141W receiver, No. 267W transmitter, No. 318 cord	\$11.80



No. 67A Heat Coil



No. 13 Induction Coil



No. 23 Induction Coil

Heat Coils

Code No.	Description	Used with Protectors Nos.	List Price per 100
40	Brass dummy of cylindrical shape	84B and	\$1.60
67A	Red hard rubber shell for magneto or central battery equipments.	No. 1435M Protector	17.00
70A	Black fiber dummy	Groups	2.90

Induction Coils

Code No.	Dimensions Inches	Used in	List Price Each
13	1 x 3 1/4	All standard bridging magneto telephones	\$0.80
23	4 1/4 x 1 1/4	No. 1200 switchboards	2.00

Telephone Equipment

**Protectors
FOR TELEPHONES**

Code No.	Used with	Protection against	Consists of	List Price Each
12-A	Magneto telephone-sets.	Lightning, crosses with electric circuits and sneak currents.	2 No. 12-A 7-ampere fuses with heat coils, 2 carbon blocks and mountings....	\$1.94

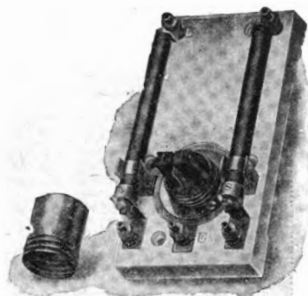
No. 58 Type

58-A	Magneto telephone sets.	Lightning and crosses with electric circuits.	2 No. 11-C 7-ampere fuses, 2 carbon blocks, and mountings....	1.16
58-B	Magneto telephone sets.	Lightning and crosses with electric circuits.	2 No. 11-C 7-ampere fuses, 2 copper blocks and mountings.	1.44

No. 60 Type

60-A	Magneto telephone sets.	Lightning.	2 carbon blocks and mountings.....	on Request
60-B	Magneto telephone sets.	Lightning.	2 copper blocks and mountings.....	.84
60-E	Magneto telephone sets.	Lightning.	1 copper and 1 alloy block and mounting.....	1.02

NOTE.—The No. 12-A is recommended in all cases except where the entire telephone system is entirely removed from all other electric lines. In these cases the No. 60 can be used.



No. 12-A Protector



No. 58-A Protector



No. 60-A Protector

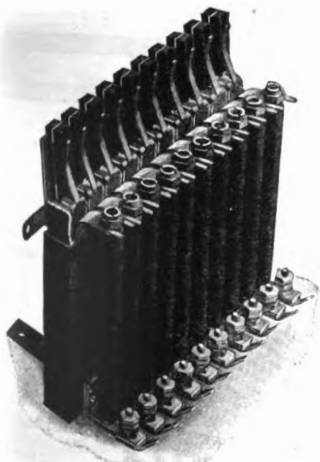
Protectors

FOR SWITCHBOARDS—NO. 61 TYPE

These Protectors are mounted in strips, and are designed to mount on the wall near the switchboard. In ordering specify the number of lines protection is desired for. This protector is recommended for small switchboards No. 106, 1012, or Pony types.

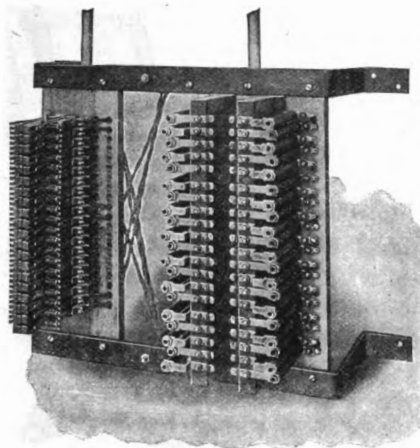
Code No.	Used with	Protecting against	Consists of
61B	Central offices and cable terminals.	Lightning and crosses with electric circuits.	1 No. 7A 7 ampere fuse, 2 copper blocks and a No. 58 Protector mounting.

Price on Application.



No. 61B

Distributing Frames



No. 1431A—20 Line Main Distributing Frame Equipped with 2 No. 1435M and 1 No. 1435J Protector Groups

A distributing frame is an iron framework intended for supporting switchboard protective apparatus and terminal strips. It is usually located near the point where the outside wires enter the exchange building and provides a satisfactory method of terminating such wires, as well as a very flexible means of cross connecting any outside line to any switchboard drop without interfering with the wiring inside the switchboard.

NO. 1431—20 LINE TYPE

This frame is especially suitable for the small rural exchange owning and operating a No. 1800 or other switchboard, equipped for from ten to forty lines, with little prospect of immediate growth.

Where more than twenty lines are to be accommodated, two of these frames can be lined up, one above the other. Cross connection facilities are provided by rings on the back of the frame.

This frame is designed for mounting against the wall. The drilling is so arranged that our standard protector groups can be used.

In ordering it will be necessary to specify the protector groups desired, consulting the following table.

Protector Groups

These groups have capacity for 20 lines and are designed for mounting on the No. 1431A Distributing Frame described above.

Code No.	Protection against	Equipped with	For terminating
1435J	Crosses with electric light or power circuits.	No. 7A fuses.	Outside lines.
1435K	None.	Terminal punchings.	Outside lines.
1435M	Lightning and sneak currents.	Carbon blocks and No. 69A heat coils.	Inside lines.

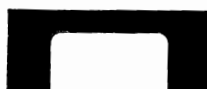
Prices on request.



No. 1



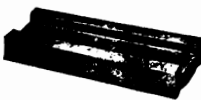
No. 19



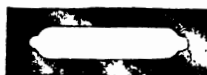
No. 3



No. 2
Protector Blocks



No. 20
Protector Blocks



No. 10
Protector Micas

Protector Blocks

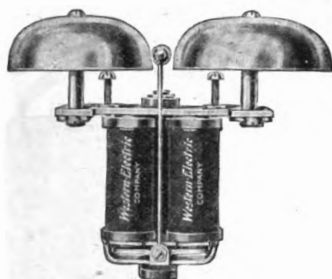
Code No.	Description	Used with Protectors
1	Plain carbon block with small fuse metal button.	Nos. 12A, 58A, 60A, 87BA, and 1435M Protector Groups.
2	Grooved carbon block without fuse metal button to be used with No. 1 block.	Nos. 12A, 58A, 60A, 87BA, and 1435M Protector Groups.
19	Copper block with two pins which fit into bushed holes of the No. 20 block.	Nos. 58B, 60B and 61B.
20	Copper block to be used with No. 19 block.	Nos. 58B, 60B and 61B.
21	Metal alloy block; similar in other respects to the No. 19 block.	No. 60E.

Protector Micas

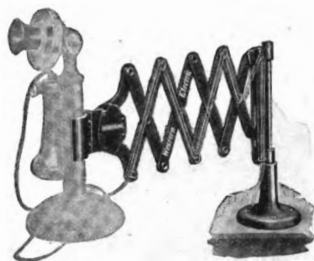
Code No.	Protector Blocks used between	Used with Protectors
3	Nos. 1 and 2 blocks.	Nos. 12A, 58A, 60A, 87BA, and 1435M Protector Groups.
10	Nos. 19 and 20 or 21 and 20 blocks.	Nos. 58B, 60B, and 60E.

Telephone Equipment

TELEPHONE APPARATUS



No. 38 Type



No. 147AC Telephone Bracket

Telephone Ringers—No. 38 Type

Long Coils, Unbiased

All No. 38 type ringers listed below have gong posts suitable for mounting on $\frac{3}{8}$ inch woodwork. Spacers can be furnished, however, to adapt them for mounting on $\frac{3}{8}$ inch or $\frac{1}{2}$ inch woodwork.

Code No.	Approximate Resistance Ohms	Use	List Price
38AG	1000	Telephones	\$2.70
38BG	2500	"	3.60
38FG	1600	"	3.60
38JG	50	"	2.40

High efficiency ringer having an easy adjustment feature.

Telephone Brackets—No. 147 Type

A strong collapsible arm arranged with a clamping device to hold a telephone desk stand. Black enamel finish.

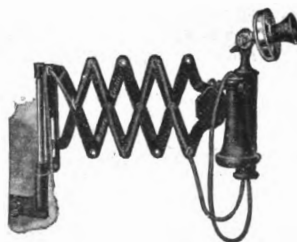
	AA, AB and AC Types	CA, CB and CB Types
Length of arm closed	8 $\frac{1}{4}$ ins.	10 ins.
Length of arm extended	24 ins.	36 ins.

The desk stand is not included in the price of the arm, and must be ordered separately.

Code No.	Description	List Price
147AA	For mounting on either side of a roll top desk	\$8.40
147AB	For mounting on the side of a flat top desk or on the wall	8.40
147AC	For mounting on the top of a flat top desk	8.40
147CA	Same as 147AA except length	10.50
147CB	Same as 147AB except length	10.50
147CC	Same as 147AC except length	10.50



No. 1048AB



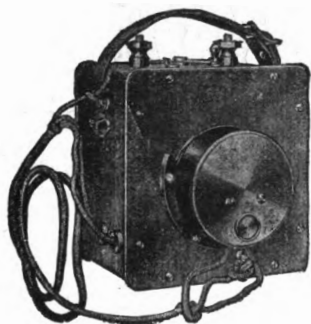
No. 1048AA

Telephone Transmitter Arms

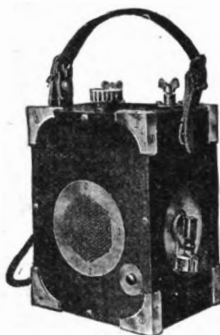
With Transmitter Receiver and Cord.

Code No.	Description	List Price
1048AB	Extensible arm for mounting on wall; extends 9 $\frac{3}{4}$ to 27 $\frac{1}{4}$ inches; black finish	\$13.00
1048AA	Extensible arm for mounting on roll top desks; extends 9 $\frac{3}{4}$ to 27 $\frac{1}{4}$ inches; black finish	13.00
1048AC	Extensible arm for use on flat top desks; extends 9 $\frac{3}{4}$ to 27 $\frac{1}{4}$ inches; black finish	13.00

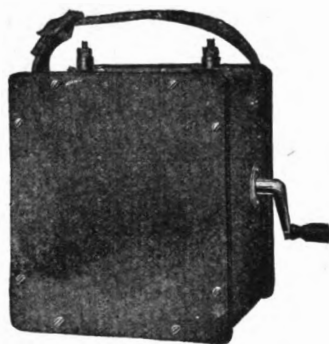
TESTING APPARATUS



No. 1006D Test Set



No. 1017B Test Set



No. 90510

Linemen's Test Sets

NO. 1017 TYPE

A wooden box telephone test set equipped with a regular local battery talking circuit consisting of a standard transmitter, induction coil, receiver, and a special three-cell dry battery unit.

Can be used either on magneto or central battery lines.

Code No.	Will Ring Through Ohms	Contains	Size of Case Inches	Finish	List Price Each
1017B	2500	1 No. 2D Buzzer 1 No. 29B 2-bar A.C. Generator 1 No. 370 Cord 1 No. 13 Induction Coil 1 No. 266W Transmitter 1 No. 145W Receiver	4½ x 6½ x 7½	Birch Mahogany	\$21.70

Batteries not furnished unless ordered.

NO. 1006 TYPE

A wooden box test set in which the No. 125W Receiver is also used as a transmitter. The use of the No. 1017B is recommended on account of its higher transmitting efficiency.

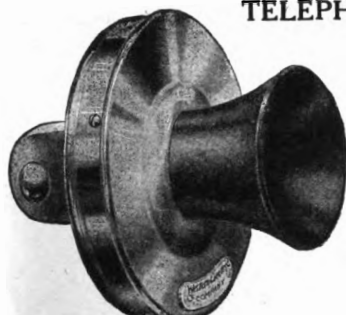
Code No.	Will Ring Through Ohms	Contains	Size Case Inches	Finish	List Price Each
1006D	5000	1 No. 2A Buzzer 1 No. 22B Generator 1 Switch 1 No. 125W Receiver with Cord 2 No. 9A Binding Posts 2 No. 26A Binding Posts Receiver Holder	6½ x 6 x 4½	Cherry	\$18.80

Magneto Testing Set

Each set consists of a hand generator and a ringer, wired in series, and inclosed in a wooden case.

90530	10000	1 No. 22 Type Generator			
		1 No. 18A Ringer	5¼ x 6½ x 5¼	Birch	\$5.50
90510	35000	1 No. 22K Generator			
		1 Special No. 19 Type Ringer	5¼ x 6½ x 5¼	Birch	7.50
90511	50000	1 No. 22N Generator			
		1 No. 19A Ringer	5¼ x 6½ x 5¼	Birch	8.30
90512	100000	1 No. 22N Generator			
		1 No. 19B Ringer	5¼ x 6½ x 5¼	Birch	9.50

TELEPHONE APPARATUS



No. 329W



No. 232W

**Transmitters
NO. 329W—WITH LUG**

Code No.	Description	List Price
329W	High resistance insulated type transmitter. Used on desk stands, transmitter arms and No. 1305 wall telephone sets.	\$3.40
NO. 232W. SWITCHBOARD—SUSPENDED TYPE		
232W	High resistance transmitter arranged to be suspended by two cords entering side of case. Used on magneto switchboards.	4.30



No. 234W



No. 350W

NO. 234W. OPERATOR'S—CHEST TYPE

Code No.	Description	List Price
234W	Switchboard operator's chest transmitter arranged to be supported from the neck by a No. 3 transmitter attachment. This attachment is not furnished with the transmitter unless so ordered.	\$5.00
NO. 350W. BRACKET TYPE		
350W	High resistance bracket transmitter, insulated type. Used on wall telephone sets that require a bracket type transmitter such as the No. 1317.	3.40



No. 128W



No. 143AW

Receivers

Code No.	Description	Used With	List Price
*143AW	Concealed binding post hand receiver.	Telephone sets, desk stands, telephone arms, etc.	\$2.00
*128W	Standard bipolar head receiver, hard rubber case.	Operator's telephone set, all switchboards.	3.30

*Cord not included, must be ordered separately.

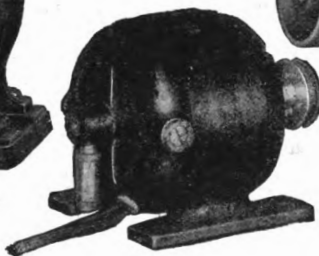
Western Electric

ALTERNATING CURRENT MOTORS

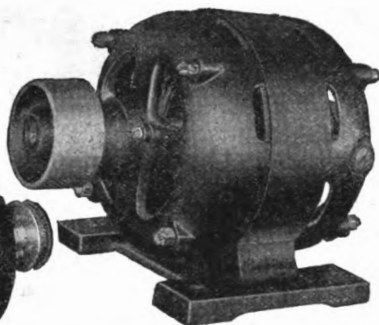
TYPE SDA AND SA—60 CYCLE



Type SA
½ H.P., 180 R.P.M., 60 Cycle
Wick-Oiled Bearing Motor
Showing Sliding Subbase



Type SDA
1/50 H. P. Series Wound Motor



Type SA
½ H.P., 1800 R.P.M., 60 Cycle
Oil Ring Bearing Motor with
Removable Foot Casting

Single Phase—Small Power Motors

The Western Electric Small Power Motors are especially adapted for operating all types of light machines and appliances to be met with in the household, shop or factory. They are simple of construction and can be operated and kept in perfect condition with a minimum of care and attention.

The best grades of materials are used in their construction, and a liberal amount of copper and high-grade magnetic iron is used, insuring excellent electrical characteristics. The care and attention devoted to the design and construction of these motors have resulted in producing a motor which operates at an exceptionally low cost and possesses perfect service reliability under the most severe conditions. When small starting current is necessary the clutch type motor should be used, except where violent load fluctuations are encountered, then the clutchless type of motor should be used.

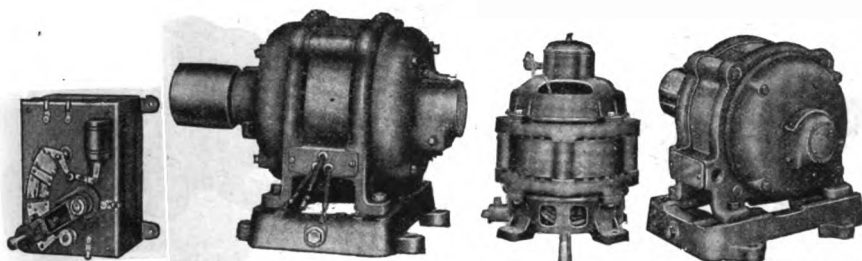
H.P.	Speed R.P.M.	*List Prices Open Motor with Pulley		Approximate Shipping Wt.	Standard Pulley Dimensions		List Allowance for Pulley	List Addition for Sliding Base	Frame No. †
		110 Volts	220 Volts		Diameter at Belt Center	Adapted to Round Belt Diameter			
Type SDA—Form A—Series Wound									
1/200	2200	\$14.00	.....	10	5/8	.....	\$0.20	.....	300
1/100	2200	15.50	\$17.00	10	5/8	.....	.20	.....	305
1/70	3000	15.50	17.00	10	5/8	.....	.20	.....	305
1/50	1800	19.00	20.50	15	1 1/4	.....	.30	.....	315
1/15	1800	31.00	33.00	22	1 1/4	.....	.50	.....	335
Type SA—150 per cent. Start (i.e., 50 per cent. Overload)—Squirrel Cage Type									
1/30	1800	\$24.00	\$26.00	20	1 1/4	3/8	\$0.50	.....	125
1/15	1800	34.00	36.00	24	1 1/2	1/4	.60	\$1.50	135
1/10	1800	36.00	38.00	26	1 1/2	1/4	.60	1.60	137
1/8	1800	44.00	46.00	31	1 3/4	1/4	.60	2.00	145
1/6	1800	48.00	50.00	34	2	1/8	.60	2.50	147
1/4	1800	52.00	54.00	48	*2 1/2	*1 1/2	1.00	4.00	155
1/2	1800	80.00	82.00	75	*3 1/2	*2	2.00	6.00	165
Type SA—100 per cent. (Full Load) Start—Squirrel Cage Type									
1/50	1200	\$24.00	\$26.00	20	1 1/4	3/8	\$0.50	.....	125
1/20	1200	34.00	36.00	24	1 1/2	1/4	.60	\$1.50	135
1/15	1200	36.00	38.00	26	1 1/2	1/4	.60	1.60	137
1/10	1200	44.00	46.00	31	1 3/4	1/4	.60	2.00	145
1/8	1200	48.00	50.00	34	2	1/8	.60	2.50	147
1/6	1200	52.00	54.00	48	*2 1/2	*1 1/2	1.00	4.00	155
1/4	1200	58.00	60.00	48	*2 1/2	*1 1/2	1.00	4.00	155
1/2	1200	90.00	92.00	75	*4 1/2	*2 1/2	2.00	6.00	165

* Pulleys for frames 155 and 165 have crowned face adapted for flat belt.

† Frames 125 to 155 inclusive have wick-oiled bearings and feet cast integral with end shields. Frame 165 has oil ring bearings and removable foot castings.

* Delivery F. O. B. Factory, Ft. Wayne, Ind. For warehouse deliveries write nearest house.

Western Electric ALTERNATING CURRENT MOTORS



Type KS Standard Open Motor with Starter

Vertical Type Open Induction Motor KS-4, 2 H.P., 1800, 60 Cycle Totally-Enclosed Motor

Type KS-IS-60 Cycle—Single Phase—Squirrel Cage Type

The Western Electric Type KS single phase squirrel cage induction motor is especially adapted for driving all geared or belted machinery requiring constant speed with a moderate starting torque. This motor is equipped with a clutch type armature, the 15 h. p. 1200 r. p. m. motor having a clutch pulley, so that it does not take the load until full speed is reached. This insures a moderate starting current.

The motor frame is of the riveted type, so that the laminations are exposed, resulting in low operating temperatures. The motor can be mounted on the floor, wall or ceiling, and the bearing brackets are interchangeable.

H.P.	Speed Syn. R.P.M.	Full Load Speed	Volts	*List Prices			Allowance for Pulley	Shipping Wt. In Lbs. (Approximate)		Standard Pulley Dimensions In Inches			Frame
				† Motor Only	Motor with Starter	Motor with Starter Pulley and Base		Motor with Base Pulley and Starter	Add. for Belt- Tight- ener	Diam.	Width	Bore	
1/4	1200	1140	110-220	\$92	\$118	\$126	\$2	170	35	4 1/2	2	1	122
1	1200	1140	110-220	102	134	142	2	170	35	4 1/2	3	1	140
1 1/2	1800	1710	110-220	80	112	120	2	240	40	4 1/2	2	1	122
2	1200	1140	110-220	136	168	176	2	300	50	4 1/2	4	1 1/2	160
2 1/2	1800	1710	110-220	114	146	154	2	240	40	4 1/2	3	1	140
3	1200	1140	110-220	180	214	224	2	435	60	5 1/2	4	1 3/8	180
3 1/2	1800	1720	110-220	146	180	188	2	300	50	4 1/2	4	1 1/8	160
5	1200	1140	110-220	188	222	236	2	475	60	7	4 1/2	1 5/8	181
5 1/2	1800	1720	110-220	192	226	236	2	435	60	5 1/2	4	1 3/8	180
7 1/2	1200	1150	110-220	270	304	318	4	560	70	7	4 1/2	1 5/8	201
7 1/2	1800	1730	110-220	280	326	340	4	560	70	7	4 1/2	1 5/8	201
10	1200	1150	110-220	348	394	412	4	725	80	8	4 1/2	1 7/8	220
10	1800	1730	220	326	*382	400	4	725	80	8	4 1/2	1 7/8	220
15	1200	1150	220	406	*462	480	4	850	80	8	5	1 7/8	221
15	1800	1740	220	432	*498	516	4	850	80	8	5	1 7/8	221
15	1200	220	220	504	*570	590	47	1325	...	8	5	2 1/4	†111

* These prices on 10 and 15 h. p. sizes are for 220 volt starter, for 110 volt starter add \$.00 to the 220 volt prices.

† These motors must be supplied with some form of resistance reactance starting box.

† This Motor is Type IS.

The above motors are of the clutch armature type except the 15 h.p., 1200 r.p.m. size, which is furnished with clutch pulley.

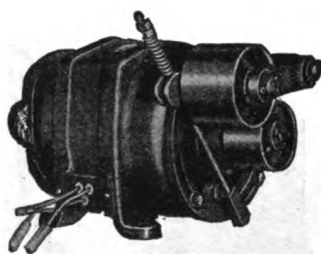
Prices on back geared, totally enclosed and vertical KS and IS motors quoted on application.

† Pulley allowance given for this size is for the solid removable pulley, and not for the clutch with pulley complete.

* Delivery F. O. B. Bloomfield, Boston, Chicago, Cincinnati, Cleveland, Erie, Ft. Wayne, Lynn, Madison, Milwaukee, New York, Jersey City, Hoboken, Philadelphia, Pittsburgh, St. Louis or Schenectady. For warehouse deliveries write nearest house.

Western Electric

ALTERNATING CURRENT MOTORS

Type R1, 5 H.P., 1800 R.P.M., 60
Cycle Open MotorType R1
Vertical MotorType R1 Motor with
Belt-Tightener Attachment

Type R1—60 Cycle—Single Phase—Repulsion Type

The Western Electric Type R1 single phase repulsion motor is not only adaptable for use on single phase circuits which are primarily intended for lighting service only, but may also be operated on one phase of a two or three phase system. It is therefore universal in its application and the many improvements which are embodied in the design and construction of the Western Electric single phase motors insure most satisfactory results from their use.

This motor is especially adaptable for constant speed service requiring a heavy starting torque.

Many radical differences exist between the type R1 repulsion motor and the ordinary type of repulsion motor which starts as a repulsion motor and when full speed is reached, throws the brushes off the commutator by means of a centrifugal device. The R1 brushes are fixed in position for all speeds and loads, and the motor possesses the uniform speed characteristics of a direct current compound motor throughout its entire range of operation.

The R1 motor operates with excellent efficiency at all loads and is noted for its exceptionally high power factor, which ranges from 15 to 20 per cent. higher than other types of repulsion motors.

H.P.	Sync. Speed	Speed R.P.M.		Volts	**List Prices			Allowances for Omissions		Ship. Wt. in Lbs. Com- plete	Standard Pulley Dimensions In Inches			Frame
		No Load	Full Load		Motor Only	Motor with Pulley and Base	Motor with Starter Pulley and Base	Pul- ley	Base		Diam.	Width	Bore	
1/4	1800	2100	1790	110-220	\$72	\$74	...	\$2	..	86	3 1/2	2 1/2	3/4	521
1/4	1200	1400	1180	110-220	88	90	...	2	..	105	3 1/2	2 1/2	3/4	526
1/4	900	1070	915	110-220	114	116	...	2	..	125	3 1/2	2 1/2	3/4	531
1/2	1800	2000	1790	110-220	82	84	...	2	..	105	3 1/2	2 1/2	3/4	526
1/2	1200	1400	1180	110-220	122	130	...	2	\$6	172	4 1/2	2 1/2	1	546
1/2	900	1160	950	110-220	148	156	...	2	6	185	4 1/2	2 1/2	1	549
1/2	1800	2000	1770	110-220	112	114	...	2	..	125	3 1/2	2 1/2	3/4	531
1/2	1200	...	...	110-220	142	150	...	2	6	185	4 1/2	2 1/2	1	549
1/2	900	1050	880	110-220	160	168	...	2	6	196	4 1/2	2 1/2	1	564
1	1800	2000	1780	110-220	122	130	\$140	2	6	172	4 1/2	2 1/2	1	546
1	1200	1360	1175	110-220	144	152	162	2	6	196	4 1/2	2 1/2	1	564
1	900	...	...	110-220	210	218	228	2	6	287	4 1/2	3 1/2	1	582
2	1800	1980	1750	110-220	168	176	186	2	6	196	4 1/2	2 1/2	1	564
2	1200	1300	1165	110-220	216	224	234	2	6	262	4 1/2	3 1/2	1	584
2	900	1005	895	110-220	280	290	300	2	8	382	4 1/2	4 1/2	1 1/2	604
3	1800	1900	1720	110-220	216	224	236	2	6	262	4 1/2	3 1/2	1	584
3	1200	1280	1160	110-220	272	282	294	2	8	367	4 1/2	4 1/2	1 1/2	606
3	900	1080	890	110-220	460	476	488	4	12	605	5 1/2	4 1/2	1 3/4	627
5	1800	1900	1720	110-220	272	282	296	2	8	367	4 1/2	4 1/2	1 3/4	606
5	1200	1360	1160	110-220	384	400	414	4	12	580	5 1/2	4 1/2	1 3/4	627
5	900	1140	770	110-220	520	538	552	4	14	690	7	5	1 3/4	632
7 1/2	1800	1900	1720	110-220	384	400	*420	4	12	580	5 1/2	4 1/2	1 3/4	627A
7 1/2	1200	1340	1150	110-220	450	468	*488	4	14	660	7	5	1 3/4	632
7 1/2	900	1150	730	110-220	680	698	*716	4	14	848	8	5	1 1/2	652
10	1800	1880	1700	110-220	476	494	532	4	14	660	7	5	1 3/4	632A
10	1200	1320	1150	110-220	546	564	602	4	14	830	8	5	1 1/2	652
10	900	1025	900	110-220	850	868	906	4	14	1220	8	6	1 1/2	674
15	1800	1880	1700	110-220	616	634	672	4	14	830	8	5	1 1/2	652A
15	1200	1300	1100	110-220	688	706	744	4	14	1140	8	6	1 1/2	674

* 220 volts only. For 110 volts add \$20.00. † Frames 521, 526 and 531 have slotted feet, no base.

Prices on vertical and variable speed motors on application.

**Delivery F. O. B. Bloomfield, Boston, Chicago, Cincinnati, Cleveland, Erie, Ft. Wayne, Lynn, Madison, Milwaukee, New York, Jersey City, Hoboken, Philadelphia, Pittsburgh, St. Louis or Schenectady. For warehouse deliveries write nearest house.

Power Apparatus

Western Electric **ALTERNATING CURRENT MOTORS** **A.C. SMALL POWER MOTORS**



Type DST 1/4 H.P., 1800 R.P.M., 220 Volt Motor
with Oil Ring Bearings



Type DST 1/6 H.P., 1800 R.P.M., 220
Volt Wick Oiled Motor

Types DST—Three Phase and DSQ—Two Phase

The Western Electric small power two and three phase motors are particularly designed for driving light machinery requiring from 1/30 to 1/4 h.p. They are exceptionally sturdy of construction, and operate at high efficiencies.

Types DSQ and DST—Constant Speed—Continuous Service—60, 40 and 25 Cycles— 2- and 3-Phase

2- and 3-Phase											
H.P.	Speed Sync. R.P.M.	Volts	†List No.		**List Price Open Motor with Pulley and Foot Casting	Ship. Wt. in Lbs. (Approx.)	Pulley Dimensions In Inches		List Price Allowance		Frame Symbol
			DSQ Two- Phase	DST Three- Phase			Diameter at Bottom of Groove	Adapted to Round Belt Diameter	Pulley	†Foot Casting	
60 Cycles											
1/15	1800	110	159519	159531	\$24.00	22	1½	1½	\$0.50	\$0.40	W12
1/15	1800	220	159520	159532	26.00	22	1½	1½	.50	.40	W12
1/15	1200	110	159521	159533	34.00	32	1½	1½	.60	.50	W25
1/15	1200	220	159522	159534	36.00	32	1½	1½	.60	.50	W25
1/8	1800	110	66989	67001	34.00	32	1½	1½	.60	.50	W25
1/8	1800	220	66990	67002	36.00	32	1½	1½	.60	.50	W25
1/8	1200	110	66971	66979	44.00	37	1½	1½	.60	.50	W33
1/8	1200	220	66972	66980	46.00	37	1½	1½	.60	.50	W33
1/4	1800	110	159523	159535	\$50.00	39	*2½	*1½	\$1.50	\$0.50	O33
1/4	1800	220	159524	159536	52.00	39	*2½	*1½	1.50	.50	O33
1/4	1800	440	159525	159537	54.00	39	*2½	*1½	1.50	.50	O33
1/4	1800	550	159526	159538	56.00	39	*2½	*1½	1.50	.50	O33
1/4	1200	110	121985	121973	58.00	48	*2½	*2	1.50	.70	O46
1/4	1200	220	121986	121974	60.00	48	*2½	*2	1.50	.70	O46
1/4	1200	440	129334	129346	62.00	48	*2½	*2	1.50	.70	O46
1/4	1200	550	129335	129347	64.00	48	*2½	*2	1.50	.70	O46
40 Cycles											
1/4	1200	110	121987	121975	\$60.00	48	*2½	*2	\$1.50	\$0.70	O46
1/4	1200	220	121988	121976	62.00	48	*2½	*2	1.50	.70	O46
1/4	1200	440	129336	129348	64.00	48	*2½	*2	1.50	.70	O46
1/4	1200	550	129337	129349	66.00	48	*2½	*2	1.50	.70	O46
25 Cycles											
1/4	1500	110	159527	159539	\$52.00	39	*2½	*1½	\$1.50	\$0.50	O33
1/4	1500	220	159528	159540	54.00	39	*2½	*1½	1.50	.50	O33
1/4	1500	440	159529	159541	56.00	39	*2½	*1½	1.50	.50	O33
1/4	1500	550	159530	159542	58.00	39	*2½	*1½	1.50	.50	O33

*Pulley for oil ring bearing motor has crowned face adapted for flat belt. †The foot casting takes the place of feet and if omitted leaves the cylindrical frame of motor without support. ‡List number does not include pulley.

Delivery F. O. B. Factory, Lynn, Mass. For warehouse delivery write nearest house.

Western Electric

ALTERNATING CURRENT MOTORS

60 CYCLES



Polyphase Riveted Frame
Totally-Enclosed Motor



Polyphase Riveted Frame
Standard Open Motor



Polyphase Riveted Frame
Vertical Motor

Form KT—Three Phase and KQ—Two Phase—Squirrel Cage Type

The Western Electric Type KT and KQ motors are the standard alternating current motors for constant speed work requiring from $\frac{1}{4}$ to 15 h.p. Special attention has been given to their mechanical and electrical characteristics. They have exceptionally high overload capacity and operate at low temperature. There are no moving contacts and hence the possibility of sparking is entirely eliminated. The riveted frame type of construction exposes the laminations to the air, and allows the motor to be kept free from dust and dirt.

H.P.	Speed Sync. R.P.M.	Volts	**List Prices		Allowances for Omissions		Shipping Wt. in Lbs. Approx. (Complete)	Standard Pulley Dimensions In Inches			Frame
			Motor Only	Motor with Base and Pulley				Diam.	Width	Bore	
			Form K	Form K	Pulley	Base	Form K				
$\frac{1}{4}$	900	110 440 550	\$78	\$86	\$2	\$6	100	3 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{3}{4}$	112
$\frac{1}{4}$	600		88	96	2	6	130	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	121
$\frac{1}{2}$	1800		70	72	2	6	65	3 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{3}{4}$	110
$\frac{1}{2}$	1200		78	86	2	6	100	3 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{3}{4}$	112
$\frac{1}{2}$	900		88	96	2	6	130	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	121
$\frac{1}{2}$	600		132	140	2	6	180	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	140
$\frac{1}{2}$	1800		78	80	2	6	75	3 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{3}{4}$	111
$\frac{1}{2}$	1200		84	92	2	6	120	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	120
$\frac{1}{2}$	900		108	116	2	6	140	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	122
$\frac{1}{2}$	600		132	140	2	6	180	4 $\frac{1}{2}$	3 $\frac{1}{2}$	1	140
1	1800		82	90	2	6	100	3 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{3}{4}$	112
1	1200		102	110	2	6	130	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	121
1	900		132	140	2	6	180	4 $\frac{1}{2}$	3 $\frac{1}{2}$	1	140
1	600		162	170	2	6	220	6 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	140
$1\frac{1}{2}$	1800		92	100	2	6	130	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	121
$1\frac{1}{2}$	1200		116	124	2	6	140	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	122
$1\frac{1}{2}$	900		152	160	2	6	220	4 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	160
$1\frac{1}{2}$	600		182	192	2	8	340	5 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{3}{8}$	180
2	1800		102	110	2	6	140	4 $\frac{1}{2}$	2 $\frac{1}{2}$	1	122
2	1200		134	142	2	6	180	4 $\frac{1}{2}$	3 $\frac{1}{2}$	1	140
2	900		166	174	2	6	220	4 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	160
2	600		206	216	2	8	340	5 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{3}{8}$	180
3	1800		116	124	2	6	180	4 $\frac{1}{2}$	3 $\frac{1}{2}$	1	140
3	1200		156	164	2	6	220	4 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	160
3	900	194	204	2	8	340	5 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{3}{8}$	180	
3	600	*248	264	4	12	440	7	5	1 $\frac{3}{8}$	181	
5	1800	136	144	2	6	220	4 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	160	
5	1200	190	200	2	8	340	5 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{3}{8}$	180	
5	900	*244	260	4	12	440	7	5	1 $\frac{3}{8}$	181	
5	720	286	300	4	10	650	8	5	1 $\frac{3}{8}$	8	
5	600	346	360	4	10	700	8	6	1 $\frac{3}{8}$	9	

* 440-550 volt motors are not standard in these sizes. † Frames 110 and 111 have slotted feet, no base. For gearing use slow speed motors.

**Delivery F. O. B. Bloomfield, Boston, Chicago, Cincinnati, Cleveland, Erie, Ft. Wayne, Lynn, Madison, Milwaukee, New York, Jersey City, Hoboken, Philadelphia, Pittsburgh, St. Louis or Schenectady. For warehouse deliveries write nearest house.

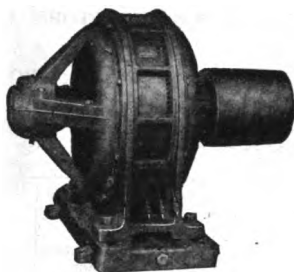
Power Apparatus

Western Electric

ALTERNATING CURRENT MOTOR



Compensator with
Low-Voltage Release
and Fuses



Polyphase Skeleton Frame
Standard Form K Motor



Compensator with Low-Voltage
and Overload Release

Form K Type T—Three Phase and Q—Two Phase—Squirrel Cage Type Form L—Three and Two Phase—Internal Resistance Type

Western Electric induction motors of more than $7\frac{1}{2}$ h.p. capacity 900 r. p. m. are of the skeleton frame construction which represents a distinct departure from the usual types. Mechanical strength is obtained by a careful distribution of material which avoids the use of unnecessary iron and provides the best of operation by exposing the stator core direct to open air.

The shaft and bearings are unusually large, and the whole design insures strong and rigid construction well adapted to the most severe service. High operating efficiency is secured by carefully maintaining the proper relation between power factor, slip, starting torque, maximum output, etc., to insure the most satisfactory results.

Form L. These motors differ from the Form K or squirrel cage type, in that they are provided with wound rotors and internal starting resistance by means of which high starting torque is secured with low starting current.

H.P.	Speed Sync. R.P.M.	Volts	**List Prices						Allowances for Omissions		Ship. Wt. in Lbs. Approx. (Complete)		Standard Pulley Dimensions in Inches			Frame
			Motor Only		Motor with Com- pen- sator	Motor with †Compen- sator Pulley and Base										
			Form K	Form L	Form K	Form L	Form K	Form L	Pul- ley	Base	Form K	Form L	Dia.	Width	Bore	
7½	1800	110-220 440-550	\$172		\$250	\$260		\$2	\$8	500		5½	4½	1⅜	180	
7½	1200		246		324	340		4	12	600		7	5	1⅝	181	
7½	900		288	\$366	366	380	\$380	4	10	800	660	8	5	1⅞	8	
7½	720		348		426	440		4	10	860		8	6	1⅞	9	
10	1800		216		294	310		4	12	600		7	5	1⅝	181	
10	1200		298	376	376	390	390	4	10	800	660	8	5	1⅞	8	
10	900		338	416	416	430	430	4	10	860	720	8	6	1⅞	9	
10	720		404		482	500		6	12	1170		10	7	2⅛	10	
10	600		454		532	550		6	12	1170		10	7	2⅛	10	
15	1800		304		386	400		4	10	610		7	5	1⅝	201	
15	1200		364	446	446	460	460	4	10	860	720	8	6	1⅞	9	
15	900		420	502	502	520	520	6	12	1170	1050	10	7	2⅛	10	
15	720		498	580	580	600	600	8	12	1250	1130	10	8	2⅛	11	
20	1800	220-440-550	356		446	460		4	10	860		8	6	1⅞	9	
20	1200	220-440-550	432	522	522	540	540	6	12	1170	1050	10	7	2⅛	10	
20	900	2200	512	682	710	728	700	6	12	1440	1050	10	7	2⅛	10	
20	720	220-440-550	490	580	580	600	600	8	12	1250	1130	10	8	2⅛	11	
20	600	2200	550	720	748	768	740	8	12	1520	1130	10	8	2⅛	11	
20	720	2200	662	832	860	888	860	10	18	2060	1690	13	10	2⅜	12	
20	600	220-440-550	622	712	712	740	740	10	18	1790	1690	13	10	2⅜	12	
20	514	2200	762		960	988		10	18	2060		13	10	2⅜	12	
20	514	220-440-550	682		772	800		10	18	1790		13	10	2⅜	12	

For gearing use slow speed motors and for frames 12 and above also extended shafts and outboard bearings. † Compensators included in price and furnished only with Form K motor. Form L motors do not require them.

**Delivery Form K motors F. O. B. Bloomfield, Boston, Chicago, Cincinnati, Cleveland, Erie, Ft. Wayne, Lynn, Madison, Milwaukee, New York, Jersey City, Hoboken, Philadelphia, Pittsburgh, St. Louis or Schenectady. For warehouse deliveries write nearest house. Form L motors F. O. B. Schenectady.

For overload relays with enclosing covers in place of fuses for 550 volts or less add \$28.00 to list.

Western Electric

ALTERNATING CURRENT MOTORS—Continued

Form K Type T—Three Phase and Q—Two Phase—Squirrel Cage
Type Form L—Three and Two Phase—Internal Resistance Type

H.P.	Speed Syn. R.P.M.	Volts	**List Prices						Allowances for Omissions		Ship. Wt. in Lbs. Approx. (Complete)		Standard Pulley Dimensions in Inches			Frame
			Motor Only		Motor with Com- pen- sator	Motor with †Compensator Pulley and Base										
			Form K	Form L	Form K	Form K	Form L	Pul- ley	Base	Form K	Form L	Dia.	Width	Bore		
25	1800	220-440-550	\$430	\$522	\$522	*	...	...	...	1255						10
25	1200	220-440-550	478	570	570	\$590	\$590	\$8	\$12	1250	1130	10	8	2 1/8		11
		2200	540	740	768	788	760	8	12	1520	1130	10	8	2 1/8		11
25	900	220-440-550	556	648	648	670	670	10	12	1590	1470	10	10	2 3/8		11A
		2200	598	798	826	848	820	10	12	1850	1470	10	10	2 3/8		11A
25	720	220-440-550	640	732	732	760	760	10	18	1790	1690	13	10	2 3/8		12
		2200	712	912	940	968	940	10	18	2060	1690	13	10	2 3/8		12
25	600	220-440-550	700	792	792	820	820	10	18	1790	1690	13	10	2 3/8		12
		2200	806	1006	1034	1068	1040	16	18	2420	2060	13	13	2 3/4		13
35	1800	220-440-550	504	...	620	*	...	...	...	1380						11
		2200	588	...	828	*	...	...	...	1520						11
35	1200	220-440-550	562	678	678	700	700	10	12	1700	1470	10	10	2 3/8		11A
		2200	646	858	886	908	880	10	12	1850	1470	10	10	2 3/8		11A
35	900	220-440-550	656	772	772	800	800	10	18	1910	1690	13	10	2 3/8		12
		2200	720	932	960	988	960	10	18	2060	1690	13	10	2 3/8		12
35	720	220-440-550	736	852	852	880	880	10	18	1910	1690	13	10	2 3/8		12
		2200	834	1046	1074	1108	1080	16	18	2400	2060	13	13	2 3/4		13
35	600	220-440-550	820	936	936	970	970	16	18	2280	2060	13	13	2 3/4		13
		2200	944	1156	1184	1228	1200	24	20	3000	2650	15	15	3 1/4		13A
35	514	220-440-550	920	...	1036	1080	...	24	20	2850		15	15	3 1/4		13A
50	1200	220-440-550	710	840	840	868	868	10	18	2150	1930	13	10	2 3/8		12
		2200	808	1020	1048	1076	1048	10	18	2300	1930	13	10	2 3/8		12
50	900	220-440-550	796	926	926	960	960	16	18	2280	2060	13	13	2 3/4		13
		2200	894	1106	1134	1168	1140	16	18	2400	2060	13	13	2 3/4		13
50	720	220-440-550	886	...	1026	1070	...	24	20	2850		15	15	3 1/4		13A
		2200	1024	1236	1264	1308	1280	24	20	3000	2650	15	15	3 1/4		13A
50	600	220-440-550	1006	1136	1136	1180	1180	24	20	2850	2650	15	15	3 1/4		13A
		2200	1174	...	1414	1468	...	24	30	3800		16	17	3 1/2		14
50	514	220-440-550	1136	1266	1266	1320	1320	24	30	3655	3400	16	17	3 1/2		14
		2200	1254	1466	1494	1548	1520	24	30	3800	3460	16	17	3 1/2		14
50	450	220-440-550	1256	...	1386	1440	...	24	30	3655		16	17	3 1/2		14

For overload relays with enclosing covers in place of fuses for 550 volts or less, add \$28.00 to list.

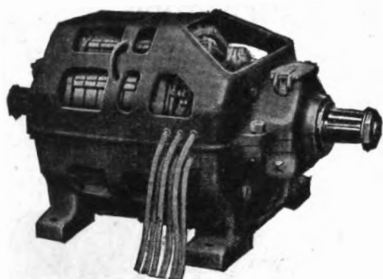
For gearing use slow speed motors and for frames 12 and above also extended shafts and outboard bearings.

* Not recommended for belt drive.

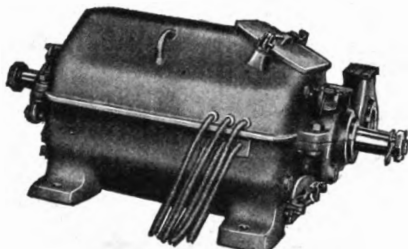
† Compensators included in price and furnished only with Form K motor. Form L motors do not require them.

** Form L Delivery: F. O. B. Factory, Schenectady, N. Y. Form K Delivery F. O. B. Bloomfield, Boston, Chicago, Cincinnati, Cleveland, Erie, Ft. Wayne, Lynn, Madison, Milwaukee, New York, Jersey City, Hoboken, Philadelphia, Pittsburgh, St. Louis or Schenectady. For warehouse deliveries write nearest house.

Western Electric ALTERNATING CURRENT MOTORS



**MIS 105 to MIS 109, Form A
Open Type Mill Motor**



**MI 101 to MI 109, Form B
Totally Enclosed Mill Motor**

Alternating Current Mill Type Motors 25 CYCLES—3 TO 150 H.P.

The Western Electric alternating current mill type motors have proven remarkably successful when applied to the externally severe service conditions which are met with in steel mills, crane and hoist service, etc. The best grade of materials enter into their construction and special care and attention is given to attaining the best mechanical and electrical characteristics, insuring the utmost service reliability, and ability to withstand severe strains and heavy overloads.

Ratings—The totally enclosed mill type motors (MI design) are furnished for mill service, based on sixty-minute operation in capacities ranging from 3 h.p. to 150 h.p. The open mill type motors (MIS design) are furnished for continuous service in sizes ranging from 25 h.p. to 150 h.p. The motors are wound for 220 or 440 volts, 25 cycles, three phase circuits, and will carry their full rated load with a temperature rise not to exceed 75 degrees C. on all parts.

The synchronous speed of the motors up to and including 20 h.p. is 750 r.p.m.; from 25 h.p. to 100 h.p., inclusive, 500 r.p.m., and the 150 h.p. motor operates at 375 r.p.m.

The standard motors are designated as Form A, but when furnished with axle brackets for back gear equipment are known as Form B. Back gear pinions and enclosing covers for the gears may be supplied, and solenoid brakes of exceptionally strong construction are built for these motors.

The solenoid brake is furnished with a special brake shoe of special molded asbestos compound. The coils of the brake are wound single phase and may be connected across any single, two or three phase circuit without change. They have a maximum retarding torque of not less than full load torque of the motor, and a holding torque of not less than 125% of full load torque.

Prices and data on application.

Hoist Equipment

The Western Electric hoists are of the friction drum type and are intended for general hoisting works in docks, ferries, warehouses, factories, quarries and similar places. They are of sturdy construction and can be depended upon for reliable service under the most exacting conditions.

The hoist equipment may be either single friction drum, double friction drum with the drums rotating in the opposite direction, double drum with the pinion between the drum gears and having both drums rotating in the same direction, or double drum with pinion between the drum gears and the boom swinging gear mounted in front.

The motors used with these hoists combine compact and rigid construction with high electrical efficiency. The shaft and bearings are unusually large while the electrical parts are designed to carry heavy overloads with safety.

Alternating current hoists are equipped with variable speed phase wound induction motors, operating on circuits of 220, 440 or 550 volts at 60 cycles. They are supplied in hoisting capacities ranging from 300 lbs. to 6000 lbs., with rope speeds of 100 to 200 feet per minute.

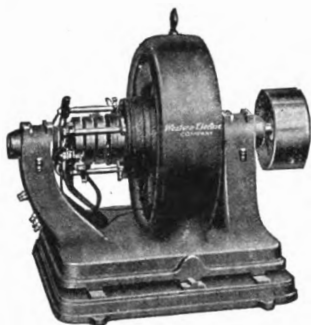
Single Drum Hoist
The controllers have a single operating handle, the speed changes being effected by means of a resistance external to the motor. This resistance is constructed for severe service and is practically indestructible.

The motors are rated from 1½ h.p. to 52 h.p. Prices and data on application.

Western Electric

ALTERNATING CURRENT GENERATORS

Belt Driven Alternators



Type TAB or QAB Form ML Belt Driven Alternators.
Self-excited Revolving Armature Type



ATB 150 KW 900 RPM 2300 Volts
Form 60 Cycle Belt Driven Alternator

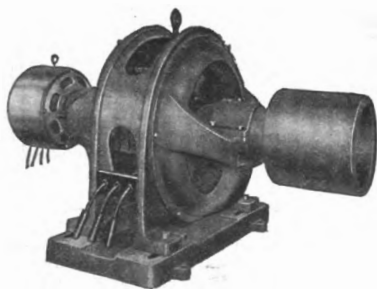
SELF-EXCITED REVOLVING ARMATURE TYPE TAB AND QAB FORM ML $7\frac{1}{2}$, 15 AND 25 KW.

The self-excited revolving armature Form ML alternator is especially adapted for installation in isolated plants and small power plants. It is exceptionally compact and simple in construction and operation. The first cost as well as the operation and maintenance expenses are lower than if two separate units were used.

Ratings. The alternators are built in three sizes, $7\frac{1}{2}$, 15 and 25 kw., 120, 240, 480 and 600 volts, 60 cycle two phase or three phase. They may be operated as single phase alternators by employing two of the three phases. Their single phase rating is 70 per cent. of their three phase rating.

TYPES ATB AND AQB FORM PB 25 TO 200 KW.

The Form PB belt driven alternator is especially adapted for installation in small plants where low power factor is to be encountered. This condition exists on a line where power is supplied to induction motors, transformers or other inductive apparatus.



Type ATB Form PB Belt Driven Alternators
With Direct Connected Exciters
Power Apparatus

Ratings. These alternators are so designed that they operate at high efficiencies at all loads on power factors of from 80 to 100 per cent. They range in capacity of from 25 kw. to 200 kw., 60 cycles, two or three phase and voltages of 240, 480, 600, 1150 or 2300 volts.

They may be operated as single phase alternators by using two of the phases, and may then be rated at 65 per cent. of the polyphase rating. They may be furnished with or without direct connected exciter.

The Form PB alternators may be used as synchronous motors, synchronous condensers, and for this duty they are equipped with squirrel cage winding in the pole faces, which does not interfere with their use as generators.

Prices and data on application.

Western Electric

ALTERNATORS



Western Electric Engine Driven Alternator, Skeleton Frame Construction

Engine Driven Alternators

The Western Electric engine driven alternators are especially adapted for central stations and isolated plants where reliable service and economical operation are essential. They may be directly connected to a steam or gas engine and form a compact generating unit of exceptionally high operating efficiencies, requiring a minimum floor space and operating with practically no noise or vibration. They are furnished in capacities ranging from 30 K.W. to 240 K.W., in the standard engine speeds for 60 cycles, 240, 480, 600 or 2300 volts. 60 cycle generators employ the skeleton frame construction. Larger generators and 25 cycle machines are of the box frame type. Standard 25 cycle sizes are 180 K.W. and 240 K.W.

Standard alternators are wound for either 2 or 3 phase service, but may be operated single phase, the 3 phase delivering 70 per cent. of their rated 3 phase output, the 2 phase 50 per cent. of their rated 2 phase output. When 60 cycle alternators are furnished with direct connected exciters, exciters are provided without base, shaft or bearings, and are mounted outside of the engine company's pillow block on a suitable bracket or other support, the exciter rotor being pressed on an extension of the engine shaft.

Prices and data on application.

Western Electric

ALTERNATING CURRENT GENERATORS



Type ATB and AQB Water Wheel Driven Alternator with Pedestal Bearing Mounted on Sub-Base

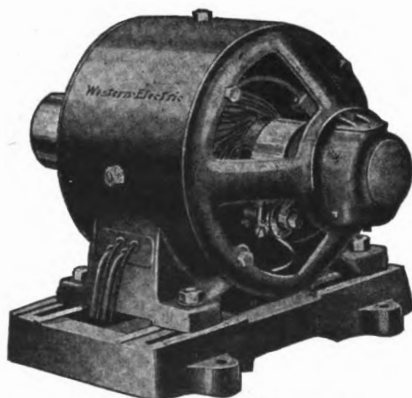
Water Wheel Driven Alternators

37½ TO 200 KW.

The advance in the development of hydro-electric installations has been due in a large measure to the high operating characteristics which have been attained in the alternators designed especially for this class of service.

The Western Electric water wheel driven alternators combine the highest electrical operating characteristics with a most rugged mechanical construction presenting effective guarantee of uninterrupted service and perfect safety at relatively high speeds. They have proven exceptionally satisfactory during their many years of actual service, and embody in their design and construction the most improved features, resulting in a low cost of operation and a minimum cost of maintenance.

Prices and data on application.



Direct Current Type CVC Exciter

Direct Current Exciters

1¼ TO 20 KW.

All alternators of the revolving field type have their field coils excited by direct current, this current being led into the coils through slip rings usually mounted on the alternator shaft.

The Western Electric type CVC direct current generator is exceptionally well fitted for furnishing exciting current, due to its ability to operate over a wide range of voltage with no sparking. It responds quickly to changes in the field current, a feature which is most essential in the operation of alternator exciters.

Rating. The CVC exciters range in capacities from 1¼ to 20 kw., and are compounded for 120-125 volts. They also have a tap on the shunt to weaken the series field so that at 80 volts the characteristic curve will be flat instead of rising, a feature which improves parallel operation.

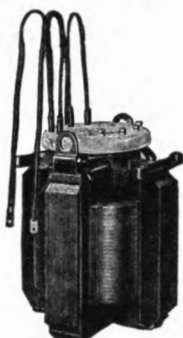
Prices and data on application.

Power Apparatus

Western Electric TRANSFORMERS



Type H Transformer



Transformer Without Case



View Showing Connection Block

Type H Transformers

In the Western Electric Type "H" transformer are incorporated many refinements of design that are the result of extended investigation under actual operating conditions and an exhaustive analysis of the most successful modern types.

Notable among the many excellent features are the means adopted to secure cool operation, the convenience and security of the terminal connections, the care taken to insure ease in handling and the perfected methods which attain the ultimate degree of insulation. Both core and copper losses have been reduced to a minimum, the symmetrical core structure insuring a balanced magnetic condition and maintaining uniform effective radiation of heat.

Single-Phase Transformers—50 to 140 Cycles, for Power and Lighting Service Pole Type, Excepting Ratings Marked *

Foil type, Excepting Ratings Marked *														
Capacity		Type H Transformers (List Prices and Weights Include Oil, Hanging Hooks and Fuse Boxes Except as Noted)												
Kv.-a.	50 Watt Lamps	Voltage				Primary Voltage				Primary		Secondary		
		1440 to 110-220 1560 to 110-220 12200 to 110-220 12200 to 122-244 12200 to 220-440 12200 to 244-488 12200 to 608				3300 Secondary Voltage 122-244				2200-4400 2200-4400 2400-4800		110-220 122-244 120-240		
										Without Base Boxes				
		▲List Price		Approx. Shpg. Wt. in Lbs.		Case No. CP—		▲List Price		Approx. Shpg. Wt. in Lbs.		Case No. CP—		
		Tran. Oil						Tran. Oil						
1	20	\$46.18	140	15	03	\$51.30	140	15	03	\$68.40	160	20	05	
2	40	64.98	165	20	07	70.98	165	20	07	87.22	210	30	09	
3	60	81.24	210	30	011	88.08	210	30	011	104.32	280	40	013	
5	100	113.72	295	45	015	121.42	295	45	015	135.96	295	45	015	
7½	150	150.48	395	70	017	160.74	395	70	017	173.58	395	70	017	
10	250	186.40	475	90	019	194.10	475	90	019	212.04	475	90	019	
15	300	253.94	710	155	021	261.64	710	155	021	282.16	710	155	021	
25	400	313.80	825	200	023	323.20	825	200	023	345.42	825	200	023	
30	500	369.36	1000	260	025	380.48	1000	260	025	405.28	1000	260	025	
40	600	431.52	1045	305	027	436.06	1145	305	027	460.86	1145	305	027	
50	800	518.14	1325	385	029	530.10	1325	385	029	561.74	1325	385	029	
75	1500	607.92	1555	510	031	617.32	1555	510	031	634.08	1555	510	031	
100	2000	790.96†	2085	495	033-33	773.78††	2085	495	033-33	818.24	2085	495	033-33	
125	3000	914.80††	2335	540	033-36	923.40††	2335	540	033-36	970.44	2335	540	033-36	
150	3500	1035.40*	1850	720	SK-024-55	1160.20*	1850	720	SK-024-55	1190.40*	1850	720	SK-024-55	
175	4000	1157.68*	3000	810	CPS-036-54	1183.32*	3000	810	CPS-036-54	1206.42*	3000	810	CPS-036-54	
200	4000	1338.08*	3300	1080	CPS-036-66	1362.88*	3300	1080	CPS-036-66	1402.20*	3300	1080	CPS-036-66	

* Transformers wound for more than one primary voltage are equipped with porcelain connection boards for adapting the primary to either circuit.

† The secondaries of all 100 kv.-a. transformers and less, except 608 volt transformers, can be changed for series multiple or 3 wire operation by changing the connections of the secondary leads outside of the transformer case.

†† Sizes 125 to 200 kv.-a. inclusive, with secondaries of 110 to 220, 120 to 240 and 122 to 244 are arranged for 3 wire operation and for 2 wire service only on the maximum secondary voltage.

Sizes 125 to 200 kv.-a. inclusive with secondaries 220 to 440 and 244 to 488 have same arrangement of secondary leads as 100 kv.-a. and below.

* Price does not include fuse boxes or hanging hooks, as transformers are not suitable for pole use. † Fuse boxes are not included. †† Sizes 5 kv.-a. to 100 kv.-a. are provided with connection boards for 1100/2200 connection.

‡ 125, 150 and 200 kv.-a. are not furnished in 440 or 550 volt transformers.

§ Delivery (except transformers 125 to 200 kv.-a., which are F. O. B. Factory) F. O. B. New York, N. Y., Chicago, Ill., Atlanta, Ga., St. Louis, Mo., New Orleans, La., and Cleveland, O. For warehouse deliveries write nearest house.

Western Electric **Transformers—Continued** **Types A and H Transformers** **FOR 60 CYCLE CIRCUITS**

Capacity		Type A Transformers (List Prices Include Oil and Boxing and on the 1 to 50 Kv-a. Sizes Two Primary Fuse Boxes and Hanging Hooks) Primary Voltage 1100-2200 Secondary Voltage 110-220, 220-440					Type H Transformers (List Prices and Weights Include Oil and Hooks) Fuse Boxes Not Included 6600 to 110-220 6600 to 220-440, 6600 to 575 6600 to 2300				
Kv-a.	50 Watt Lamps	▲List Prices	Wt. in Lbs.			Qts. Oil	▲List Prices	Qts. Oil	Ship. Wt.	Case No.	
			Ship.		Net						
			Trans.	Oil	Trans.						
1	20	\$39.34	115	7	90	3	\$88.08	15	270	CK-15	
2	40	56.44	150	9	125	4	106.88	13	280	CK-15	
3	60	71.82	190	16	163	7	122.28	13	295	CK-15	
5	100	97.48	260	22	225	10	157.32	16	405	CK-17	
7½	150	130.82	315	29	272	13	198.36	25	510	CK-08	
10	200	161.60	425	40	370	18	238.56	42	615	CK-010	
15	300	221.46	480	44	418	20	312.94	46	755	CK-012	
20	400	271.90	590	52	510	24	376.20	48	935	CK-014	
25	500	318.06	750	78	650	36	439.48	53	1070	CK-016	
30	600	361.68	1120	225	975	104	497.62	110	1535	CK-018	
40	800	442.04	1240	300	1075	140	602.78	201	2130	CK-020	
50	1000	517.28	1450	425	1260	200	698.54	154	2260	CK-020	
75	1500	684.00	1675	600	1450	*280	860.14	304	3000	CK-022	
100	2000	846.46	1875	720	1630	*340	997.80	280	2730	SK-024-55	
125	2500	.....	.....	...	...	...	1121.10	420	3700	*CPS-036-60
150	3000	.....	.....	...	...	...	1242.30	532	4250	*CPS-036-72
200	4000	.....	.....	...	...	...	1461.88	712	5310	*CPS-036-78

Transformers wound for more than one primary voltage are equipped with porcelain connection boards for adapting the primary to either circuit.

The secondaries of all 100 kv-a. transformers and less, except 608 volt transformers, can be changed for series multiple or 3 wire operation by changing the connections of the secondary leads outside of the transformer case.

Sizes 125 to 200 kv-a. inclusive, with secondaries of 110 to 220, 120 to 240 and 122 to 244 are arranged for 3 wire operation and for 2 wire service only on the maximum secondary voltage.

Sizes 125 to 200 kv-a. inclusive, with secondaries 220 to 440 and 244 to 488 have same arrangement of secondary leads as 100 kv-a. and below.

Notes

* Price does not include fuse boxes or hanging hooks, as transformers are not suitable for pole use.

† If desired, transformers will be equipped with two 5 per cent. reduced capacity taps in the primary without increase in price.

For two 5 per cent. taps in high or low tension winding, with full rated capacity at all taps, add 5 per cent. to list price.

On the Type A transformers 5 and 10 per cent. taps are provided in the 2200 volts winding, by means of which a 10 per cent. tap is obtained on the 1100 volt winding.

Fuses and Cutouts

For 15 ampere 6600 volt primary cutout complete with fuse holder enclosed in wooden box for outdoor use (List No. 15575), add \$7.50.

For 15 ampere 6600 volt expulsion fuse holder (List No. 139672) complete without fuse, add \$1.75. For use in List No. 155757 primary cutout.

For 75 ampere 6600 volt primary cutout complete with fuse holder enclosed in wooden box for outdoor use (List No. 106918), add \$11.00.

For fuses used with this transformer rated from 1, 2, 3, etc., to 15 amperes, price is 20 cents each.

For fuses used with this cutout rated from 5, 8, 10, 15, 20, etc., to 70 amperes, price is 30 cents each.

6600 Volt Transformers

The stock ratings of the 6600 volt transformers are as follows:

Primary 6600/6300/6000/5700 volts

Secondary: 1 to 4 kv-a. inclusive—110/220 volts

5 to 50 kv-a. inclusive—110/220/440 volts

75 to 200 kv-a. inclusive—220/440 volts

For a 2300 volt secondary increase the price of the 1 to 25 kv-a. inclusive 10 per cent., and 30 kv-a. to 100 kv-a. 5 per cent.

▲Delivery F. O. B. New York, N. Y., Chicago, Ill., Atlanta, Ga., St. Louis, Mo., New Orleans, La., and Cleveland, O. For warehouse deliveries write nearest house.

Western Electric TRANSFORMER SPECIALTIES

After a complete investigation of the various demands for small electrical capacity, at low voltage, we developed a uniform line of parts for manufacturing miniature air cooled transformers (Type M), ranging from 15 watts capacity to and including 2½ kilowatts.

The broad use of alternating current and the economy and ease with which its pressure may be varied through the medium of the Type M transformer to meet various requirements has made it preferable in all applications not inherently requiring direct current. By substituting this transformer for batteries or magneto generators no maintenance or replacement charges, due to wear, are incurred, less space is required and cleanliness and reliability are assured.

The parts developed are suitable for capacities of 15 to 2500 watts inclusive, 60 cycles, and to 1250 watts inclusive, 25 cycles, at voltages 550 and below. The construction may be for indoor or outdoor service as desired. Type M transformers are sufficiently attractive to permit of their installation in any place where good appearance is desired or necessary.

The following applications are representative of the many to which the Type M transformer may be readily adapted:

Electric welding.
Speed variation of motors.
Operation of small low voltage motors from higher voltage circuits.

Railway signals.
Two phase to three phase transformation.
Nitrogen filled lamps.



**Standard
Transformer for
Sign Lighting**



**Special
Three-Phase or Two-Phase
Transformer**



**Special
Transformer for
Operating Electric
Stop-Motion of
Textile Machinery**



**Special
Transformer for
Signal
Operation**



**Special
Transformer for
Electric Welding**

SIGN LIGHTING TRANSFORMERS TYPE M PRIMARY 110-220 VOLTS; SECONDARY 11-22 VOLTS FREQUENCY RANGE 60 TO 140 CYCLES

Watts Cap.	List No.	Core Loss Watts	Copper Loss Watts	Full Load E.H.	Wall Space in Ins.	Depth in Ins.	Approximate Wgt. in Lbs. Net Ship.	List No. of Base	List Price
250	78676	9	17	90.5	4½ by 8½	3½	15	78683	\$18.00
500	78678	17	22	92.7	5½ by 9½	4½	20	78684	23.00
750	146138	24	25	93.8	5½ by 9½	4½	25	146140	28.00
1000	78680	29	29	94.5	6½ by 11	4½	35	78685	33.00
1500	146139	40	33	95.3	6½ by 11½	4½	40	146141	41.00
2000	78683	55	36	95.4	7½ by 12½	5½	60	78686	49.00

The above electrical data applies to listed sign lighting transformers; data being based on 60 cycle, sine wave, 110 or 220 volts.

The above weights and prices do not include slate bases. The bases will be supplied at an additional net charge of 50 cents each.

NOTE: When placing requisition for slate base which is to be used for mounting a transformer already in service, the serial number of the transformer should be given so that the proper base may be supplied. This is necessary by reason of slight changes which have been made from time to time in the dimensions of the transformer cases. The shipping weight of the base is approximately 15 pounds.

Four c.p. 5 watt Mazda lamps having a range of volts from 10 to 12, have been found best adapted for sign lighting and the transformers have been designed to take care of this range of secondary voltages. They are rated for 60 cycle operation but will operate successfully on circuits from 60 to 140 cycles. They are designed with series multiple primary rating of 110-220 volts so that they can be operated on either 110 or 220 volt circuits. They are adapted for use on circuits from 100 to 120 volts or 200 to 240 volts, having a range of transformation at full load of 10:1 or 20:1 depending upon the connection.

Due to the fact that the transformers are designed for use on a wide range of primary voltages they will operate successfully on practically all sign lighting circuits, and lamps can be ordered to meet exact conditions.

These transformers are designed for either 2 or 3 wire service on the secondary and can be readily connected to all signs without changing their existing wiring.

AUTO TRANSFORMERS

List No.	Type	Approx. Shp. Wgt. in Lbs.	†Kv-a.	Depth	Wall Space	Height	Floor Space	List Price
79883	M	1	28	4½	8½ by 5½	.....	.....	\$25.00
79884	M	1.5	38	4½	10½ by 6½	.....	.....	31.00
79885	M	2	47	4½	10½ by 6½	.....	.....	38.00
79886	M	3	54	4½	12 by 6½	.....	.....	49.00
79887	M	4	76	5½	12½ by 7½	.....	.....	60.00
79888	M	5	82	6½	13 by 7½	.....	.....	71.00
79889	H	7.5	245	.....	.....	16½	15½ by 15½	96.00
79890	H	10	295	.....	.....	18½	16½ by 16½	119.00
79891	H	15	470	.....	.....	20	18½ by 18½	155.00

†Kv-a. output at 110 volts 2 wire or allowable unbalancing at 110-220 volts 3 wire.

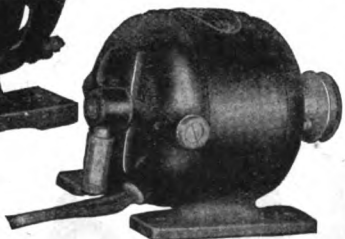
Type M is air cooled. Type H is oil cooled. Shipping weight includes oil for the Type H units. All the above listed sizes of transformers are suitable for outdoor installation. Hanging hooks will be furnished with the Type H sizes.

The above auto transformers are designed for single phase, two phase or open delta transformation. These auto transformers are not designed to transform power three phase to three phase from 220 volts to 110 volts, nor can they be used to transform three to two phase power as special taps must be provided to obtain proper voltage ratio.

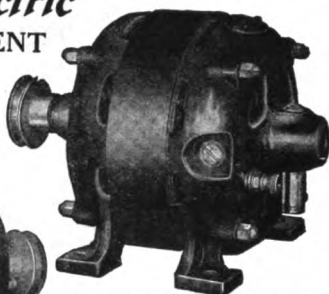
SPECIAL TRANSFORMERS

Prices and information, therefore, involving auto transformers for three-phase transformation, or for three-phase to two-phase transformation, or for special electric welding, signal, etc., operation, sent on application.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric
DIRECT CURRENT
MOTORSType SD, 1/2 H.P., 1700 R.P.M.
Motor with Oil Ring Bearings

Type SDA 1/50 H.P. Series Wound Motor

Type SD, 1/2 H.P., 1700 R.P.M.
Motor with Wick Oiled Bearings

Type SD and SDA Small Power Motors

The Western Electric small power direct current motors are especially adapted for operating all types of light machines and appliances to be met with in the household, shop or factory. They are simple in construction, and they can be operated and kept in perfect condition with a minimum of care and attention. The motors can be operated totally inverted or mounted on the side of machinery as well as when mounted upright, as the bearing brackets are interchangeable and can be shifted so as to keep the oil wells in the proper position.

Type SDA—Form D—Series Wound

H.P.	Rated Speed R.P.M.	†List No. Open Motor		**List Price Open Motor with Pulley		Ship. Wt. in Lbs. (Approx.)	Standard Pulley Dimensions in Inches			List No. of Pulley	List Price Allowance Pulley	Frame No.	List Addition Sliding Base
		110 Volts	220 Volts	110 Volts	220 Volts		Diam. at Belt Center	Adapted to Round Belt Diam.	Bore				
1/200	2200	190396	.....	\$14.50	.....	10	5/8	...	...	190407	\$0.20	300	....
1/100	2200	190399	190535	16.00	\$17.00	10	5/8	...	...	190407	.20	305	....
1/70	3000	190402	.....	16.00	.....	10	5/8	...	...	190407	.20	305	....
1/50	1800	99840	99841	19.50	21.00	15	1 1/4	...	...	190536	.30	315	....
1/15	1800	190405	190406	31.00	33.00	22	1 1/4	...	...	98888	.50	335	....

Type SD—Shunt Wound

1/50	1100	99904	99905	\$22.00	\$24.00	22	1 1/4	1 1/8	3/8	98887	\$0.50	224	....
1/30	1700	99384	99385	22.00	24.00	22	1 1/4	1 1/8	3/8	98887	.50	224	....
1/30	1100	99906	99907	24.00	26.00	22	1 1/4	1 1/8	3/8	98887	.50	226	....
1/20	1100	99908	99909	26.00	28.00	25	1 1/2	1 1/4	1/2	98890	.60	234	\$1.50
1/15	1700	99388	99389	24.00	26.00	23	1 1/2	1 1/4	1/2	98890	.60	234	1.50
1/10	1700	99410	99411	26.00	28.00	25	1 1/2	1 1/4	1/2	98890	.60	236	1.60

Type SD—Compound Wound

1/10	1100	99910	99911	\$30.00	\$32.00	28	1 1/2	1 1/2	1 1/2	98892	\$0.60	244	\$2.00
1/8	1700	99896	99897	30.00	32.00	28	1 1/2	1 1/2	1 1/2	98892	.60	244	2.00
1/8	1100	99912	99913	34.00	36.00	31	2	1 1/2	1 1/2	98894	.60	246	2.50
1/6	1700	99898	99899	34.00	36.00	31	2	1 1/2	1 1/2	98894	.60	246	2.50
1/6	1100	99914	99915	34.00	36.00	31	2	1 1/2	1 1/2	98894	.60	246	2.50
1/6	1100	99916	99917	45.00	47.00	42	2 1/2	1 1/2	5/8	98880	1.00	254	4.00
1/4	1700	99900	99901	45.00	47.00	42	2 1/2	1 1/2	5/8	98880	1.00	254	4.00
1/4	1100	99918	99919	48.00	50.00	42	2 1/2	1 1/2	5/8	98880	1.00	254	4.00
1/3	1700	99902	99903	50.00	52.00	42	2 1/2	1 1/2	5/8	98880	1.00	254	4.00
1/3	1100	99920	99921	53.00	55.00	46	2 1/2	1 1/2	5/8	98880	1.00	256	....
1/2	1700	99864	99865	\$90.00	\$92.00	70	3 1/2	2	3/4	.....	2.00	264	6.00
1/2	1100	99868	99869	\$98.00	\$100.00	70	4 1/2	2 1/2	3/4	.....	2.00	264	6.00

* Pulleys for frames 254 and larger have crowned face adapted for flat belt.

† Includes starting rheostat with low-voltage release (CR 1000). If omitted \$8.00 list allowance may be made. Smaller sizes do not require rheostat.

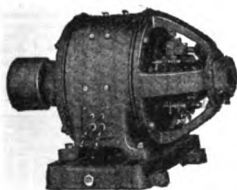
‡ Frames 224 to 256 inclusive, have wick oil bearings and feet cast integral with end shields. Frame 264 has oil ring bearings and removable foot casting.

§ List No. does not include pulley.

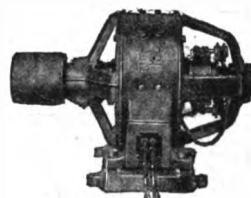
** Delivery F. O. B. Factory, Ft. Wayne, Ind. For warehouse deliveries write nearest house.

Western Electric

DIRECT CURRENT MOTORS



Type RC Motor
Frame 11 and Below— $\frac{1}{2}$ to 20 H.P.



Type RC Motor
Frame 12 and Larger—20 to 75 H.P.

Type RC Motors

The new line of type RC direct current commutating pole motors embodies many important mechanical and electrical refinements which are not to be found in any other motor on the market to-day. The complete line of motors has been subjected to a continued and strenuous service test under the most severe conditions, in order to insure absolute reliability under any condition to which they may be subjected in actual service.

Construction. The frame is of medium weight cast steel equipped with strong feet and well-ribbed sides. Special attention has been given to the question of ventilation and accessibility. Motors may be equipped with perforated covers or with slide enclosing covers of the ventilated and non-ventilated type. They are readily adapted for ceiling and wall mounting, and may be equipped with belt tightener attachment. For details of construction, see Bulletin No. 22-2A.

115 VOLTS List Prices and Data

List Prices and Data															
Continuous Rating	*List Prices Shunt Wound				†Additions for Comp. or Series Windings	Ship. Wt. in Lbs. (Approx.) Motor with Rheo. Pulley and Base	RC Frame No.	Standard Pulley Dimensions in Inches				*List Prices		†† Max. Speed with Weakened Shunt Field	
	Motor Only	Motor with Rheo.	Motor with Rheo. Pulley and Base	Dia.				Active Face	Width	Bore	Allowances for Omissions	†† Ext. Shaft	Conduit Terminal Box		
H.P.	Rated Speed R.P.M.											Pulley	Base		
$\frac{1}{2}$	1870	\$68	\$76	\$84	\$2	100	1	3 $\frac{1}{2}$	2	2 $\frac{1}{2}$	$\frac{3}{4}$	\$2	\$6	\$2	\$2.50
$\frac{1}{2}$	1700	64	72	80	2	100	1	3 $\frac{1}{2}$	2	2 $\frac{1}{2}$	$\frac{3}{4}$	2	6	2	2.50
$\frac{1}{2}$	1870	72	80	88	2	120	2	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	2.50
$\frac{1}{2}$	1700	68	76	84	2	120	2	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	2.50
1	1870	88	96	104	2	130	3	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	2.50
1	1700	84	92	100	2	130	3	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	2.50
1	1285	100	108	116	4	170	4	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	3.00
1	1150	96	104	112	4	170	4	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	3.00
2	1870	110	118	126	4	170	4	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	3.00
2	1700	104	112	120	4	170	4	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1	2	6	2	3.00
2	1265	170	178	186	6	265	5	4 $\frac{1}{2}$	3	3 $\frac{1}{2}$	1	2	8	4	3.00
2	1150	162	170	180	6	265	5	4 $\frac{1}{2}$	3	3 $\frac{1}{2}$	1	2	8	4	3.00
3	1870	174	182	192	6	265	5	4 $\frac{1}{2}$	3	3 $\frac{1}{2}$	1	2	8	4	3.00
3	1700	166	174	184	6	265	5	4 $\frac{1}{2}$	3	3 $\frac{1}{2}$	1	2	8	4	3.00
3	1265	216	224	234	6	390	6	4 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	8	4	3.00
3	1150	206	214	224	6	390	6	4 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	8	4	3.00
5	1870	214	222	232	6	390	6	4 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	8	4	3.00
5	1700	204	212	222	6	390	6	4 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	8	4	3.00
5	1265	262	270	280	8	525	7	5 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	4	4.00
5	1150	250	258	268	8	525	7	5 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	4	4.00
7 $\frac{1}{2}$	1870	258	266	276	8	595	7	5 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	4	4.00
7 $\frac{1}{2}$	1700	246	254	264	8	595	7	5 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	4	4.00
7 $\frac{1}{2}$	1265	342	350	360	10	650	8	5 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	6	4.00
7 $\frac{1}{2}$	1150	326	334	344	10	650	8	5 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	6	4.00
9 $\frac{1}{2}$	1870	380	402	418	12	770	9	7	4	5	1 $\frac{1}{2}$	4	12	6	4.00
9 $\frac{1}{2}$	1700	362	384	400	12	770	9	7	4	5	1 $\frac{1}{2}$	4	12	6	4.00
10	1265	358	384	396	12	650	8	5 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	6	4.00
10	1150	342	368	380	12	650	8	5 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	2	10	6	4.00
10	1265	396	422	438	12	770	9	7	4	5	1 $\frac{1}{2}$	4	12	6	4.00
10	1150	378	404	420	12	770	9	7	4	5	1 $\frac{1}{2}$	4	12	6	4.00
10	935	430	456	472	14	930	10	8	5	6	1 $\frac{1}{2}$	4	12	6	5.00
10	850	408	434	450	14	930	10	8	5	6	1 $\frac{1}{2}$	4	12	6	5.00
15	1265	452	486	502	14	1000	10	8	5	6	1 $\frac{1}{2}$	4	12	6	5.00
15	1150	430	464	480	14	1000	10	8	5	6	1 $\frac{1}{2}$	4	12	6	5.00
15	880	532	566	584	16	1235	11	10	7	8	2 $\frac{1}{2}$	6	12	6	5.00
15	800	508	542	560	16	1235	11	10	7	8	2 $\frac{1}{2}$	6	12	6	5.00
20	1265	572	610	628	18	1235	11	10	7	8	2 $\frac{1}{2}$	6	12	6	5.00
20	1150	544	582	600	18	1235	11	10	7	8	2 $\frac{1}{2}$	6	12	6	5.00
25	800	698	734	760	24	1800	12	10	9	10	2 $\frac{1}{2}$	10	16	8	....
25	775	812	852	880	24	2000	13	13	9	10	2 $\frac{1}{2}$	12	16	8	....
30	1100	708	754	780	24	1900	12	10	9	10	2 $\frac{1}{2}$	10	16	8	....
30	750	920	966	1000	30	2400	14	13	10	11	2 $\frac{1}{2}$	14	20	10	....
40	1075	842	932	960	30	2160	13	13	9	10	2 $\frac{1}{2}$	12	16	8	....
50	700	1050	1140	1180	36	3100	15	14	12	13	3	16	24	10	....
50	1050	996	1106	1140	36	2670	14	13	10	11	2 $\frac{1}{2}$	14	20	10	....
50	650	1238	1348	1400	42	4040	16	15	12	13	3 $\frac{1}{2}$	20	32	12	....

*Series wound motors are not recommended for belted operation.

†Applicable only when overall length of shaft is not increased more than 12 inches. Extension may be at either end.

††By the addition of suitable field rheostat or controller and rheostat these maximum speeds can be obtained. This control is not included in prices. Requests for speed variation by field weakening on compound wound motors refer to the Company.

*Delivery F. O. B. Bloomfield, Boston, Chicago, Cincinnati, Cleveland, Erie, Ft. Wayne, Lynn, Madison, Milwaukee, New York, Jersey City, Hoboken, Philadelphia, Pittsburgh, St. Louis or Schenectady. For warehouse deliveries write nearest house.

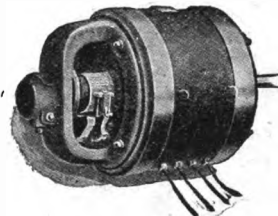
Western Electric DIRECT CURRENT MOTORS

H.P.	Continuous Rating	Rated Speed R.P.M.	*List Prices			†Additions for Comp. or Series Windings	Ship. Wt. in Lbs. (Approx.) Motor with Rheo. Pulley and Base	RC Frame No.	Standard Pulley Dimen. in Ins.				*List Prices			†Max. Speed with Weak-ened Shunt Field	
			Shunt Wound		Motor with Rheo. Pulley and Base				Dia.	Active Face	Width	Bore	Allowances for Omissions		Additions		
			Motor Only	Motor with Rheo.									Pulley	Base	Ext. Shaft		Con-duct Terminal Box
230 VOLTS																	
1/2	1870	\$68	\$76	\$84	\$2	100	1	3 1/2	2	2 1/2	3/4	\$2	\$6	\$2	\$2.50	2150	
1/2	1700	64	72	80	2	100	1	3 1/2	2	2 1/2	3/4	2	6	2	2.50	2125	
1/2	1870	72	80	88	2	120	2	4 1/2	2	2 1/2	1	2	6	2	2.50	2150	
1/2	1700	68	76	84	2	120	2	4 1/2	2	2 1/2	1	2	6	2	2.50	2125	
1	1870	88	96	104	2	130	3	4 1/2	2	2 1/2	1	2	6	2	2.50	2150	
1	1700	84	92	100	2	130	3	4 1/2	2	2 1/2	1	2	6	2	2.50	2125	
1	1265	100	108	116	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	1580	
1	1150	96	104	112	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	1435	
2	1870	110	118	126	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	2150	
2	1700	104	112	120	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	2125	
2	1265	170	178	186	6	265	5	4 1/2	3	3 1/2	1	2	8	4	3.00	1580	
2	1150	162	170	178	6	265	5	4 1/2	3	3 1/2	1	2	8	4	3.00	1435	
3	1870	174	182	190	6	325	6	4 1/2	3	3 1/2	1	2	8	4	3.00	2150	
3	1700	166	174	184	6	325	6	4 1/2	3	3 1/2	1	2	8	4	3.00	2125	
3	1265	216	224	234	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	1580	
3	1150	206	214	224	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	1435	
5	1870	216	228	238	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	2150	
5	1265	206	218	228	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	2125	
5	1700	264	276	288	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	1580	
5	1150	232	244	256	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	1435	
7 1/2	1870	264	280	292	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	2150	
7 1/2	1700	252	268	280	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	2125	
7 1/2	1265	348	364	376	10	565	8	5 1/2	4 1/2	5 1/2	1 1/2	2	10	6	4.00	1580	
7 1/2	1150	332	348	360	10	565	8	5 1/2	4 1/2	5 1/2	1 1/2	2	10	6	4.00	1435	
10	935	386	402	418	12	690	9	7	4	5	1 1/2	4	12	6	4.00	1165	
10	850	368	384	400	12	690	9	7	4	5	1 1/2	4	12	6	4.00	1060	
10	1870	368	384	396	12	650	8	5 1/2	4 1/2	5 1/2	1 1/2	2	10	6	4.00	2150	
10	1700	350	368	380	12	650	8	5 1/2	4 1/2	5 1/2	1 1/2	2	10	6	4.00	2125	
10	1265	404	422	438	12	770	9	7	4	5	1 1/2	4	12	6	4.00	1450	
10	1150	386	404	420	12	770	9	7	4	5	1 1/2	4	12	6	4.00	1435	
10	935	438	456	472	14	930	10	8	5	6	1 1/2	4	12	6	5.00	1165	
10	850	416	434	450	14	930	10	8	5	6	1 1/2	4	12	6	5.00	1060	
15	1265	462	486	502	14	930	10	8	5	6	1 1/2	4	12	6	5.00	1450	
15	1150	440	464	480	14	930	10	8	5	6	1 1/2	4	12	6	5.00	1435	
15	880	546	570	588	16	1160	11	10	7	8	2 1/2	6	12	6	5.00	1100	
15	800	518	542	560	16	1160	11	10	7	8	2 1/2	6	12	6	5.00	1000	
20	1265	576	610	628	18	1160	11	10	7	8	2 1/2	6	12	6	5.00	1450	
20	1150	548	582	600	18	1160	11	10	7	8	2 1/2	6	12	6	5.00	1435	
20	800	698	734	760	24	1730	12	10	9	10	2 1/2	10	16	8	.....	1000
25	775	812	852	880	24	1940	13	13	9	10	2 1/2	12	16	8	.....	970
30	1100	708	754	780	24	1800	12	10	9	10	2 1/2	10	16	8	.....	1375
30	750	920	966	1000	30	2380	14	13	10	11	2 1/2	14	20	10	.....	935
40	1075	876	932	960	30	2020	13	13	9	10	2 1/2	12	16	8	.....	1350
40	700	1084	1140	1180	36	2970	15	14	12	13	3	16	24	10	.....	875
50	1050	1034	1106	1140	36	2400	14	13	10	11	2 1/2	14	20	10	.....	1310
50	650	1276	1348	1400	42	3780	16	15	12	13	3 1/2	20	32	12	.....	815
550 VOLTS																	
1/2	2200	\$72	\$80	\$88	2	100	1	3 1/2	2	2 1/2	3/4	\$2	\$6	\$2	\$2.50	2530	
1/2	2000	68	76	84	2	100	1	3 1/2	2	2 1/2	3/4	2	6	2	2.50	2300	
1/2	2200	76	84	92	2	120	2	4 1/2	2	2 1/2	1	2	6	2	2.50	2530	
1/2	2000	72	80	88	2	120	2	4 1/2	2	2 1/2	1	2	6	2	2.50	2300	
1	2200	92	100	108	2	130	3	4 1/2	2	2 1/2	1	2	6	2	2.50	2530	
1	2000	88	96	104	2	130	3	4 1/2	2	2 1/2	1	2	6	2	2.50	2300	
1	1430	106	114	122	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	1790	
1	1300	100	108	116	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	1625	
2	2090	114	122	130	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	2400	
2	1900	108	116	124	4	170	4	4 1/2	2	2 1/2	1	2	6	2	3.00	2375	
2	1430	182	190	200	6	265	5	4 1/2	3	3 1/2	1	2	8	4	3.00	1790	
2	1300	174	182	192	6	265	5	4 1/2	3	3 1/2	1	2	8	4	3.00	1625	
3	2090	186	194	204	6	265	5	4 1/2	3	3 1/2	1	2	8	4	3.00	2400	
3	1900	178	186	196	6	265	5	4 1/2	3	3 1/2	1	2	8	4	3.00	2375	
3	1430	224	232	242	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	1790	
3	1300	214	222	232	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	1625	
5	2090	228	240	250	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	2400	
5	1900	218	230	240	6	390	6	4 1/2	4	4 1/2	1 1/2	2	8	4	3.00	2375	
5	1430	278	290	302	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	1790	
5	1300	264	276	288	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	1625	
7 1/2	1980	282	298	310	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	2280	
7 1/2	1800	268	284	296	8	525	7	5 1/2	4	4 1/2	1 1/2	2	10	4	4.00	2250	
7 1/2	1300	364	380	392	12	565	8	5 1/2	4 1/2	5 1/2	1 1/2	2	10	6	4.00	1625	
10	900	418	434	450	14	690	9	7	4	5	1 1/2	4	12	6	4.00	1125	
10	1800	370	388	400	12	565	8	5 1/2	4 1/2	5 1/2	1 1/2	2	10	6	4.00	2280	
10	1250	426	444	460	14	690	9	7	4	5	1 1/2	4	12	6	4.00	2250	
10	900	466	484	500	14	860	10	8	5	6	1 1/2	4	12	6	5.00	1125	
15	1250	490	514	530	16	860	10	8	5	6	1 1/2	4	12	6	5.00	1565	
15	900	588	612	630	18	1090	11	10	7	8	2 1/2	6	12	6	5.00	1125	
20	1250	592	622	640	18	1135	11	10	7	8	2 1/2	6	12	6	5.00	1565	
20	925	720	750	776	24	1820	12	10	9	10	2 1/2	10	16	8	.....	1160
25	900	802	832	860	24	2030	12	10	9	10	2 1/2	10	16	8	.....	1560
30	1250	744	834	860	24	1820	12	10	9	10	2 1/2	10	16	8	.....	1100
30	875	916	1006	1040	30	2400	14	13	10	11	2 1/2	14	20	10	.....	1530
40	1225	882	972	1000	30	2030	13	13	9	10	2 1/2	12	16	8	.....	1030
40	825	1070	1160	1200	36	2980	15	14	12	13	3	16	24	10	.....	1500
50	1200	1016	1106	1140	36	2400	14	13	10	11	2 1/2	14	20	10	.....	970
50	775	1298	1388	1440	42	3780	16	15	12	13	3 1/2	20	32	12	.....	815

**Western Electric
DIRECT CURRENT MOTORS
VARIABLE SPEED**



**Type RL Totally Enclosed Motor
Form B**



**Type RL Open Motor
Form C**

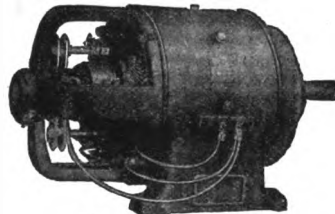
Type RL—Variable Speed Motors—115-230 and 550 Volts

The Western Electric type RL variable speed motor is especially adapted for installations requiring from $\frac{1}{2}$ to 2 h.p. capacity. The speed variation is obtained by field control, and full rated horse power may be obtained from the minimum to the maximum speed indicated. The motors may be obtained for 2 to 1, 3 to 1, or 4 to 1 speed adjustment.

Prices and data on application.



**Type RLC—Open Motor with Standard Terminal
Box for Conduit Wiring Frames 111-116**

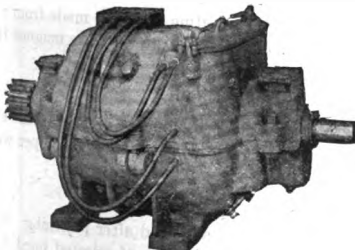


**Type RLC—Open Motor
Frames 200-206**

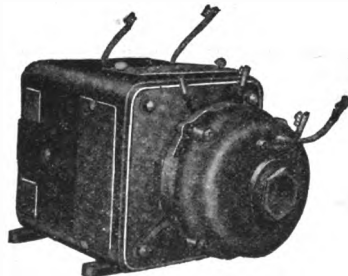
Type RLC—Variable Speed Motors—230 and 550 Volts

The Western Electric type RLC motors range in capacity of from 2 to 50 h.p., and speed variations of 2 to 1, 3 to 1, and 4 to 1. They are exceptionally rugged in mechanical construction and are absolutely reliable under the most severe service conditions. In electrical design they possess the most modern improvements. They are equipped with commutating poles, which permits rapid fluctuation in loads with no sparking at the brushes, resulting in long life for the commutator. They are also equipped with ventilating fans rigidly mounted on the shaft. This insures cool operation and allows a very large overload capacity.

Prices and data on application.



CO—2000 Motor



CO—2500 Motor with Solenoid Brakes

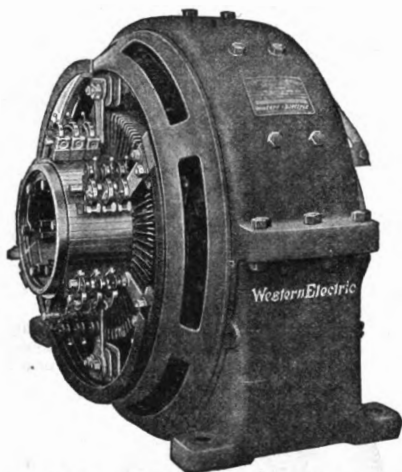
Crane and Hoist Motors

The Western Electric crane and hoist motors range in capacity of from 1 to 200 h.p. These motors possess all the electrical and mechanical features necessary to successfully perform the exacting duties incident to general hoisting work. They are especially adapted to intermittent service. They are reversible and operate at low temperatures and with heavy overloads with absolute reliability.

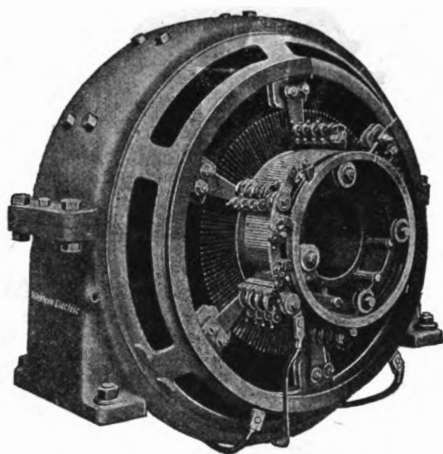
Prices and data on application.

Western Electric

DIRECT CURRENT GENERATORS



Western Electric Direct Current Generator
Type LD 2 Wire



Western Electric Direct Current Generator
Type LDS 3 Wire

Type LD—2 Wire and Type LDS—3 Wire

The type LD and LDS engine type generators represent the highest development in generators designed primarily for central station and isolated plant equipments. All generators of this design are equipped with commutating poles which insure practically sparkless commutation over the entire range of operation. The general construction embodies simplicity and mechanical strength together with high efficiency and low operating temperatures.

Standard 2-wire generators may be converted into 3-wire generators by the addition of a compensator mounted on the rear end of the armature and a slip ring mounted on the commutator end.

Frame

The yoke is cast of soft steel selected for high magnetic permeability and is divided horizontally above the center line to avoid disturbance of the poles in assembling or disassembling. The inside of the frame is bored to form a continuous finished seat for the reception of the poles.

Poles

The main poles are of laminated steel accurately punched. Commutating poles are made from rolled steel stock. All poles together with their coils are easily removable without disturbing the magnet frame or brush rigging.

Fields

The main field coils are wound on metal spool bodies with a series coil mounted outside of the shunt coil with large ventilating space between. The commutating field coil is a helical winding of copper wound edgewise, permitting a most effective heat radiation.

Armature

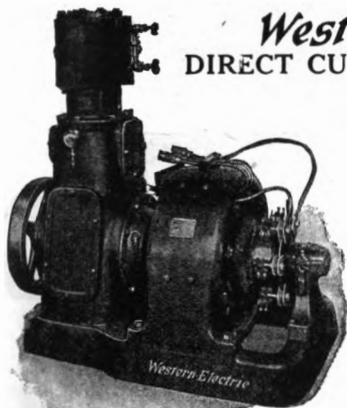
The armature core is built up of soft steel laminations thoroughly annealed after punching. Large air ducts are provided to insure perfect ventilation. Commutator segments are of selected hard drawn copper insulated from each other by high grade mica segments of proper hardness to insure even wear and sparkless operation. The commutator face is extra long, permitting the brushes to be staggered.

Brush Rigging

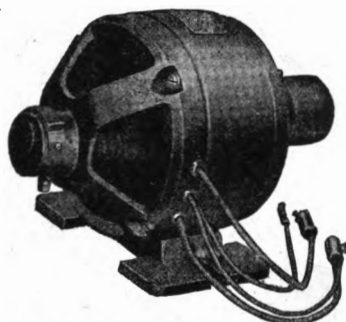
The commutating poles permit a permanent setting of brushes at the electrical neutral throughout the entire range of operation.

Prices and data on application.

Western Electric DIRECT CURRENT GENERATORS



Steam Engine Driven Generating Sets



Type DSD Generator with Oil Ring Bearings

MARINE GENERATING SETS—2½ to 75 K.W.

Western Electric Engine Driven generating sets, while especially designed for marine use where limited space is available, are also well adapted for power and lighting service and isolated plants. The direct current sets are particularly suitable for excitors in large central stations.

The valve is of the balanced piston type accurately ground. The piston is equipped with hard cast iron spring rings which effectively prevent leakage of steam.

A simple and efficient automatic governor varies the steam admission by the motion of the eccentric forming a part of the governor weight.

The generator frame is a selected high grade iron cast in one piece with the exception of the 50 K.W. size, which is horizontally split. Soft steel poles are rigidly bolted to the frame. The armature is built of high grade sheet steel laminations pressed on an iron spider provided with numerous ventilating ducts. The armature coils are form wound and thoroughly insulated before being placed in the slots. The field coils are liberally designed and provided with numerous ventilating ducts and thoroughly insulated.

Sizes 25 to 60 K.W. can be furnished with alternating current generators, with or without direct connected exciter, or with shaft extension for mounting exciter driving pulley.

Prices and data on application.

Belt Driven Direct Current Generators

The small electric generator furnishing electricity for lighting and power for small tools, such as buffing and grinding outfits, ventilating outfits, vacuum cleaners, etc., has proven itself a highly necessary adjunct to small machine shops, garages, etc. The universal application of the small electric motor to various household duties, as well as to numerous duties to be met with on farms and in country places, such as sharpening tools, operating separators, churners, washing machines, etc., has found in the small direct current generator a most economical and simply operated source of power.

TYPE DSD SHUNT WOUND GENERATORS

TYPE DSD SHORT WOUND GENERATORS										
K.W.	Speed	Volts	Weight in Lbs. (Approximate)			Amperes Full Load	Frame	Poles	*List Price	
			Ship.	Net					Generator	Extra for Base
			Complete without Base	Complete without Base	Complete with Base					
¼	2800	125	70	49	54	2.0	043	2	\$76	\$3.00
		250	77	56	61	1.0	043	2	80	3.00
¼	2300	125	128	82	92	3.0	053	2	84	6.00
		250	135	89	99	1.5	053	2	88	6.00
½	2300	125	151	99	109	4.0	055	2	92	6.00
		250	158	106	116	2.0	055	2	96	6.00
¾	2000	125	163	106	116	5.0	056	2	98	6.00
		250	163	106	116	2.5	056	2	103	6.00
¾	2300	125	185	152	165	6.0	063	2	104	7.00
		250	185	152	165	3.0	063	2	109	7.00
1	1600	125	210	177	190	7.0	065	2	108	7.00
		250	210	177	190	3.5	065	2	113	7.00
1½	2300	125	210	177	190	12.0	065	2	119	7.00
		250	210	177	190	6.0	065	2	125	7.00

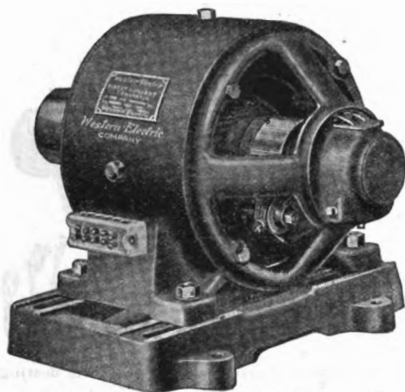
Prices are F. O. B. factory, boxed. Prices and shipping weights include pulley and field rheostats but do not include base frame. If base frame is desired an additional price should be added as per the above column for sliding base, and this base frame should be specially called for on the requisition.

The above machines are not to be used as exciters.

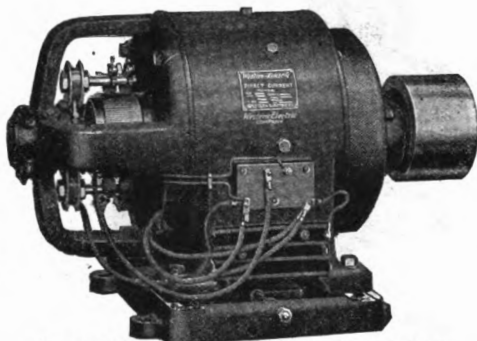
*Delivery: F. O. B. Factory, Lynn, Mass. For warehouse deliveries write nearest house.

Western Electric

DIRECT CURRENT GENERATORS



Type CVC Commutating Pole Generator with Pulley and Base



Type DLC Direct Current Generator for Belt Drive

Types CV and CVC—1¼ to 20 K.W., 125 and 250 Volts

The economy and simplicity of operation and maintenance of the modern electric generator are factors which make it profitable for the user of electric power in quantities up to 20 k.w. to install a generator and be independent of outside sources for his power and lighting.

The low first cost and the adaptability to varying conditions of the belt-driven generators of the Western Electric Types CV and CVC make them especially acceptable for this form of service.

Their success, as measured by their universal use, testifies to the high operating characteristics and general service reliability which are the predominating features of these generators. The most modern improvements in electrical design have been incorporated in the construction, and many improved mechanical features have been adopted. Commutating poles are used in the CVC generators, insuring sparkless operation at all loads, and the use of ventilating fan on the armature shaft results in cool operation and a good overload capacity.

Types CV and CVC Shunt and Compound Wound Generators and Exciters

K.W.	Speed	Volts	Weight in Lbs. (Approximate)			Amperes Full Load		Frame	Poles	*List Price		
			Ship. Complete with Base	Net		125 Volts	250 Volts			Complete Machine with Base	Allowance for Omissions	
				Complete without Base	Complete with Base						Base	Pulley
1¼	1550	125-250	355	275	310	10	5	CV 111	2	\$176	\$8	\$2.00
2	1550	125-250	375	290	325	16	8	CVC 111	2	214	8	2.00
3	2100	125-250	375	290	325	24	12	CVC 111	2	220	8	2.00
3	1350	125-250	520	400	450	24	12	CVC 112	2	276	9	2.50
5	1800	125-250	520	400	450	40	20	CVC 112	2	300	9	2.50
5	1200	125-250	695	555	605	40	20	CVC 113	2	370	9	3.00
6½	1050	125-250	955	760	830	52	26	CVC 114	4	460	10	3.50
7	1800	125-250	695	555	605	56	26	CVC 113	2	360	9	3.00
9½	975	125-250	1210	970	1050	76	38	CVC 115	4	570	13	5.50
12	1800	125-250	955	760	830	96	48	CVC 114	4	470	10	3.50
14	1425	125-250	1210	970	1050	112	56	CVC 115	4	570	13	5.50
14	750	125-250	1620	1330	1410	112	56	CVC 116	4	780	13	7.00
20	1200	125-250	1620	1330	1410	160	80	CVC 116	4	740	13	7.00

*Prices are F. O. B. factory, boxed, Lynn, Mass. For warehouse deliveries write nearest house. Prices and shipping weights include sliding base, pulley and field rheostat. The 125 volt CV and CVC machines only may be used as exciters with or without TA regulators without change. Compound wound exciters will be furnished unless otherwise specified.

Type DLC—10 to 150 K.W.

The successful operation of a central station or isolated plant furnishing electric service for lighting and power purposes is wholly governed by the type of generator installed. To operate a plant with strict economy and absolute reliability, it is necessary to have a generator of unquestionable characteristics, which can be depended upon to do the work for which it is guaranteed.

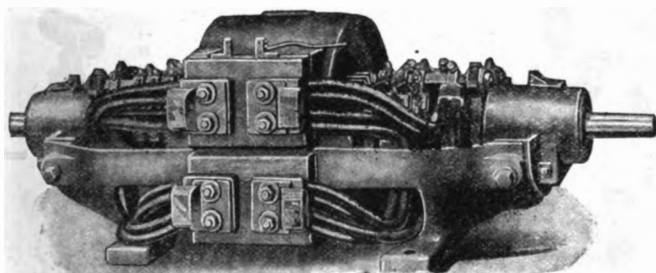
The Western Electric Type DLC direct current generator is universally recognized as the standard for installations requiring units of from 10 to 150 k.w. capacity. It embodies the most advanced methods and ideas in its electrical and mechanical construction. The predominating features are the commutating poles, which insure sparkless operation and perfect commutation at all loads without shifting the brushes, and the additional ventilation obtained from the ventilating fan mounted inside of the frame on the armature shaft, permitting heavy overloads to be carried for long periods without excessive heating.

Prices and data on application.

Power Apparatus

Western Electric

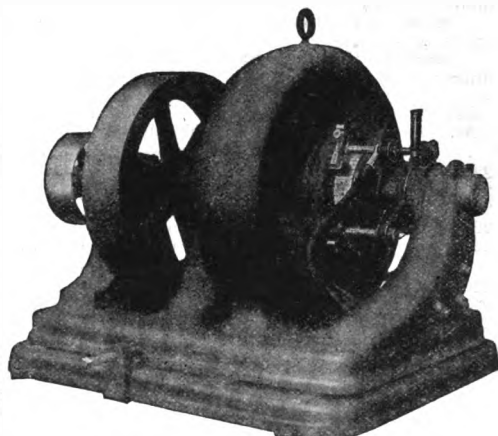
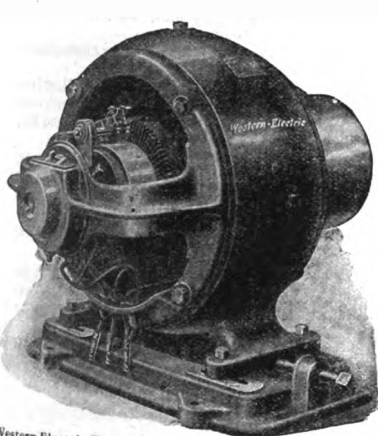
DIRECT CURRENT GENERATORS



Western Electric Electrolytic Generator DEG Design

Electrolytic Generators DEG Design

The Western Electric Type DEG generator for use in electro-metallurgy is furnished in five sizes. The $1\frac{1}{2}$ k.w. 250 amperes, and 3 k.w. 500 amperes at 1800 r.p.m. for 2 to 6 volts, are self-exciting and furnished with one commutator only. The larger sizes, 5 k.w., 10 k.w., and 15 k.w., with two commutators are separately excited, and have current capacities at 10 volts of 500, 1000 and 1500 amperes and at 5 volts of 1000, 2000 and 3000 amperes respectively. They may be equipped direct connected to an alternating or direct current motor for all standard voltages, or with pulley for belt drive.



Western Electric Type B Low Voltage Direct Current Generator Western Electric ML No Flicker Generator

Belt Driven Low Voltage Generators

$\frac{1}{2}$ TO 9 K.W.

The Western Electric Type ML and Type B direct current generator is especially adapted for service requiring a low voltage generator of from $\frac{1}{2}$ to 9 k.w. capacity. The voltage of this generator is from 30 to 35 volts, and they are extensively used in low voltage isolated plant installations.

The Type B generator has been adopted as standard by the Electric Storage Battery Company for the isolated plants which they handle.

No Flicker Generator

FOR GAS ENGINE DRIVE

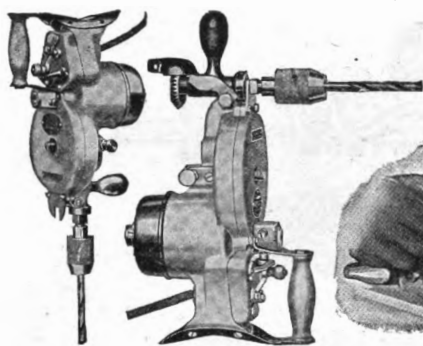
The Western Electric Type ML generators are peculiarly adaptable to gas engine belt drive. They have proved exceptionally valuable in isolated plants and small central stations due to their service reliability and economy of operation and maintenance. A line of these generators wound for low voltage is especially adapted to charging storage batteries. Smooth operation and excellent voltage regulation are insured by a perfectly balanced flywheel supported between pedestal bearings.

Ratings

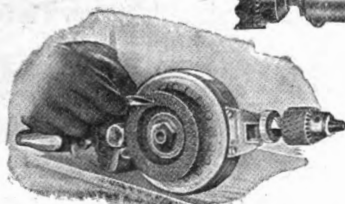
The Type ML generators range in capacities from $\frac{1}{4}$ to 16 k.w. for voltages of 35, 125, 250 or 550 volts and may be shunt or compound wound. The standard accessories supplied with each generator consist of pulley, base, flywheel and rheostat.

Prices and data on application.

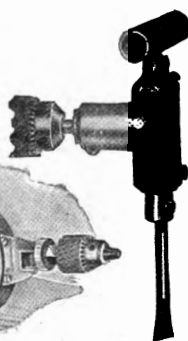
Western Electric Electric Drills



Model B Drill Model B Drill Showing General Method of Using Breakover Feature



Garage Type



Valve Grinder



Model C Drill Similar in Construction to Model B

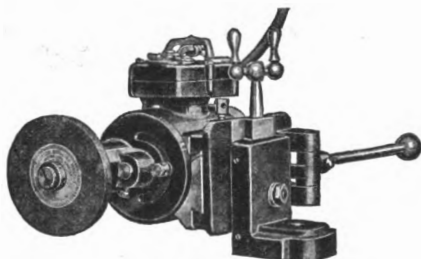
Western Electric Portable Drills

These drills are thoroughly reliable, strongly built, light in weight and convenient in shape. They operate on either alternating or direct current and are reversible. Attachment is made to the ordinary drop cord or incandescent lamp socket.

Model B: Has the breakover feature for changing drills or taps instantly by hand without the use of chuck wrench or key.

Model C: Has two speeds, the gears running in grease. It has the offset spindle, allowing close quarter drilling.

List No.	Type	Max. Diameter of Drill for Drilling		Max. Diameter of Tap for Tapping		*List Price with Cord and Plug
		Thick Steel	Wood	Thin Steel	Iron	
	Model B Drill	$\frac{3}{8}$ ins.	$\frac{1}{2}$ to $\frac{3}{4}$ ins.	$\frac{1}{4}$ ins.	$\frac{1}{4}$ ins.	
220000	With $\frac{3}{8}$ in. chuck					\$90.00
220002	With Jacobs geared chuck					94.00
220003	Add for emery wheel attachment					3.00
220004	Add for valve grinder attachment					12.00
220007	Complete Garage Outfit (Model B Drill with Nos. 220000, 220003 and 220004)					105.00
	Model C Drill	$\frac{3}{8}$ in.	1 to $1\frac{1}{2}$ ins.	$\frac{3}{8}$ in.	$\frac{3}{8}$ in.	
220005	With $\frac{1}{2}$ in. chuck for S. S. Drills					\$130.00
220006	With ratchet feed with $\frac{1}{2}$ in. chuck for S. S. Drills					136.00
220008	With No. 2 Morse Taper Drills					135.00



Tool Post Grinder



Buffer and Polisher

Western Electric Tool Post Grinder

This tool is not only adapted for grinding centers on lathes, but also for grinding dies, reamers and cutters and for universal grinding as well.

List No.		*List Price with Cord and Plug
220009	Tool Post Grinder, complete	\$90.00

Western Electric Buffer and Polisher

This tool is very useful for buffing and polishing brass, steel and other metals and when equipped with the small emery wheel is well adapted for light grinding also.

220010	Buffer and Polisher, complete	\$44.00
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*Delivery F. O. B. Factory, Leipsic, O. For warehouse deliveries write nearest house.

Western Electric

PORTABLE DRILLS



Model A



Model O

Western Electric Portable Electric Drills

Model A Drill. This tool was designed for drilling in either metal or wood. It will run on either alternating or direct current. The offset spindle allows drilling in close corners. The main driving spindle is run in a tobin bronze bushing, two inches in length. The lower handle can be readily removed when necessary.

The body is made of aluminum thoroughly strengthened and supported where the strain is most severe. Arrangements are made for positive and effective oiling for the motor shafts, driving spindle and all parts that are subjected to wear. The gears are accurately machined and run in grease. This drill is very light and convenient to handle. It is especially useful for drilling in sheet metal of all kinds. Also for drilling name plate and oiler holes and for light drilling in wood.

Model O Drill. Specially designed for drilling in cast iron, brass and other soft metals. Also for light drilling in wood.

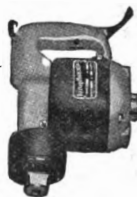
The general construction is similar to Model A drill except in Model O drill the chuck spindle is in the center of the motor body and is directly connected to the motor shaft without gear reduction. The chuck spindle runs in a tobin bronze bushing of ample bearing surface; will operate on either alternating or direct current.

Model	Length Over All with Chuck	Capacity in Steel and Other Metals	Distance from Center of Chuck to Edge of Motor	Weight Complete	*List Price Each
A	14 in.	1/4 in.	1/8 in.	9 lbs.	\$56.00
O	15 1/2 in.	3/8 in.	.....	8 lbs.	40.00

*Delivery F. O. B. Factory, Leipsic, O. For warehouse deliveries write nearest house.

Western Electric

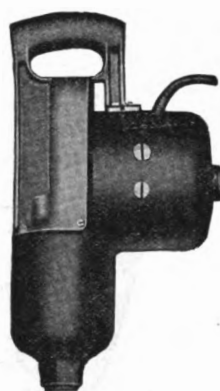
HAMMERS



No. 2 and 3



No. 4 and 6



No. 7

Electric Hammers

These hammers will do the work of pneumatic tools of like capacity at about 15% of the power cost and without the expense and inconvenience of compressor, air piping hose, etc. Over hand work, the economy is from 80% to 90%, and it is by no means uncommon for a tool to save its cost in a week. Every tool is controlled by a switch mounted in the handle and equipped with flexible cord and plug. They may be attached to any lamp socket.

These hammers are built in two types: For direct current and for universal service. The Universal tools operate on either direct current or alternating current of any commercial frequency. These tools are particularly adapted for putting up fixtures on a concrete ceiling, dressing French burr stones in a paint mill, cleaning scale off of condenser tube, for channeling plaster in an office building, for bush hammering a concrete wall, for drilling solid concrete, drilling for pipe racks in a brick wall, chipping gray iron castings, cutting openings for I beams, etc.

Supporting stands are strongly recommended for all overhead work. The use of these stands takes the jar and strain off the operator and keeps the tool pressed tight against the work.

The proper selection of steels to be used in different kinds of material is extremely important.

Electric Hammers

DIRECT CURRENT ONLY—110 OR 220 VOLTS

Type	Capacity in Concrete Diameter	Power Cons. in Watts	Blows per Minute	Net Wt. in Lbs.	Shpg. Wt. in Lbs.	List Price Each
D-3	$\frac{1}{2}$ in.	150	4000	14	20	\$180.00
D-4	1 in.	220	1800	25	35	225.00
D-7	$1\frac{1}{2}$ ins.	550	1300	50	65	289.00

Universal

OPERATE ON DIRECT CURRENT OR ALTERNATING CURRENT

25-30 or 60 Cycles—110 or 220 Volts

U-2	$\frac{1}{2}$ in.	150	4000	15	21	\$225.00
U-6	1 in.	240	1800	27	37	270.00

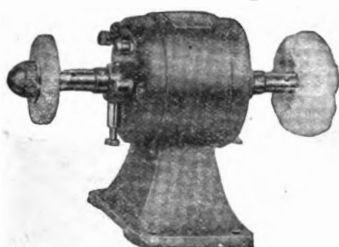
For stand to be used with the above electric hammer, literature and prices furnished on application.

NOTE: The capacities given are conservative and approximate. The tools cannot be forced, the strength of the blow is constant and the capacity depends upon economical drilling speeds only. There is no danger of burning out the machines.

Each tool is complete with 10 feet of cord and plug and runs from a lighting socket.

Delivery F. O. B., Chicago, Ill. For warehouse deliveries write nearest house.

Western Electric
BUFFING AND GRINDING OUTFITS
DOMESTIC TYPE



**DSS 1/30 H.P. Motor on High Base with Double
Shaft Extensions and Attachments**

Types DSS and DSD Motors

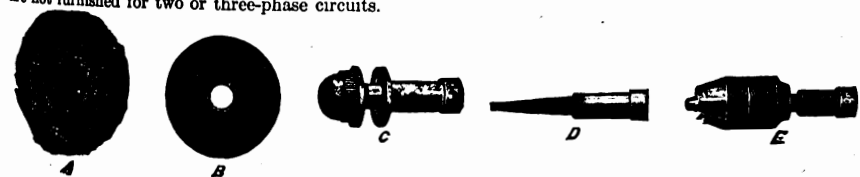
H.P.	**Speed R.P.M.	Volts	Cycles	List No. (Complete Outfit)	List Price (Complete Outfit)	Shipping Weight in Lbs. (Approx.)	††List Allowance		Frame Symbol
							Rag Wheel	Emery Wheel	
ALTERNATING CURRENT—SINGLE PHASE—TYPE DSS									
1/30	1800	110	60	151376	\$35.50	26	\$0.80	\$1.00	W12
1/30	1800	220	60	151377	37.50	26	.80	1.00	W12
1/30	2400	110	40	151378	39.50	28	.80	1.00	W14
1/30	2400	220	40	151379	41.50	28	.80	1.00	W14
1/40	1500	110	25	151380	39.50	28	.80	1.00	W14
1/40	1500	220	25	151381	41.50	28	.80	1.00	W14

DIRECT CURRENT—SHUNT WOUND—TYPE DSD									
1/30	1700	110	..	151382	\$34.50	25	\$0.80	\$1.00	W13
1/30	1700	220	..	151383	36.50	25	.80	1.00	W13

**These speeds are "synchronous" for alternating current motors and "full load" for direct current motors.

Motors listed above are the so-called domestic buffing and grinding outfits and consist of totally enclosed motor mounted on a high base and furnished with separable straight shaft extension attachments on both ends, together with a 3½ inch rag buffing wheel and a 3 inch emery grinding wheel, which are included at prices indicated, and may be used as separate sale prices as well as allowances.

The single phase motors are provided with solid armatures, i.e., without clutches. The above motors are not furnished for two or three-phase circuits.



Attachments for Small Power Motors

A—3½ inch rag buffing wheel, B—3 inch emery grinding wheel, C—Straight spindle shaft attachment, D—Taper spindle shaft attachment, E—Star chuck attachment.

Shaft Attachment List No.	††List Price	Adapted to Shaft, 1 Inch Extension Diameter	Descriptive	For Alternating Current Motors Frame Symbol	For Direct Current Motors Frame Symbol
103580	\$4.00	¾ in.	Straight Spindle*		W13
103581	2.00	¾ in.	Taper Spindle	W12	W15
103582	5.50	¾ in.	"Star" Chuck†	W14	W16
			Attachment		
103587	\$5.00	½ in.	Straight Spindle*	W22 W42	
103588	3.00	½ in.	Taper Spindle	W25 W45	W23
103589	6.50	½ in.	"Star" Chuck†	W33 W46	and
			Attachment	W35 W48	W33
				W36 W49	

*Straight spindles for ¾ and ½ inch shafts are furnished complete with 3½ inch rag buffing wheel (included at \$0.80 list) and 3 inch emery grinding wheel (included at \$1.00 list).

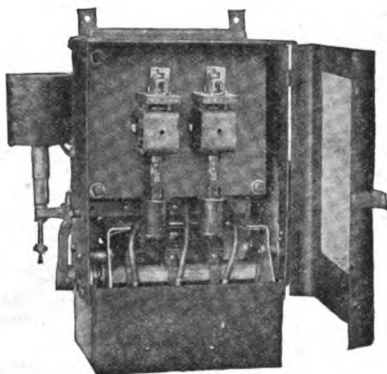
†Star chuck attachment may be used for light drilling purposes, drills not furnished.

Note: The attachments for ¾ and ½ inch shafts are not applicable to oil ring bearing motors.

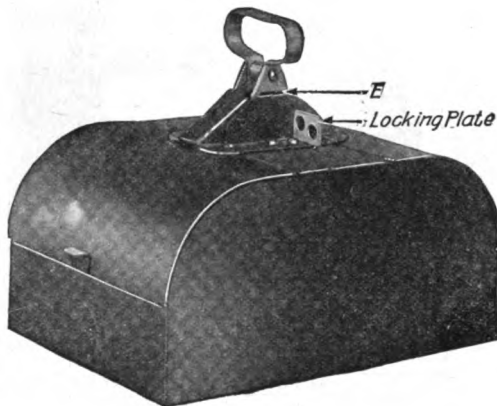
††Delivery: F. O. B. Factory, Lynn, Mass. For warehouse deliveries write nearest house.

Western Electric

INDUCTION MOTOR STARTING SWITCHES



CR-1031 Starting Switch with Cover Open



CR-1038 Motor Starting Switch and Box

Type CR-1031 Starting Switch

Enclosed Overload Relays—Low Voltage Release

The CR-1031 Starting Switch has been designed for throwing small squirrel cage motors directly on the line. The construction is the same as that of the standard CR-1034 Compensator except that the overload relays are mounted in the space occupied by the compensator coils. The overload relays afford absolute protection to the motor against overload, and running single phase.

The time element of the overload relays may be varied so that the motor is not disconnected from the line with every fluctuation of load, but is protected against serious overloads.

Overload relays protect the motor from running single-phase.

The starting switch is provided with a hinged cover and snap catch.

CR-1031 switches have the following features: Switch contacts are oil immersed, insuring long life. All parts are totally enclosed.

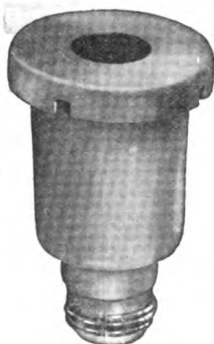
Overload relays protect the motor from overload and have a wide range of adjustment.

List No.

CR-1031	Switches for squirrel cage induction motors up to and including $7\frac{1}{2}$ H.P., 110, 220, 440 and 550 volts.	*List Price \$24.00
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CR-1038 Starting Switches

The CR-1038 Starting Switches are especially adapted for connecting small A.C. motors directly to the line, and are suitable for use with motors up to and including 3 H.P. 110 volt, 440 volt, 550 volt and 5 H.P. 220 volt. The device consists of a double pole single throw quick make and break switch, and two special receptacles for protective plugs mounted on a slate base and totally enclosed in a sheet iron case with the operating handles projecting through the front and suitable holes in the bottom for leads. Overload protection is obtained by two time limit protective plugs which contain a stationary contact post with a heating coil and a fusible link binding a spring contact arm to the stationary post. The heating coils is in the motor circuit which also passes through the post link and contact arm. The time lag in the heating coil prevents the momentary starting current from causing the plug to open the circuit. Branch circuit fuses must be installed as specified in the Underwriters' code, as the protective plugs do not protect the branch circuit from short circuit. Each switch is provided with a locking plate so that the motor cannot be started until plate is unlocked. All padlocks require different keys, but two master keys fitting all locks will be furnished free of charge when 10 or more locks are ordered at the same time. The standard practice is to furnish protective plugs rated approximately 25% in excess of the full load motor current.



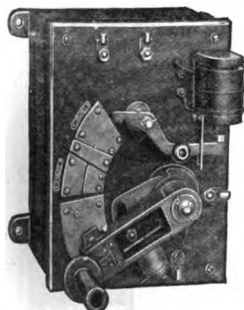
Protective Plug

List No.

CR-1038	Switch complete with two protective plugs and two extra links.	*List Price Each \$12.00
220018	Protective plug with spark link.	1.00
167539	Fusible link.	1.00
220019	Padlock with two keys.	1.80
220020	Master key.	.50

*Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

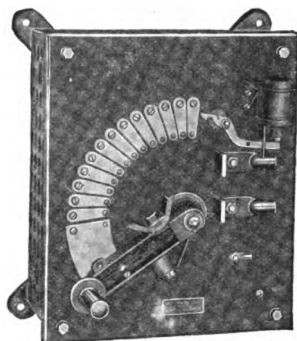
**Western Electric
CONTROLLING DEVICES
FOR ALTERNATING CURRENT MOTORS**



**CR 1027 Motor Starter for Type KS
Squirrel Cage Single Phase Motors**



**For Type RI Repulsion Induc-
tion Single Phase Motor Up to
7 1/2 H.P.**



**For Type RI Repulsion Induction
Single Phase Motors Larger than
7 1/2 H.P.**

CR 1025 Motor Starters

Single Phase Motor Starters

Type CR 1027 for Squirrel Cage Motors

The Type CR-1027 starters are designed for starting Western Electric Type KS Squirrel Cage single-phase induction motors, and consist of a resistance-reactance coil assembled in a well-ventilated box, on the front of which is mounted a slate base containing the starting switch and no-voltage release.

The switch contacts are composed of renewable segments. One of these segments is made up of two parts, one part being connected to the resistance and the other to the reactance. A stop latch located underneath the starting arm prevents the operator from throwing the arm to the running position without first stopping on the starting segment.

The 10 and 15 H.P. starters are provided with tap on the starting resistance-reactance so that the starting torque can be changed to meet service conditions. Taps are not necessary on the smaller sizes.

115 Volts					230 Volts				
H.P. of Motor	List No.		List Price	Approx. Ship. Wt.	H.P. of Motor	List No.		List Price	Approx. Ship. Wt.
	60 Cycles	40 Cycles				60 Cycles	40 Cycles		
1/4	140156	140180			1/4	140157	140181	\$28.00	25
1/2	140158	140182	\$28.00	25	1/2	140159	140183	28.00	25
1	140160	140184	34.00	60	1	140161	140185	34.00	60
2	140162	140186	34.00	60	2	140163	140187	34.00	60
3	140164	140188	40.00	75	3	140165	140189	40.00	75
5	140166	140190	40.00	75	5	140167	140191	40.00	75
7 1/2	140168	140192	50.00	90	7 1/2	140169	140193	50.00	90
10	140170	140194	72.00	110	10	140171	140195	60.00	110
15	140172		80.00	110	15	140173		70.00	110

Ordering Directions

When ordering CR-1027 starters the H.P., voltage, speed, frequency and serial number of the motor with which it is to be used should be clearly stated.

Type CR 1025 for Repulsion Motors

The Type CR-1025 starting rheostats have been designed primarily for use with the Western Electric single-phase repulsion motor (Type RI) where the inrush of current resulting from throwing the motors directly upon the line is objectionable. When these motors are started by being thrown directly upon the line they require from 2 1/2 to 3 1/2% of full load current. While in many cases this starting current may not be objectionable, it is recommended that a starting box be installed in every case with the 7 1/2, 10 and 15 H.P. motors and with the smaller motors where it is desired to reduce the starting current. When a starting box is used, the inrush of current at the instant of starting is approximately 1 1/2 full load current.

These rheostats are for starting duty only where the starting period does not exceed one minute.

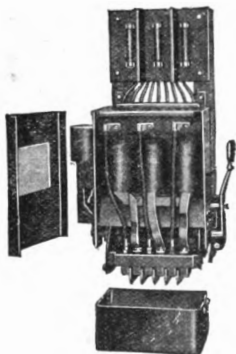
110 Volts, 60 Cycle				220 Volts, 60 Cycle			
H.P.	List No.	List Price	Approx. Ship. Wt.	H.P.	List No.	List Price	Approx. Ship. Wt.
Up to 1 incl.				Up to 1 incl.			
2	64862	\$12.00	20	2	64870	\$12.00	20
3	64864	12.00	20	3	64872	12.00	25
5	64866	14.00	25	5	64874	14.00	25
7 1/2	64868	16.00	35	7 1/2	64890	16.00	30
10	122784	40.00	75	10	104348	20.00	38
15	122785	40.00	80	15	122786	40.00	80
	104957	40.00	125		122787	40.00	85

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

CONTROLLING DEVICES

FOR ALTERNATING CURRENT MOTORS



Compensator with Fuses, Lever
and Oil Tank Removed



Compensator with Overload
Relay Panel



Illustrating the Compactness
of Compensator

Type CR 1034 Starting Compensators for TWO AND THREE PHASE SQUIRREL CAGE INDUCTION MOTORS

The Form K, or squirrel cage, motor can be started by simply closing the stator or primary switch, and the motor will then carry its load up to nearly synchronous speed, but with a large inrush of current at the moment of starting.

In order to reduce this current, when the maximum starting effort is not necessary, a Type CR-1034 Starting Compensator is employed. This compensator acts as a transformer, reducing the potential at the terminals of the motor and consequently diminishing the current taken by it.

The compensator consists of coils (three for three phase and two for two phase) wound upon laminated iron cores, and an oil type switch assembled in a suitable case. The switch in the off position is held by a latch in such a way as to prevent its being thrown directly into the running position.

SALIENT FEATURES OF WESTERN ELECTRIC COMPENSATORS

The handle cannot be left in starting position.

The handle cannot be moved to running position without first going to the starting position.

The low-voltage release opens the circuit in case of failure of voltage.

Fuses or overload relays open the circuit in case of overload.

Switches are oil immersed, thus eliminating sparking and insuring long life of contacts.

Compound treatment of the coils makes them practically waterproof.

Simplicity of wiring.

Accessibility of taps and contacts.

See following page for prices.

Western Electric

CONTROLLING DEVICES

For Alternating Current Motors

TYPES CR-1034 STARTING COMPENSATOR FOR TWO AND THREE PHASE SQUIRREL CAGE INDUCTION MOTORS

Enclosed Overload Relay or Fuses

Low-Voltage Release

List		H.P.	List Price	Size No.	
3-Phase	2-Phase			3-Phase	2-Phase

110 VOLTS—60 CYCLES

NR-1601	NR-1759	5-5½	\$90	1	1
NR-1605	NR-1763	7½	100	1	1
NR-1609	NR-1767	10	110	1	1
NR-1613	NR-1771	12-15	120	1	1
NR-1617	NR-1775	20	230	3	3
NR-1621	NR-1779	25	240	3	3

220 VOLTS—60 CYCLES

NR-1602	NR-1760	5-5½	\$90	1	1
NR-1606	NR-1764	7½	90	1	1
NR-1610	NR-1768	10	100	1	1
NR-1614	NR-1772	12-15	110	1	1
NR-1618	NR-1776	20	120	1	1
NR-1622	NR-1780	25	130	1	1
NR-1625	NR-1783	30	220	2	2
NR-1625	NR-1783	35	220	3	3
NR-1625	NR-1783	40	220	3	3
NR-1629	NR-1787	50	240	3	3
NR-1633	NR-1791	60-75	290	3	3
NR-1637	NR-1795	85-100	310	3	4
NR-2551		150	540	5	

440 VOLTS—60 CYCLES

NR-1603	NR-1761	5-5½	\$90	1	1
NR-1607	NR-1765	7½	90	1	1
NR-1611	NR-1769	10	100	1	1
NR-1615	NR-1773	12-15	110	1	1
NR-1619	NR-1777	20	120	1	1
NR-1623	NR-1781	25	130	1	1
NR-1626	NR-1784	30	150	2	2
NR-1626	NR-1784	35	150	2	2
NR-1626	NR-1626	40	150	2	2
NR-1630	NR-1788	50	170	2	2
NR-1634	NR-1792	60-75	230	3	3
NR-1638	NR-1796	85-100	250	3	3

List		H.P.	List Price	Size No.	
3-Phase	2-Phase			3-Phase	2-Phase

440 VOLTS—60 CYCLES (Cont'd)

NR-1641	NR-1799	110-125	\$290	4	3
NR-1644	NR-1802	135-150	330	4	4
NR-1647	NR-1805	175-200	370	4	4
NR-1857	.....	250	540	5	

550 VOLTS—60 CYCLES

NR-1604	NR-1762	5-5½	\$90	1	1
NR-1608	NR-1766	7½	90	1	1
NR-1612	NR-1770	10	100	1	1
NR-1616	NR-1774	12-15	110	1	1
NR-1620	NR-1778	20	120	1	1
NR-1624	NR-1782	25	130	1	1
NR-1627	NR-1785	30	150	2	2
NR-1627	NR-1785	35	150	2	2
NR-1627	NR-1785	40	150	2	2
NR-1631	NR-1789	50	170	2	2
NR-1635	NR-1793	60-75	230	3	3
NR-1639	NR-1797	85-100	250	3	3
NR-1642	NR-1800	110-125	290	4	3
NR-1645	NR-1803	135-150	330	4	4
NR-1648	NR-1806	175-200	370	4	4

*2200 VOLTS—60 CYCLES

NR-2719	NR-2738	15-20	\$230	3	3
NR-2720	NR-2739	25	240	3	3
NR-2721	NR-2740	30-40	270	3	3
NR-2722	NR-2741	50-55	300	3	3
NR-2722	NR-2742	60	300	3	4
NR-2723	NR-2742	75	300	4	4
NR-2724	NR-2743	85-100	310	4	4
NR-2725	NR-2744	110-125	320	4	4
NR-2726	NR-2745	135-150	340	4	4
NR-2727	NR-2746	175-200	350	4	5
NR-2728	.....	250	500	5	..

Prices cover compensators complete with no-voltage release and oil for switch tank. They also include fuses and fuse bases for compensators of 550 volts or less, and overload relays with enclosing covers for 2200 volt compensators.

EXTRAS

For overload relays with enclosing covers in place of fuses for 550 volts or less add \$28.00 list to the above prices.

If enclosing covers for conduit wiring are desired add \$48.00 list for sizes 1 and 2, and \$53.00 list for sizes 3 and 4, to prices of the compensators with overload relays or fuses.

For overload relays and ammeter, add \$84.00.

For overload relays, ammeter and conduit wiring case, add \$108.00.

For enclosing covers for fuse panels, add \$5.00.

*Add \$30.00 list to the above 2200 volt prices for a Mfr. No. 127108 potential transformer unless there is a low-voltage (550 or less) alternating current circuit available for exciting the no-voltage release coil.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

CONTROLLING DEVICES

FOR DIRECT CURRENT MOTORS

For Series, Shunt or Compound Wound Motors

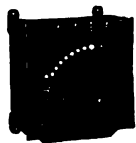


Fig. 1



Fig. 2

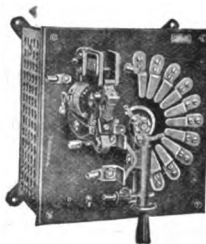


Fig. 3

CR-1000 Direct Current Motor-Starting Rheostats

CR-1000 rheostats are recommended for use with motors which, when not overloaded in starting, will attain full speed in one minute or less. They can also be used for starting motors overloaded 50 per cent., providing the resistance is not in circuit over thirty seconds. These rheostats have been so designed that they comply with the service rules of the American Institute of Electrical Engineers, viz., one minute starting duty every four minutes for one hour.

Fig. 3 illustrates the type of starter used above 35 H.P., 115 volts, 50 H.P., 230 volts, and 20 H.P., 550 volts. This starter comprises a knife-blade type of dial switch so interlocked with a line contactor as to provide low-voltage release as well as positive making and breaking of the circuit. This contactor is also provided with a magnetic blowout coil.

The motor circuit is not made or broken on the dial switch and no arcing can possibly occur thereon.

The contactor when once opened can be closed again only with the starting arm at the initial starting point.

Resistance units throughout this entire line of motor-starting rheostats are absolutely fireproof. CR-9000, Form P resistance units are used in the following sizes:

$\frac{1}{8}$ -5 H.P. inclusive, 115 volts. $\frac{1}{8}$ -7 $\frac{1}{2}$ H.P. inclusive, 230 volts. $\frac{1}{8}$ -20 H.P. inclusive, 550 volts. In the larger sizes cast grid resistance units are used.

In rheostats 2 H.P. and larger the Form P units are mounted on supports independent of the iron box the supports being fastened to the slate top of the rheostat; consequently the resistance can be removed for inspection or necessary repairs without disturbing the units or their connections.

H.P.	115 Volts Good for 90 to 130 Volts				230 Volts Good for 180 to 260 Volts				550 Volts Good for 450 to 600 Volts			
	List No.	List Price	Ap-prox. Ship. Wt.	Fig. No.	List No.	List Price	Ap-prox. Ship. Wt.	Fig. No.	List No.	List Price	Ap-prox. Ship. Wt.	Fig. No.
$\frac{1}{8}$	111901	\$6.00	16	1	111916	\$6.00	18	1	111933	\$7.00	16	1
$\frac{1}{4}$	111902	6.00	16	1	111917	6.00	16	1	111934	7.00	16	1
$\frac{3}{8}$	111903	8.00	16	1	111918	8.00	16	1	111935	8.00	16	1
$\frac{1}{2}$	111904	8.00	16	1	111919	8.00	16	1	111936	8.00	16	1
1	111905	8.00	16	1	111920	8.00	16	1	111937	8.00	16	1
2	111906	8.00	22	1	111921	8.00	20	1	111938	8.00	22	1
3	111907	9.00	22	1	111922	9.00	22	1	111939	9.00	20	1
5	111908	14.00	24	1	111923	13.00	28	1	111940	13.00	26	1
7 $\frac{1}{2}$	114019	23.00	100	1	111924	17.00	32	1	111941	17.00	32	1
10	114020	28.00	115	2	114022	19.00	100	1	111942	19.00	32	1
15	114021	36.00	180	2	114023	26.00	100	2	111943	26.00	36	1
20	111912	40.00	185	2	114024	36.00	115	2	111944	32.00	85	2
25	111913	46.00	192	2	114025	40.00	115	2	157795	100.00	300	3
30	111914	52.00	198	2	111929	46.00	180	2	157796	100.00	300	3
35	111915	58.00	204	2	111930	50.00	186	2	157797	100.00	300	3
40	157783	100.00	335	3	111931	58.00	198	2	157798	100.00	300	3
50	157784	120.00	470	3	111932	72.00	200	2	157799	100.00	300	3
55	157785	120.00	470	3	157788	110.00	350	3	157800	100.00	300	3
60	157786	130.00	480	3	157789	120.00	350	3	157801	110.00	350	3
75	157787	130.00	480	3	157790	130.00	370	3	157802	120.00	350	3
85					157791	150.00	500	3	157803	130.00	365	3
100					157792	150.00	500	3	157804	140.00	375	3
125					157793	170.00	515	3	157805	150.00	390	3
150					157794	180.00	525	3	157806	160.00	400	3

The above prices cover rheostats with low-voltage release only.

Overload Release

If on sizes up to and including 35 H.P., 115 volts; 50 H.P., 230 volts and 20 H.P., 550 volts, an overload release is desired in addition to low-voltage release, add \$6.00 list to above prices. For larger sizes CR-1102 is recommended.

ORDERING DIRECTIONS

Rheostats with low-voltage release only should be ordered by Mr. No.

Rheostats with low-voltage and overload release should not be ordered by Mr. No., but order should give the H.P. rating and voltage of the motor, with the statement that the overload release is desired.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

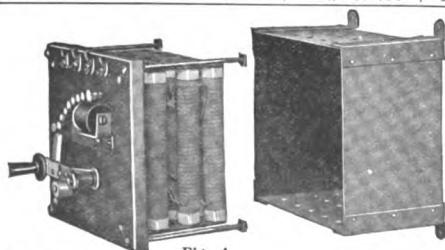


Fig. 4

CR-1000 Rheostat with Resistance Removed from Box
Power Apparatus



Western Electric

CR-1100 D.C. MOTOR STARTING PANELS FOR DIRECT CURRENT MOTORS Line Switch and Fuses

CR-1100 Starting Panels consist of standard CR-1000 Starting Rheostats and a double-pole line switch and fuses, mounted on a slate base. The resistance is designed for one minute starting duty once every four minutes for an hour. These panels are all arranged for wall mounting and are particularly recommended on account of economy of space, compactness and the added neatness given the complete equipment.

Overload Protection

These rheostats may be furnished with an overload release coil which in case of overload will short circuit the low-voltage release coil, allowing the starting arm to return to the "off" position.

CR-1100 D.C. Starting Panel

H.P.	115 Volts				230 Volts				550 Volts			
	List No. of Panel	List Price	Ship. Wt.	List No. of Fuses	List No. of Panel	List Price	Ship. Wt.	List No. of Fuses	List No. of Panel	List Price	Ship. Wt.	List No. of Fuses
1/4	112673	\$20	60	59379	112684	\$20	60	59951	112695	\$22	60	42638
1/2	112674	20	60	59381	112685	20	60	59379	112696	22	60	42639
3/4	112675	20	60	34952	112686	20	60	34950	112697	22	60	42639
1	112676	20	60	34953	112687	20	60	59381	112698	22	60	34992
2	112677	24	80	34956	112688	24	80	34953	112699	24	80	34993
3	112678	24	80	34958	112689	24	80	34955	112700	26	80	59385
5	112679	30	80	34962	112690	28	80	34956	112701	30	80	34995
7 1/2	119787	50	150	34967	112691	32	80	34959	112702	34	80	34997
10	119788	56	150	34970	119790	46	150	34961	112703	36	80	34998
15	119789	68	250	34976	119791	52	150	34967	112704	44	150	35100
20	112683	76	275	34980	119792	68	150	34970	112705	52	150	35103

The above prices cover panels with low-voltage release only.

Overload Release

If overload release is desired in addition to low-voltage release, add \$6.00 list to above prices.

CR-1102 D.C. Motor-Starting Panels

CR-1102 Starting Panel is the same as CR-1100 except that the fuses are replaced by a double pole circuit breaker, and the starter has a low-voltage release.

Circuit Breaker

H.P.	115 Volts			230 Volts			550 Volts		
	Mfr. No.	List Price	Approx. Ship. Wt.	Mfr. No.	List Price	Approx. Ship. Wt.	Mfr. No.	List Price	Approx. Ship. Wt.
1	104247	\$38	124	104258	\$38	124	104271	\$42	124
2	104248	44	124	104259	44	124	104272	46	124
3	104249	44	124	104260	44	124	104273	48	124
5	104250	46	150	104261	46	170	104274	50	170
7 1/2	119799	66	170	104262	50	170	104275	52	170
10	119800	70	180	119802	66	175	104276	52	175
15	119801	92	275	119803	70	250	104277	56	250
20	104254	96	400	119804	80	270	104278	72	270
25	104255	104	400	119805	92	270	142774	140	350
30	104256	108	450	104267	104	425	142775	140	350
35	104257	112	450	104268	108	450	142776	140	350
40	126935	210	425	104269	108	450	142777	160	400
50	126936	220	425	104270	130	500	142778	176	400
60	126937	220	425	126941	200	425	126949	180	425
75	126938	230	425	126942	200	425	126950	180	425
85	126939	360	600	126943	250	425	126951	250	425
100	126940	380	600	126944	270	425	126952	250	425
125	142763	720	750	126945	290	425	126953	280	425

ORDERING DIRECTIONS

Give the Mfr. Number of the starting panel and state the horse power and voltage of the motor with which the starting panel is to be used.

Delivery: F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

CONTROLLING DEVICES

For Direct Current Motors



Fig. 1
1/4, 1/2, 3/4 H.P.
115, 230 and 550 Volts
2 Starting and
16 Field Points



Fig. 2
1 to 7 1/2 H.P. Incl.
115, 230 and 550 Volts
8 Starting and
16 Field Points



Fig. 3
10 and 15 H.P. Incl., 115 Volts
10 to 25 H.P. Incl., 230 Volts
10 to 20 H.P. Incl., 550 Volts
11 Starting and 20 Field Points



Fig. 4
20 to 35 H.P. Incl., 115 Volts
30 to 50 H.P. Incl., 230 Volts
12 Starting and 20 Field Points

CR-1200 D.C. SPEED REGULATING RHEOSTATS

For Shunt or Compound Wound Variable Speed Motors Only

CR-1200 rheostats are designed for use with variable speed motors, the speed control of which is obtained by varying the resistance inserted in the field circuit.

These controlling rheostats comprise a starting switch of the type used on CR-1000 rheostats. The starting switch is provided with a projection carrying a sliding contact which bears on the contact buttons connected to the field resistance. An auxiliary arm on the rheostat front retains a short circuit on the field resistance during the period of starting, and on the starting resistance after the motor attains normal speed. The short circuit is also retained on the starting resistance, when the starting arm is turned back to vary the running speed of the motor.

When starting the motor, the starting arm cannot be left in any position on the contact buttons until it has been turned to the right and engaged the auxiliary arm, forcing the latter to be retained by the low-voltage release coil. The auxiliary arm then withholds the spring which affects the starting arm, and thereby makes it possible to leave the starting arm in any position that will give the desired speed control of the motor. Upon failure of voltage the retaining coil is de-energized, releasing the auxiliary arm, which releases the spring that carries the starting arm to the "off" position, thus opening the motor circuit.

A feature is provided, however, so that it requires a little extra pressure to move the arm beyond the maximum speed point to call the operator's attention to maximum speed position so he will not unintentionally shut down the motor.

The contacts of the auxiliary arm are designed to take care of any possible arcing and in the larger sizes are protected by an auxiliary carbon block.

Overload Protection: These rheostats can be furnished with an overload release which in case of overload will short circuit the low-voltage release coil.

Fireproof and moisture-proof resistance units are used with the controllers as follows:

All field resistances; all starting resistances up to and including 10 H.P., 115 and 230 volts; up to and including 20 H.P., 550 volts, CR-9000 (Form P).

All starting resistances 15 H.P. and larger 115 and 230 volts, Cast Grid (Form C).

H.P. of Motor	List Prices									Approx. Ship. Wt.
	2 to 1 Speed Variation			3 to 1 Speed Variation			4 to 1 Speed Variation			
	115 Volts	230 Volts	550 Volts	115 Volts	230 Volts	550 Volts	115 Volts	230 Volts	550 Volts	
1/4 to 1/2	\$22.00	\$22.00	\$22.00	\$26.00	\$26.00	\$26.00	.....	.....	.....	20
3/4 to 2	22.00	22.00	22.00	26.00	26.00	26.00	\$28.00	\$28.00	\$30.00	20
3	24.00	24.00	28.00	28.00	28.00	32.00	30.00	30.00	36.00	23
4 and 5	28.00	24.00	28.00	34.00	28.00	32.00	38.00	32.00	36.00	25
7 1/2	32.00	30.00	36.00	40.00	38.00	44.00	42.00	42.00	48.00	40
10	46.00	36.00	42.00	50.00	40.00	46.00	54.00	46.00	50.00	45
15	50.00	48.00	44.00	60.00	50.00	48.00	64.00	52.00	52.00	100
20	70.00	56.00	56.00	80.00	60.00	60.00	90.00	70.00	70.00	100
25	100.00	60.00	.....	110.00	70.00	.....	120.00	80.00	.....	100
30	100.00	70.00	.....	110.00	80.00	.....	130.00	90.00	.....	150
35	120.00	90.00	.....	130.00	100.00	.....	150.00	110.00	.....	150
40	.....	110.00	.....	.....	120.00	.....	.....	140.00	.....	200
50	.....	130.00	.....	.....	150.00	.....	.....	170.00	.....	200

With low-voltage release only.

If overload release is desired in addition to low-voltage release, add \$6.00 list to above prices.

Ordering Directions: In ordering rheostats give H.P. rating and voltage of the motor.

If the rheostat is to be used with a W.E. motor, the order should be accompanied with the complete name plate rating of the motor. If the rheostat is to be used with other than a W.E. motor the order should be accompanied with advice as to the maximum shunt field current and the ohms necessary to insert in the field circuit to give the maximum speed increase.

In ordering rheostats with low-voltage and overload release include, in addition to above, the statement that the overload release is desired.

Delivery: F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

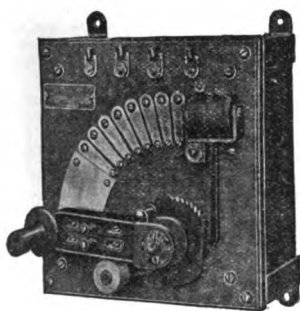
NOTE: Motor Agents, U. S. Government and Machine Manufacturers, consult Specialist.

Western Electric

CONTROLLING DEVICES

FOR DIRECT CURRENT ADJUSTABLE SPEED MOTORS
ARMATURE CONTROL—MACHINE SERVICE

CR-1220 Speed Regulating Rheostats



CR-1220—Renewable Segment Type Speed Regulating Rheostat

CR-1220 speed regulators for machine service are designed to reduce the speed of the motor 50 per cent. from normal at full load by inserting resistance in the armature circuit, the resistance and switch contacts having ample capacity to carry the current continuously on any point without overheating. These rheostats should be installed with motors where the same amount of current is required at half speed as at full speed. CR-1220 rheostats are equipped with renewable segments which may be easily replaced from the front of the rheostat should they become worn or pitted by frequent operation.

The retaining coil for low-voltage protection is connected across the line in series with a high resistance and is, therefore, independent of the strength of the motor field current. This permits the same rheostat to be used with either shunt, series or compound wound motors.

In the large sizes the motor circuit is made and broken by a contactor and not on the switch contacts, thus preventing arcing and subsequent burning of these contacts. A rugged knife-blade type of switch is used, with segments that can be renewed, if desired, but this is seldom necessary, as all arcing is handled by the contactor, which is provided with a strong magnetic blowout, and all parts liable to wear are renewable. The switch is interlocked with the contactor, so as to provide low-voltage protection.

With Overload Release

These rheostats can be furnished with an overload release which in case of overload will short circuit the low-voltage protective coil.

H.P. of Motor	115 Volts			230 Volts			550 Volts		
	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.
1/4	59209	\$17.00	30	59216	\$17.00	30	59225	\$18.00	30
1/2	59210	21.00	35	59217	21.00	35	59226	19.00	35
3/4	59211	23.00	47	59218	23.00	47	59227	22.00	47
1	59212	25.00	47	59219	25.00	47	59228	25.00	47
2	59213	34.00	82	59220	34.00	82	59229	34.00	82
3	59214	40.00	112	59221	40.00	112	59230	40.00	112
5	100818	50.00	120	100819	64.00	120	100820	64.00	120
7 1/2	144787	60.00	335	144798	70.00	325	144813	70.00	330
10	144788	80.00	335	144799	80.00	325	144814	100.00	335
15	144789	110.00	500	144800	90.00	500	144815	120.00	515
20	144790	140.00	500	144801	120.00	500	144816	150.00	515
25	*144791	160.00	700	144802	150.00	740	*144817	160.00	650
30	*144792	180.00	870	*144803	170.00	770	*144818	170.00	650
35	*144793	220.00	1040	*144804	220.00	780	*144819	210.00	650
40	*144794	270.00	1200	*144805	240.00	1200	*144820	240.00	1100
45	.....	.....	.....	*144806	270.00	1250	*144821	270.00	1200
50	*144795	380.00	1300	*144807	300.00	1250	*144822	300.00	1200
60	*144796	470.00	1600	*144808	400.00	1250	*144823	370.00	1250
75	*144797	490.00	1700	*144809	420.00	1300	*144824	390.00	1250
100	.....	.....	.....	*144810	520.00	1700	*144825	490.00	1300
125	.....	.....	.....	*144811	650.00	2230	*144826	550.00	1350
150	.....	.....	.....	*144812	720.00	2250	*144827	620.00	1700
200	.....	.....	.....	.....	.....	.....	*144828	850.00	2900
250	.....	.....	.....	.....	.....	.....	*144829	900.00	3000

*Rheostats equipped with contactor for making and breaking the armature circuit.

†Speed controlling rheostat panel.

The above prices cover rheostats with low-voltage protection only.

Overload Release

If overload release is desired in addition to low-voltage protection, add \$6.00 list to above prices for sizes up to and including 15 H.P., 115 volts; 25 H.P., 230 volts, and 20 H.P., 550 volts. For overload release on larger sizes prices will be furnished on application.

ORDERING DIRECTIONS

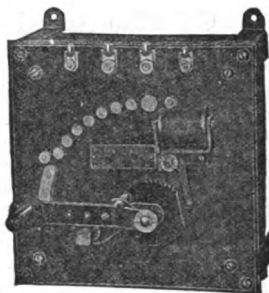
Rheostats with low-voltage protection only should be ordered by List No.

Rheostats with low-voltage protection and overload release should not be ordered by List No., but order should give the H.P. and voltage of the motor with the statement that the overload release is desired.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

CONTROLLING DEVICES



CR-1221 D.C. Speed Regulating Rheostat

For Direct Current Adjustable Speed Motors

CR-1221 D.C. SPEED REGULATING RHEOSTATS

Button Contacts—Armature Control—For Machine Service

CR-1221 Speed Regulating Rheostats for machine service are designed to reduce the speed of the motor 50 per cent. from normal at full load by inserting resistance in the armature circuit, the resistance and switch contacts having ample capacity to carry the current continuously on any point without overheating. These rheostats should be installed with motors where the same amount of current is required at half speed as at full speed.

The retaining coil for low-voltage protection is connected across the line in series with a high resistance and is, therefore, independent of the strength of the motor field current. This permits the same rheostat to be used with either shunt, series or compound wound motors.

CR-1221 Rheostats are supplied with button contacts. If renewable segments are wanted, see CR-1220.

With Overload Release

These rheostats can be furnished with an overload release which in case of overload will short circuit the low-voltage protective coil.

H.P. of Motor	115 Volts			230 Volts			550 Volts		
	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.
$\frac{1}{8}$	58314	\$12.00	20	58326	\$12.00	20	58338	\$12.00	20
$\frac{1}{4}$	58315	14.00	30	58327	14.00	30	59339	14.00	30
$\frac{1}{2}$	58316	16.00	35	58328	16.00	35	58340	16.00	35
$\frac{3}{4}$	58317	18.00	47	58329	18.00	47	58341	18.00	47
1	58318	22.00	47	58330	22.00	47	58342	22.00	47
2	58319	30.00	82	58331	30.00	82	58343	30.00	82
3	58320	36.00	112	58332	36.00	112	58344	36.00	112
5	100815	48.00	120	100816	60.00	120	100817	60.00	120
$7\frac{1}{2}$				144830	70.00	325	144832	70.00	300
10				144831	80.00	325	144833	100.00	300
15							144834	120.00	300

The above prices cover rheostats with low-voltage protection only.

Overload Release

If overload release is desired in addition to low-voltage protection, add \$6.00 list to above prices.

ORDERING DIRECTIONS

Rheostats with low-voltage protection only should be ordered by Mfr. No.

Rheostats with low-voltage protection and overload release should not be ordered by Mfr. No., but order should give the horse power rating and voltage of the motor with the statement that the overload release is desired.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric CONTROLLING DEVICES

For Direct Current Adjustable Speed Motors

CR-1225 Speed Regulating Rheostats for fan service are designed to reduce the speed of the motor 50 per cent. from normal, at full speed where the load varies directly with the speed, by inserting resistance in the armature circuit, the resistance and switch contacts having ample capacity to carry the current continuously on any point without overheating.

They should be specified for use with motors driving ventilating fans, small job presses, ice cream freezers, centrifugal pumps, etc.

CR-1225 Rheostats are supplied with button contacts. If renewable segments are wanted, see CR-1224.

The retaining coil for low-voltage protection is connected across the line in series with a high resistance and is, therefore, independent of the strength of the motor field current. This permits the same rheostat to be used with either shunt, series or compound wound motors.

With Overload Release

These rheostats can be furnished with an overload release which in case of overload will short circuit the low-voltage protective coil.

CR-1225 D.C. SPEED REGULATING RHEOSTATS Button Contacts—Armature Control—For Fan Service

H.P. of Motor	115 Volts			230 Volts			550 Volts		
	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.
$\frac{1}{8}$	59607	\$12.00	20	59619	\$12.00	20	59631	\$12.00	20
$\frac{1}{4}$	59608	14.00	30	59620	14.00	30	59632	14.00	30
$\frac{3}{8}$	59609	16.00	35	59621	16.00	35	59633	16.00	35
$\frac{1}{2}$	59610	18.00	40	59622	18.00	40	59634	18.00	40
1	59611	20.00	40	59623	20.00	40	59635	20.00	40
2	59612	24.00	85	59624	24.00	85	59636	24.00	85
3	59613	30.00	110	59625	30.00	110	59637	30.00	100
5	100821	46.00	200	100822	46.00	200	100823	50.00	200
$7\frac{1}{2}$				144863	60.00	300	144865	60.00	300
10				144864	70.00	300	144866	90.00	300
15							144867	110.00	440

CR-1224 D.C. SPEED REGULATING RHEOSTATS Renewable Segments—Armature Control—For Fan Service

H.P. of Motor	115 Volts			230 Volts			550 Volts		
	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.	List No.	List Price	Approx. Ship. Wt.
$\frac{1}{8}$	59827	\$17.00	30	59834	\$17.00	30	59843	\$18.00	30
$\frac{1}{4}$	59828	20.00	35	59835	20.00	35	59844	19.00	35
$\frac{3}{8}$	59829	21.00	40	59836	21.00	40	59845	22.00	40
$\frac{1}{2}$	59830	22.00	40	59837	22.00	40	59846	24.00	40
1	59831	32.00	85	59838	30.00	85	59847	30.00	85
2	59832	36.00	110	59839	34.00	110	59848	34.00	110
3	100824	50.00	200	100825	50.00	200	100826	60.00	200
5	144835	60.00	375	144843	70.00	300	144853	64.00	300
$7\frac{1}{2}$	144836	80.00	375	144844	80.00	300	144854	90.00	300
10	144837	110.00	480	144845	90.00	460	144855	110.00	440
15	*144838	130.00	550	144846	110.00	500	144856	130.00	500
20	*144839	160.00	700	144847	150.00	780	*144857	160.00	600
25	*144840	180.00	740	*144848	170.00	780	*144858	170.00	650
30	*144841	220.00	780	*144849	220.00	780	*144859	210.00	670
35	*144842	270.00	1060	*144850	240.00	1060	*144860	240.00	930
40				*144851	270.00	1140	*144861	270.00	930
45				*144852	300.00	1200	*144862	300.00	930

*Rheostats equipped with contactor for making and breaking the armature circuit.
The above prices cover rheostats with low-voltage protection only.

Overload Release

If overload release is desired, in addition to low-voltage protection, add \$6.00 list to above prices for sizes up to and including 15 H.P. 115 volts, 25 H.P. 230 volts and 20 H.P. 550 volts. For overload release on larger sizes prices will be furnished on application.

ORDERING DIRECTIONS

Rheostats with low-voltage protection only should be ordered by List No.
Rheostats with low-voltage protection and overload release should not be ordered by List No., but order should give the horse power rating and voltage of the motor, with the statement that the overload release is desired.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

MOTOR STARTERS

CR-2301 Self-Starters—Low-Voltage Protection



CR-2301 Self-Starter

Type CR-2301 Self-Starters

The Following Prices Cover the Devices Complete, Exclusive of Float Switch, Pressure Governor, or Switch for Hand Control

The following table lists Self-Starters for use where the controlling switch can conveniently be placed in the motor circuit. Most pumping outfits are of this nature.

†115 Volts			†230 Volts			†550 Volts		
Mfr. No.	*H.P. of Motor	List Price Each	Mfr. No.	*H.P. of Motor	List Price Each	Mfr. No.	H.P. of Motor	List Price Each
111474	½	\$22.00	111477	½	\$22.00	111480	½	\$24.00
111475	1	22.00	111478	1	22.00	111481	1	24.00
111476	2	28.00	111479	2	28.00	111482	2	30.00
111492	3	40.00	111493	3	42.00	111494	3	44.00

CR-2303

The following table lists Self-Starters for use where it is not convenient to place the controlling switch in the motor circuit. With these starters the motor circuit is closed by a contactor forming part of the starter. The controlling switch is placed in a pilot circuit run from the solenoid of the contactor.

†115 Volts			†230 Volts			†550 Volts		
Mfr. No.	*H.P. of Motor	List Price Each	Mfr. No.	*H.P. of Motor	List Price Each	Mfr. No.	H.P. of Motor	List Price Each
111483	½	\$40.00	111486	½	\$40.00	111489	½	\$40.00
111484	1	40.00	111487	1	40.00	111490	1	40.00
111485	2	48.00	111488	2	48.00	111491	2	50.00
111495	3	60.00	111496	3	60.00	111497	3	66.00

†Note Carefully—Voltage Variation

All of the above starters are suitable only on circuits where the line voltage is never more than 10 per cent. lower or higher than the values given above.

CR-2301 and CR-2303 Self-Starters are designed for use with motor-driven pumps where it is desired to automatically start and stop the motors depending upon a predetermined change in fluid level, fluid pressure or air pressure. They are, however, well suited to start and stop motors by hand control from points remote from the motor.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Power Apparatus

Western Electric

PRINTING PRESS CONTROLLERS

Descriptive and General

Printing press dial controllers have been designed primarily for controlling printing press motors where the variation in speed is obtained by inserting resistance in the armature and the shunt field circuits. They can be used with variable speed motors driving machine tools, etc., provided one reverse point is sufficient, and it is not necessary to operate the controllers continuously in the reverse direction.



Fig. 1
Open Type Controller



Fig. 2
Enclosed Type Controller with
Cover in Position



Fig. 3
Back View of Enclosed Controller
Showing Field Resistance
Mounted on Back of Slate Panel

Open and Closed Type Controllers

Two styles of these controllers have been designed, the enclosed type and the open type. In the open type, illustrated by Figure 1, no enclosing cover is furnished and the resistance is mounted in a ventilated box, and attached directly to the slate front. In the enclosed type, illustrated by Figure 2, the slate panel and field resistance are mounted in a cast iron case.

The enclosing cover supplied with the enclosed style of controller may be easily removed for inspection and repairs without the use of tools. The connecting wires to the external circuits pass through slots in the bottom of the case. The control handle projects through a slot in the front of the case, and in this manner the enclosing cover affords complete protection to the operator.

The control arm may be left on any of the armature or field resistance points, and a notched rack is provided for centering it on any segment.

All circuits are made and broken on a contactor, thus preventing arcing on the switch contacts. The movement of the operating lever in either direction energizes the contactor, which closes the motor circuit. Should the contactor coil be de-energized either by the overload device picking up or by failure of voltage, the contactor will open and the operator must return the controller handle to the off position before the contactor can be closed.

With the controllers having a reverse point, the handle is provided with a spring which prevents the operator from leaving it on the reverse point, as the handle will return to the off position as soon as released.

The current carrying parts liable to wear, such as the starting, brake and reverse segments; the sliding brushes in the lever, and the parts of the contactor, can be easily removed from the front of the slate and renewed.

With some of the controllers dynamic braking connections are provided for bringing the motor to a quick stop. The connections are so made that, when the contactor opens, the brake resistance is automatically cut in the motor circuit.

Resistance

Each controller is furnished with separate resistances for the armature circuit, field circuit and, when required, the dynamic brake circuit.

Where the full load current of the motor does not exceed 60 amperes, the armature regulating resistance consists of CR-9000 Form P resistance units mounted in a well-ventilated sheet iron box as shown in Figure 4. The resistance is made up in one or more sections depending upon the size of the motor; the illustration showing a resistance consisting of two sections. It will be noted that the various sections are mounted upon the same supports and the resistance can be installed as a single unit. Ordinarily this resistance is placed under the press although it can be mounted upon the wall if desired.

See following page for further description.



Fig. 4
Armature Regulating Resistance

Western Electric

PRINTING PRESS CONTROLLERS (Continued)



Fig. 5
Dynamic Brake Contactor and Resistance with Enclosing Cover Removed

Resistance

With 10 and 15 H.P., 115 volt motors the full load current exceeds 60 amperes and a resistance composed of cast grid units is recommended.

The field resistance is composed of CR-9000 units and is self-contained within the controller, being mounted upon the back of the slate front as shown in Figure 3.

The dynamic brake resistance is also composed of CR-9000 units mounted in a box with a sheet iron cover as illustrated in Figure 5 with the exception of Types CR-6033 and CR-6022 in which the brake resistance is self-contained and is applied through an interlock on the line contactor. In all the other types where the dynamic brake feature is used, a separate contactor is mounted on the box referred to above. This contactor is energized by an interlock attached to the main line contactor.

CONTROLLING POINTS

The following tabulation gives the number of forward speed controlling points:

Horse Power	Voltage	Controlling Points	
		Armature	Field
CR-6001, *6013, 6020, 6021, *6032 AND *6034			
1 to 7½ incl.	115	5	15
8 to 15 incl.	115	7	17
1 to 10 incl.	230	5	15
11 to 15 incl.	230	7	17
1 to 5 incl.	550	5	15
6 to 15 incl.	550	9	9
CR-*6010			
All	115 and 230	8	None
CR-*6011			
All	115 and 230	7	7
CR-6002, *6012, 6022 AND *6033			
All	115 and 230	5	11

*Have one reverse point.

REMOTE CONTROL

Nearly all printing press controllers are adapted for remote control by means of push buttons which can be used for jogging or stopping the motor. If the operator closes the push button when the motor is not in operation, the contactor will close, completing the motor circuit through the armature regulating resistance. This will start the motor which will continue to run very slowly as long as the push button is held closed. If the push button is closed while the motor is running, the contactor coil will be de-energized, thereby opening the motor circuit and stopping the motor.

From the above, it is seen that the same push button can be used for jogging or stopping the motor. Any number of push buttons may be installed at various places about the press, each controller being furnished with two push buttons. Extra charge is made for more than two push buttons, prices of which will be found with the prices of controllers with which push buttons are used.

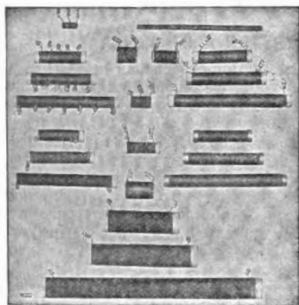
CONTROLLERS FOR SLIP RING INDUCTION MOTORS

A line of dial controllers has been developed for slip ring induction motors for use on printing presses. They are the CR-6050 type.

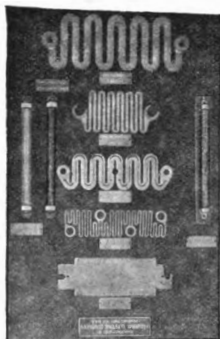
ORDERING DIRECTIONS

In placing orders for printing press controllers, the type and complete rating of the motor should be given. If the motors are other than Western Electric, it will be necessary to specify the maximum shunt field current and the amount of resistance necessary to give the desired increase in speed by field control.

CR 9000 G. E. RESISTANCE UNITS



Form P Resistance Units



Form PM Resistance Units



Form PE Resistance Units

Type P Resistance Units

In the construction of Form P resistance units, a low temperature coefficient resistance wire is wound on an asbestos tube making them non-fragile. After being wound the tube is treated with a special compound forming a coating inside and out, reinforcing the tube and imparting strength and solidity. A porcelain bushing is inserted in each end of the tube, the coating compound cementing it in place. The unit when thoroughly baked results in a very efficient unit, the coating being a good conductor of heat; this produces uniform radiation.

Form P units are extensively used in small motor starting and controlling apparatus and for armature and field resistance. They are also used as permanent resistances to protect circuit breaker coils, and as series resistance in signal work, etc. The units are mounted in punched end frames by means of porcelain bushings which insure good insulation from the frames.

Form PM units are similar to the Form P, except that metal bushings are used in place of the porcelain.

The Form PE unit is a special type of the Form P and is used extensively in connection with switchboard instruments. A special porcelain bushing is used in this type and the leads are attached on the inside of the tube. They are enclosed in perforated metal casings, to adapt them for switchboard mounting, which produces a neat appearance, and at the same time provides good ventilation and protection.

List Prices and Data Forms P and PM Resistance Units

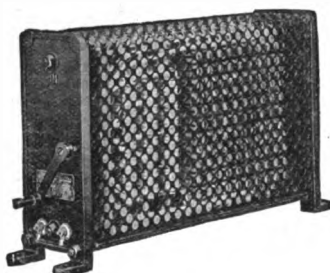
Capacity Range Ohms	Range Ampere Capacity Continuous	List Price Each
Size A. 5½ ins. long, 1 in. diameter, capacity: less than 500 ohms, 35 watts; 500 ohms and above, 20 watts.		
From 0.25 to 125	From 12 to 0.528	\$0.50
From 150 to 300	From 0.438 to 0.342	.60
From 500 to 3500	From 0.17 to 0.0625	.70
Size B. 7½ ins. long, 1 in. diameter, capacity: less than 500 ohms, 50 watts; 500 ohms and above, 15 watts.		
From 0.25 to 150	From 14 to 0.576	\$0.60
From 175 to 400	From 0.535 to 0.35	.70
From 500 to 5000	From 0.20 to 0.063	.80
Size C. 11½ ins. long, 1 in. diameter, capacity: less than 500 ohms, 80 watts; 500 ohms and above, 30 watts.		
From 0.10 to 150	From 28.2 to 0.73	\$0.80
From 200 to 450	From 0.63 to 0.421	.70
From 500 to 1800	From 0.24 to 0.12	.90
From 4800 to 5000	From 0.08 to 0.07	1.00
Size D. 11 ins. long, 2 ins. diameter, capacity 175 watts.		
From 0.25 to 450	From 26.5 to 0.62	\$1.50
Size E. 22 ins. long, 2 ins. diameter, capacity 350 watts.		
From 0.25 to 0.6	From 37 to 24	\$2.50
From 0.75 to 3.5	From 34 to 10.5	2.00
From 4 to 7.5	From 22 to 7.2	1.80
From 10 to 30	From 10 to 3.6	1.60
From 35 to 450	From 6.2 to 0.88	1.40
Size F. 7¼ ins. long, 2 ins. diameter, capacity 115 watts.		
From 0.25 to 450	From 21.4 to 0.5	\$1.20

Notes: Type Form PM units are the same as the prices of the Form P for the A, B and C sizes only.
When ordering specify exact ohms and ampere capacity desired.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

BATTERY CHARGING RHEOSTATS

DESCRIPTIVE AND GENERAL



CR-9200 Battery Charging Rheostat

For charging automobile or other small batteries from circuits not exceeding 115 volts, we recommend the new CR-9200 battery charging rheostat. In order to meet more exactly the variety of charging conditions due to the different types and number of cells used in vehicle batteries, the previous line has been expanded. The rheostat is of very rugged construction, the frame being made of two iron castings which form the ends and which are fastened together with tie rods. A perforated sheet metal enclosing cover, which is easily removable, prevents accidental contact with live parts, but at the same time provides for ample ventilation.

A dial switch is entirely enclosed.

The cover is easily removed, allowing complete inspection and access to all parts. Standard grids and Form R resistances are used. Connection may be made on inside or outside of case as desired.

Large number of contacts insures close regulation.

Can be placed on floor, wall or switchboard.

Large number of sizes standardized.

Rheostats Mfr. Nos. 134605, 134606 and 134607 have been designed for use where it is desired to charge Edison batteries above their normal rate. The resistance is so proportioned that any charging rate from double normal to normal may be obtained.

Three of the above Mfr. Nos. cover rheostats for use in public garages where it is necessary to have a rheostat which may be used with more than one type of cell.

CR-9200 Battery Charging Rheostats

List No.	Type of Cells	No. of Cells	Resistance		Charging Amperes		No. of Steps	Approx. Ship. Wt. in Lbs.	List Price
			Permanent	Total	Start	Finish			
FOR CHARGING AT NORMAL RATE ONLY									
125953	Lead	12-18	3.6	17.0	15	5	15	140	\$48.00
125954	Lead	12-18	2.75	17.0	20	6	15	140	52.00
125955	Lead	20-28	1.85	13.0	20	8	15	140	50.00
125956	Lead	20-28	1.7	9.0	25	8	15	140	52.00
125957	Lead	30-36	.46	4.0	30	10	15	180	48.00
125958	Lead	30-36	.4	4.0	40	10	15	160	48.00
125959	Lead	37-40	.345	2.6	30	10	15	170	40.00
125960	Lead	37-40	.24	2.6	40	10	15	180	42.00
125961	Lead	41-44	....	1.5	30	10	15	160	36.00
125962	Lead	41-44	....	1.5	40	10	15	160	36.00
125963	Lead	41-44	....	1.23	50	12	15	160	40.00
125964	Lead	41-44	....	1.0	60	15	14	160	40.00
125965	Edison A- 4	20-40	.8	2.8	30	30	15	170	42.00
125966	Edison A- 4	44-60	....	1.7	30	30	15	150	38.00
125967	Edison A- 6	20-40	.64	2.0	45	45	15	170	40.00
125968	Edison A- 6	44-60	....	1.2	45	45	15	160	36.00
125969	Edison A- 8	20-32	.63	1.4	60	60	14	180	50.00
125970	Edison A- 8	36-44	.44	1.0	60	60	14	170	42.00
125971	Edison A- 8	48-60	....	.72	60	60	14	160	40.00
127052	Edison A-10	20-32	.60	1.17	75	75	10	180	64.00
127053	Edison A-10	36-44	.36	.81	75	75	10	180	56.00
127054	Edison A-10	48-60	....	.60	75	75	10	170	50.00
127055	Edison A-12	20-32	.50	.96	90	90	10	185	64.00
127056	Edison A-12	36-44	....	.68	90	90	10	180	58.00
127057	Edison A-12	48-60	....	.48	90	90	10	170	54.00

FOR CHARGING AT EITHER NORMAL OR DOUBLE NORMAL RATE

Private Garage

134605	Edison A-4	60	....	.56	60	30	14	150	\$38.00
134606	Edison A-6	60	....	.34	90	45	14	175	33.00
134607	Edison A-8	60	....	.26	120	60	10	175	54.00
157718	Edison A-10	60	....	.28	150	75	14	180	68.00
157719	Edison A-12	60	....	.255	180	90	15	180	72.00

Public Garage

157720	Edison A-4, 6, 8, 10, 12	60	....	.535	180	30	16	190	\$72.00
134611	Edison A-4, 6, 8	60	....	.63	120	30	10	200	60.00
149937	Edison A-8-10, 12	60	....	.265	180	60	10	180	62.00
157721	Edison A-10, 12	60	....	.235	180	75	15	180	76.00

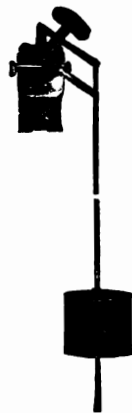
The rheostats listed above are for use on circuits up to 115 volts maximum.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric FLOAT SWITCHES



Single Pole Float—Open Type



Totally Enclosed Float Switch with
Cover in Place

CR-2930 Single Pole Float Switch

CR-2930 single pole float switches are used for remote control of automatic starting rheostats or panels together with the usual accessories, namely, float, chain pulleys and counterweight, for the automatic starting and stopping of motors when it is desired to maintain a predetermined water level on an open tank or reservoir system. The switch contacts are designed for handling pilot circuits for self-starters, or for controlling the main line circuits of small motors where the current does not exceed the values given in the table below.

List No.	Description	Amperes Capacity (A.C. or D.C.)	Wgt. Lbs.	List Price
58971	Single pole	$\left\{ \begin{array}{l} 15 \text{ at } 110/125 \text{ Volts} \\ 10 \text{ at } 220/250 \text{ Volts} \\ 5 \text{ at } 500/550 \text{ Volts} \end{array} \right\}$	20	\$9.00

Accessories for Use with the Above Float Switches

List No.	Description	List Price
58973	1 copper cylindrical float; 2 pulleys; 15 feet brass chain; 1 counterweight.....	\$9.00
These switches are not recommended for use where the freezing of the water in the tank will interfere with their operation. In this case a CR-2920 pressure governor should be installed.		

CR-2931 Totally Enclosed Float Switches

For Use as Either Tank or Sump Switches

CR-2931 enclosed switches are weatherproof and are suitable for tank or sump switches, in the case of the latter, it only being necessary to change the lever or the float from the right to the left side of the switch.

The switches are enclosed in a cast iron case arranged for 1 1/4 inch conduit which enters at the top. The lower half of the case is removable for making connections and inspection.

All sizes are suitable for 30 amperes, either alternating or direct current, up to 550 volts, when connected in a motor circuit and are also suitable for all control circuits.

To eliminate all arcing and burning of the contacts, the switch is arranged for quick breaking. This snap action is accomplished by means of a counterweight.

List No.	Form	No. of Poles	Wgt. Lbs.	List Price	List No.	Form	No. of Poles	Wgt. Lbs.	List Price
141636	A	S.P.	40	\$26.00	141644	C	S.P.	75	\$32.00
141637	A	D.P.	40	28.00	141645	C	D.P.	75	35.00
141638	A	T.P.	65	36.00	141646	C	T.P.	100	39.00
141639	A	4P.	65	40.00	141647	C	4P.	100	44.00
141640	B	S.P.	75	31.00	141648	D	S.P.	65	*32.00
141641	B	D.P.	75	33.00	141649	D	D.P.	65	*36.00
141642	B	T.P.	100	39.00	141650	D	T.P.	90	*44.00
141643	B	4P.	100	44.00	141651	D	4P.	90	*50.00

Form A is for clamping to the inside top edge of the tank and is operated by a rod and float. Range, 10 inches to 2 feet.

Form B is for bolting to tank cover and requires a guide in the cover for the operating rod. Range, 10 inches to 3 1/4 feet.

Form C is the same as Form B except that no guide is required in the tank cover. Range, 10 inches to 3 1/4 feet.

Form D is for bolting to tank cover and is operated by a chain and float, thus being suitable for any depth of tank or variation in water level not less than 10 inches.

Length of chain should be specified on all orders.

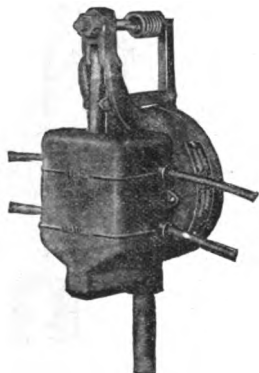
Motors of 1/4 H.P. and less, 115 and 230 volts, can be thrown directly on the line by means of float switch, pressure governor or knife switch.

*Prices for Form D switches include 15 feet brass chain. If more than this amount is required add \$0.20 for each additional foot.

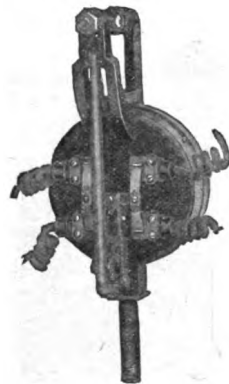
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

DIAPHRAGM PRESSURE AND VACUUM SWITCHES



CR 2925 Pressure Switch with
Metal Cover



CR 2925 Pressure Switch with
Cover Removed

Pressure and Vacuum Switches

The diaphragm pressure and vacuum switches are designed for the automatic control of electric motors which drive pumps for hydraulic or pneumatic water and vacuum systems. They are positive in operation and will open and close at a predetermined pressure with no danger of the contacts sticking or "freezing."

The bottom of a cup or pan-shaped body casting is closed by a flexible phosphor-bronze diaphragm. The switch mechanism is mounted on top of this casting. As the position of the diaphragm is varied by the internal pressure, its motion is communicated to the switch mechanism which in turn causes the switch contacts to open and close when certain ranges of movement of the diaphragm are reached.

The switch is of double-pole, quick-break construction and the current-carrying parts are exceptionally rugged and are capable of heavy overloads. The normal rating is 20 amperes at 110 volts and 10 amperes, 220 volts, either alternating or direct current.

Connecting cables are secured directly to stationary contacts eliminating the necessity of flexible connection to movable parts of the switch.

The pressure switch is supported by the $\frac{3}{8}$ inch supply pipe, requiring no other bracket or support.

The vacuum switch is provided with 3 feet for wall mounting.

Both the pressure and vacuum switches can be provided with either glass or metal covers.

The range of adjustment of each switch is given in the tabulation shown below. These valves are secured by tightening or loosening the spring.

Either glass or metal covers are furnished for all switches, vacuum or pressure. The Mfr. Nos. cover switches with metal covers. If a glass cover is required the order should read as follows—one CR 2925 (state vacuum or pressure) switch similar to Mfr. No. (give No.) except with glass cover.

SALIENT FEATURES

A phosphor-bronze diaphragm is used which is practically indestructible.

The current-carrying parts of the double-pole switch are entirely insulated from the mechanism.

The quick-break feature insures absolute rupture of all arcs.

Switch mechanism is positive in its action and will not vary with operating pressure.

Auxiliary contacts prevent switch contacts from burning.

Switching mechanism is totally enclosed.

These switches occupy a comparatively small space and weigh very little.

List No.	*Rating	Standard Adjustment		Range of Adjustment				Ap- prox. Shpg. Wt.	List Price Each
				Minimum		Maximum			
		Closes	Opens	Closes	Opens	Closes	Opens		
99817	Low pressure.....	15 lbs.	30 lbs.	5 lbs.	20 lbs.	25 lbs.	40 lbs.	35	\$28.00
99818	Medium pressure.....	35 lbs.	50 lbs.	20 lbs.	35 lbs.	70 lbs.	85 lbs.	35	28.00
190381	Medium pressure.....	30 lbs.	50 lbs.	20 lbs.	40 lbs.	65 lbs.	85 lbs.	35	28.00
99819	High pressure.....	90 lbs.	110 lbs.	70 lbs.	90 lbs.	110 lbs.	130 lbs.	35	28.00
190382	Vacuum (15 ins. of mercury).....	5 ins.	15 ins.	5 ins.	15 ins.	20 ins.	30 ins.	35	35.00

*These switches are capable of handling 20 amperes at 110 volts, or 10 amperes at 220 volts, on either alternating or direct current circuits.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric

FIELD RHEOSTATS

For Direct Current Generators

CR-8000 AND CR-8001 D.C. FIELD RHEOSTATS

For Front and Back of the Board Mounting

Plate Type—Hand-Operated

CONSTRUCTION

In the construction of CR-8000 and CR-8001 field rheostats resistance coils of negligible temperature co-efficient are imbedded and held in place in a special cement, which is a particularly good heat conductor and electric insulator. As shown by Figure 1, the contact buttons are circular and are spaced a sufficient distance apart to prevent dirt or dust from accumulating and short circuiting them.



Fig. 1
CR-8000 Field Rheostats for Mounting in Front of Switchboard Panel

HANDWHEELS

In order to conform to the present standard switchboard practice, that is, of having instruments and fittings on the front of the board of a black finish, the standard handwheels supplied with these rheostats are of a highly polished black material, thereby adding greatly to the appearance of the rheostats, as well as furnishing a pleasing effect when mounted on the switchboard panel.

A polished brass handwheel can be supplied if necessary.

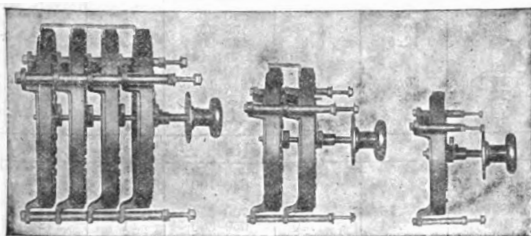


Fig. 2
CR-8001 Field Rheostats for Mounting on Back of Switchboard Panel

DRILLING TEMPLATES

In order to facilitate the drilling of switchboard panels on which these rheostats are to be mounted, drilling templates are always forwarded with the rheostats when they are shipped.

RESISTANCE

The resistance material used in field rheostats is an alloy which has a negligible temperature co-efficient, and which will not disintegrate under constant use. Hence the rheostats maintain constant resistance when in service. Attention is called to the large number of divisions of resistance in this line of field rheostats. It will be noted that the 10-inch plates have 35 divisions of resistance, the 12-inch plates have 50 divisions of resistance, and the 15-inch plates have 70 divisions of resistance. The advantages obtained by having a large number of divisions of resistance are evident, that is, the operator can maintain a very even generator voltage or accurately adjust the speed of motors when the rheostats are used for this purpose.

See following page for prices.

D.C. FIELD RHEOSTATS

(CONTINUED)

For Direct Current Generators
CR-8000 AND CR-8001 D.C. FIELD RHEOSTATS

List No.		Ohms	Ampere Capacity		Ohms of Field to which Rheostat is Suited	No. of Plates in Multiple	Diameter of Plates in Inches	List Price	
CR-8000 Front of Panel	CR-8001 Back of Panel		First Step	Last Step				CR-8000 Front of Panel	CR-8001 Back of Panel
125 Volts									
43576	43577	300	.5	.25	300-250	1	10	\$7.50	\$10.00
43578	43579	240	.63	.32	250-200	1	10	7.50	10.00
43580	43581	200	.75	.38	200-165	1	10	7.50	10.00
43582	43583	150	1	.5	165-125	1	10	7.50	10.00
43584	43585	120	1.25	.63	125-100	1	10	7.50	10.00
43586	43587	100	1.5	.75	100-80	1	10	7.50	10.00
43588	43589	75	2	1	80-60	1	10	7.50	10.00
43590	43591	60	2.5	1.25	60-50	1	10	7.50	10.00
43592	43593	50	3	1.5	50-40	1	10	7.50	10.00
43594	43595	37.5	4	2	40-30	1	10	7.50	10.00
43596	43597	30	5	2.5	30-25	1	12	10.00	12.50
43598	43599	25	6	3	25-20	1	12	10.00	12.50
43600	43601	18.8	8	4	20-16	1	12	10.00	12.50
43602	43603	15	10	5	16-13	1	15	13.00	15.50
64636	64637	12.5	12.5	6.3	13-10	2	12	20.00	22.50
43606	43607	9.4	16	8	10-8	2	12	20.00	22.50
43608	43609	7.5	20	10	8-6.5	2	15	24.00	26.50
64638	64639	6.3	25	12.5	6.5-6	3	15	36.00	38.50
43612	43613	5	30	15	5-4.2	3	15	36.00	38.50
43614	43615	3.75	40	20	4.2-3.1	4	15	48.00	50.50
43616	43617	3	50	25	3.1-2.5	5	15	60.00	62.50
43618	43619	2.5	60	30	2.5-2.1	6	15	72.00	74.50
250 Volts									
43620	43621	300	1	.5	300-250	1	10	\$7.50	\$10.00
43622	43623	240	1.25	.63	250-200	1	10	7.50	10.00
43624	43625	200	1.5	.75	200-165	1	10	7.50	10.00
43626	43627	150	2	1	165-125	1	10	7.50	10.00
43628	43629	120	2.5	1.25	125-100	1	12	10.00	12.50
43630	43631	100	3	1.5	100-85	1	12	10.00	12.50
43632	43633	75	4	2	85-63	1	12	10.00	12.50
43634	43635	60	5	2.5	63-50	1	15	13.00	15.50
43636	43637	48	6.3	3.2	50-40	1	15	13.00	15.50
43638	43639	37.5	8	4	40-30	2	12	20.00	22.50
43640	43641	30	10	5	30-25	2	15	24.00	26.50
43642	43643	25	12.5	6.3	25-20	2	15	24.00	26.50
43644	43645	20	15	7.5	20-16.5	3	15	36.00	38.50
43646	43647	15	20	10	16.5-12.5	4	15	48.00	50.50
43648	43649	12	25	12.5	12.5-10	5	15	60.00	62.50
43650	43651	10	30	15	10-8.3	6	15	72.00	74.50
550 Volts									
49144	49145	2000	.6	.3	1000-830	1	15	\$13.00	\$15.50
49146	49147	1600	.7	.35	830-700	1	15	13.00	15.50
49148	49149	1300	.76	.38	700-650	1	15	13.00	15.50
49150	49151	1000	.84	.40	650-600	1	12	10.00	12.50
49152	49153	800	.9	.45	600-550	1	12	10.00	12.50
43652	43653	600	1	.5	550-500	1	10	7.50	10.00
43654	43655	480	1.25	.63	500-400	1	10	7.50	10.00
43656	43657	400	1.5	.75	400-330	1	12	10.00	12.50
43658	43659	300	2	1	330-250	1	12	10.00	12.50
43660	43661	250	2.5	1.25	250-200	1	15	13.00	15.50
43662	43663	200	3	1.5	200-165	1	15	13.00	15.50
43664	43665	150	4	2	165-125	2	12	20.00	22.50
43666	43667	125	5	2.5	125-100	2	15	24.00	26.50
43668	43669	100	6	3	100-85	2	15	24.00	26.50
43670	43671	82	7.5	3.8	85-65	3	15	36.00	38.50
43672	43673	60	10	5	65-50	4	15	48.00	50.50
43674	43675	50	12.5	6.3	50-40	5	15	60.00	62.50
43676	43677	40	15	7.5	40-35	6	15	72.00	74.50

The above prices cover rheostats with black polished handwheel.

A polished cast brass handwheel (List No. 59286) can be furnished with CR-8001 back of panel field rheostats instead of the polished black handwheel, at an additional list price of \$8.00.

ORDERING DIRECTIONS

Rheostats should be ordered by List No. If front of the board mounting is wanted, call for CR-8000. If back of the board mounting is wanted, call for CR-8001.

Delivery F. O. B. Factory, Schenectady, N. Y.

For warehouse deliveries write nearest house.

Power Apparatus

C-H. MOTOR STARTERS

**FOR ALTERNATING CURRENT
MOTORS**

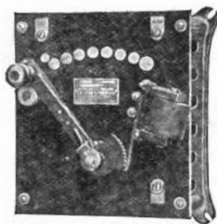
No. 9110

The motor starting rheostat listed is designed for use with single phase self-starting motors operating on either a 110 volt circuit of 60 or 133 cycles, or on a 220 volt circuit of the same frequencies.

The resistance used is of the ventilated tubular type, and is so arranged as to eliminate the effect of inductance and consequently to provide the highest possible power factor obtainable in starters of this type.



**No. 9110 A. C. Single Phase
Motor Starter**



**No. 3110 Speed Regulator,
No-Voltage Release**

A.C. Single Phase Motor Starters

Without Automatic No-Voltage Release No. 9110

H.P.	For 25 and 60 Cycle			For 133 Cycle				
	110 Volts List Price	Style	220 Volts List Price	Style	110 Volts List Price	Style	220 Volts List Price	Style
1	\$6.60	A	\$6.60	A	\$7.70	A	\$7.70	A
2	7.70	A	7.70	A	13.20	B	7.70	A
3	14.30	B	7.70	A	14.30	B	14.30	B
4	14.30	B	14.30	B	15.40	C	14.30	B
5	15.40	B	14.30	B	23.10	C	15.40	B
7½	23.10	C	15.40	B	25.30	C	17.60	B
10	25.30	C	17.60	B	26.40	C	24.20	C
12½	26.40	C	24.20	C	41.80	D	25.30	C
15	41.80	D	26.40	C	41.80	D	35.20	CD
20	41.80	D	35.20	CD	81.40	MS	35.20	CD
25	79.20	MS	35.20	CD	81.40	MS	41.80	D
30	81.40	MS	41.80	D	.....	.....	.....	.....
35	81.40	MS	41.80	D	.....	.....	.....	.....
40	.....	.....	44.00	D	.....	.....	.....	.....

On 25 and 60 cycle starters only the no-voltage release feature can be supplied at the following prices:

Type A.....	\$6.60 list	Type CD.....	\$8.80 list
Type B.....	6.60 list	Type D.....	13.20 list
Type C.....	8.80 list	Type MS.....	22.00 list

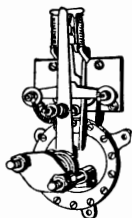
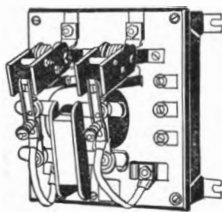
Prices will be quoted on application for Starters for 440-550 volts.

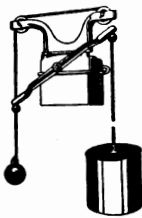
D.C. Motor Speed Regulators, with No Voltage Release

No. 3110

H.P.	115 Volts		230 Volts		500 Volts	
	Ventilating Fan Type List Price	Machine Type List Price	Ventilating Fan Type List Price	Machine Type List Price	Ventilating Fan Type List Price	Machine Type List Price
1½	\$11.00	\$11.00	\$11.00	\$11.00	\$12.10	\$12.10
2	12.10	12.10	12.10	12.10	13.20	13.20
3	14.30	19.80	14.30	19.80	14.30	19.80
5	22.00	27.50	22.00	27.50	22.00	27.50
7½	27.50	33.00	27.50	33.00	27.50	33.00
10	41.80	44.00	41.80	55.00	55.00	55.00
15	55.00	55.00	55.00	68.20	66.00	68.20
20	71.50	71.50	71.50	71.50	82.50	93.50
25	99.00	99.00	88.00	88.00	110.00	121.00
30	115.50	126.50	99.00	110.00	121.00	132.00
35	148.50	148.50	143.00	143.00	143.00	143.00
40	165.00	165.00	154.00	154.00	154.00	154.00
50	198.00	.....	198.00	198.00	198.00	198.00
.....	.....	.....	220.00	220.00	220.00	220.00
.....	.....	.....	275.00	275.00	275.00	275.00

Delivery F. O. B. Factory, Milwaukee, Wis. For warehouse deliveries write nearest house.

C-H. MOTOR STARTERS AND FLOAT SWITCHES
 FOR ALTERNATING CURRENT MOTORS

 No. 10003
 Diaphragm Pressure Regulator

 No. 9600
 Self- Starter

 No. 10010
 Gauge Type Pressure Regulator

 No. 10035
 Enclosed Float Switch Type 1

No. 9600 Self- Starter
Across the Line Type Self- Starter

 FOR SINGLE PHASE SELF-STARTING OR POLYPHASE SQUIRREL CAGE MOTORS
 25 to 60 Cycles

H.P.	Volts 110	Volts 220	Volts 440	Volts 550	Lb. Boxed
1	\$26.40	\$26.40	\$33.00	\$33.00	25
2	26.40	26.40	33.00	33.00	25
3	33.00	33.00	39.60	39.60	30
4	39.60	39.60	39.60	39.60	30
5	39.60	39.60	39.60	39.60	30
7½	55.00	39.60	39.60	39.60	30
10	55.00	55.00	55.00	55.00	40
15	88.00	55.00	55.00	55.00	40

NOTE: The prices and weights given above do not include control apparatus.

 All of the self-starters listed above are equipped with magnetic blowouts with the following exceptions:
 110 volts 1 to 3 H.P. 440 volts 1 and 2 H.P.
 220 volts 1 to 3 H.P. 550 volts 1 and 2 H.P.

Diaphragm Type Pressure Regulators

NO. 10003

Type		Lbs.	List Price
A	Pressure range lbs. per sq. in. 10-75	30	\$27.50
B	Pressure range lbs. per sq. inch 10-95	30	27.50

Gauge Type Pressure Regulator

List No.		Lbs.	List Price
10010	Gauge type pressure regulator	11	\$44.00

C-H. Float Switches
TWO, THREE, OR FOUR-POLE—FOR SMALL MOTOR SERVICE

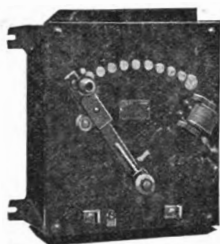
For single phase self-starting motors and Polyphase Squirrel Cage motors which may be thrown directly across the line to start.

Circuit	No. of Poles	Rated Capacity	Fig. 1	Fig. 2	Fig. 3	Fig. 4	Fig. 5
Single Phase	2	5 H.P., 110 V.					
		5 H.P., 220 V.					
		5 H.P., 440 V.	\$24.20	\$26.40	\$27.50	\$35.20	\$25.30
		5 H.P., 550 V.					
Three Phase or 2 Phase 3 Wire	3	5 H.P., 110 V.					
		7½ H.P., 220 V.					
		7½ H.P., 440 V.	\$36.30	\$38.50	\$39.60	\$47.30	\$37.40
		7½ H.P., 550 V.					
2 Phase 4 Wire	4	5 H.P., 110 V.					
		7½ H.P., 220 V.					
		7½ H.P., 440 V.	\$39.60	\$41.80	\$42.90	\$50.60	\$40.70
		7½ H.P., 550 V.					

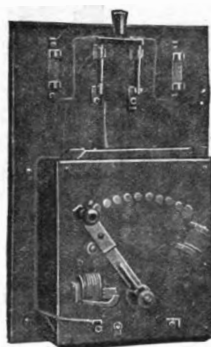
Delivery F. O. B. Milwaukee, Wis. Delivery F. O. B. New York, N. Y. For warehouse deliveries write nearest house.

Power Apparatus

C-H. MOTOR STARTERS FOR DIRECT CURRENT MOTORS



No. 2110—Starting Rheostat,
No-Voltage Release



No. 2150—Universal Motor Starter
No-Voltage and Overload Release

D.C. Motor Starting Rheostats, with No-Voltage Release

No. 2110

H.P.	115 Volts	230 Volts	500 Volts	H.P.	115 Volts	230 Volts	500 Volts
$\frac{1}{4}$	\$5.06	\$5.06	\$5.40	10	\$24.54	\$15.30	\$15.30
$\frac{1}{2}$	5.06	5.06	5.50	15	25.74	16.50	16.28
1	6.28	6.50	6.82	20	28.70	28.60	21.46
2	6.50	6.50	6.82	25	46.76	32.46	35.64
3	7.16	7.26	7.04	30	46.76	32.46	35.64
4	12.10	7.26	7.38	35	46.76	38.50	35.86
5	12.10	7.26	7.38	40	.....	40.70	35.86
$7\frac{1}{2}$	13.10	13.10	13.20	50	.....	46.20	44.66

D.C. Overload Release Motor Starter

No. 2140

This motor starter is equipped with an underload release similar to Bulletin No. 2110 and also has an overload release.

H.P.	115 Volts	230 Volts	500 Volts	H.P.	115 Volts	230 Volts	500 Volts
$\frac{1}{4}$ -2	\$11.00	\$11.00	\$12.10	20	\$33.00	\$34.80	\$27.50
3	13.20	13.20	12.10	25	52.80	41.80	41.80
4	17.60	13.20	13.20	30	52.80	41.80	44.00
5	17.60	13.20	13.20	35	52.80	44.00	46.20
$7\frac{1}{2}$	19.80	18.70	19.80	40	.....	50.60	52.80
10	28.60	22.00	22.00	50	.....	52.80	57.20
15	30.80	24.20	24.20				

The overload movement can be set for any flow of current or degree of overload not exceeding 50 per cent. above the rated capacity of the motor, by means of the accurately calibrated scale. This scale can also be used to determine the amount of current being consumed by the motor.

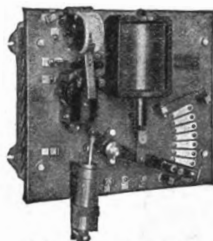
D.C. Universal Motor Starters

No. 2150

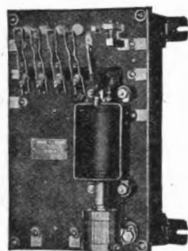
Includes knife switch and fuses, overload and current indicator and magnetic release, every necessary device for the complete installation of a motor.

H.P.	115 Volts	230 Volts	500 Volts	H.P.	115 Volts	230 Volts	500 Volts
$\frac{1}{4}$ -2	\$22.00	\$22.00	($\frac{1}{4}$ -1) \$22.00 (1-2) 24.20	20	\$79.20	\$63.80	\$46.20
3	24.20	22.00	24.20	25	112.20	74.80	71.50
5	34.80	26.40	26.40	30	112.20	79.20	71.50
$7\frac{1}{2}$	38.50	34.80	34.80	35	112.20	81.40	71.50
10	57.20	39.60	39.60	40	.....	101.20	79.20
15	66.00	44.00	41.80	50	.....	112.20	93.50

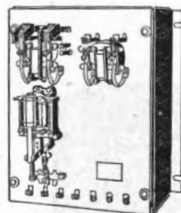
Delivery F. O. B. Factory, Milwaukee, Wis. For warehouse deliveries write nearest house.

C-H. MOTOR STARTERS
FOR DIRECT CURRENT MOTORS


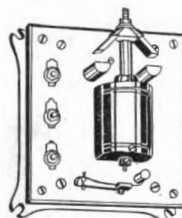
No. 6140 Self-starter



No. 6105 Self-starter



No. 9605 A. C. Self-starter



No. 6190 Self-starter

Time Limit Type Self-starters

No. 6140

H.P.	115 Volts	230 Volts	500 Volts	H.P.	115 Volts	230 Volts	500 Volts
	List Price Each	List Price Each	List Price Each		List Price Each	List Price Each	List Price Each
1/2	\$72.60	\$70.40	\$77.00	5	\$79.20	\$77.00	\$81.40
1	72.60	70.40	77.00	7 1/2	93.50	96.80	96.80
1 1/2	72.60	71.50	77.00	10	99.00	99.00	104.50
2	72.60	71.50	77.00	15	110.00	104.50	110.00
3	74.80	72.60	77.00	20	.....	121.00	121.00
4	77.00	77.00	77.00				

Time Limit Type Self-starters

Without Knife Switch or Fuse—No. 6105

H.P.	115 Volts	Wt., Boxed	230 Volts	Wt., Boxed	500 Volts	Wt., Boxed
	List Price Each		List Price Each		List Price Each	
1	\$31.90	35	\$31.90	35	\$40.70	40
2	33.00	35	33.00	35	41.80	40
3	35.20	40	35.20	45	42.90	50
4	69.30	130	40.70	45	48.40	50
5	69.30	130	41.80	45	49.50	50
7 1/2	72.60	135	73.70	145	75.90	145
10	75.90	135	75.90	145	81.40	145
15	.....	...	78.10	145	85.80	145

Primary Resistance Type Self-starters

NO. 9605—25 TO 60 CYCLES—FOR POLYPHASE MOTORS

H.P.	Volts	Lbs.	Volts	Lbs.	Volts	Lbs.	Volts	Lbs.
	110	Boxed	220	Boxed	440	Boxed	550	Boxed
5	\$145.20	175	\$160.60	225	\$151.80	175	\$151.80	175
7 1/2	145.20	175	160.60	200	154.00	175	154.00	175
10	169.40	200	162.80	200	165.00	175	165.00	175
15	244.20	300	176.00	200	165.00	225	167.20	175
20	250.80	325	180.40	225	184.80	225	195.80	250
25	255.20	350	184.80	250	184.80	225	195.80	225
30	.....	...	250.80	350	191.40	275	191.40	275

FOR SINGLE PHASE SELF-STARTING MOTORS

5	\$147.40	175	\$147.40	200	\$147.40	175	\$147.40	175
7 1/2	167.20	200	151.80	200	151.80	175	151.80	175
10	242.00	300	151.80	200	158.40	225	158.40	175
15	246.40	300	176.00	200	160.60	200	160.60	225
20	.....	...	180.40	225	184.80	225	184.80	225
25	.....	...	253.00	325	187.00	225	184.80	225
30	.....	...	257.40	350	193.60	250	187.00	225

COUNTER E-M-F TYPE SELF-STARTERS

NO. 6190

H.P.	115 Volts	Lbs. Boxed	230 Volts	Lbs. Boxed
1/4	\$15.40	20	\$15.40	20
1/2	15.40	20	15.40	20
3/4	15.40	20	15.40	20

These starters cannot be furnished for 500 volt services.

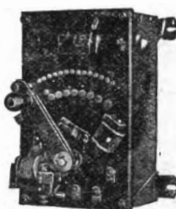
Delivery: F. O. B. Factory, Milwaukee, Wis. For warehouse deliveries write nearest house.

Power Apparatus

C-H. SPEED CONTROLLERS
FOR DIRECT CURRENT MOTORS



No. 3140
Overload Speed Regulator



No. 2230. Compound Starting
and Regulating Rheostat

Motor Speed Regulators

C-H. Bulletin No. 3140

WITH NO VOLTAGE AND OVERLOAD RELEASE

H.P.	120 Volts		220 Volts		500 Volts	
	Ventilating Fan Type List Price	Machine Type List Price	Ventilating Fan Type List Price	Machine Type List Price	Ventilating Fan Type List Price	Machine Type List Price
1/4	\$17.60	\$17.60	\$17.60	\$17.60	\$18.70	\$18.70
1/2	18.70	18.70	18.70	18.70	19.80	19.80
1	20.90	26.40	20.90	26.40	20.90	26.40
2	28.60	34.10	28.60	34.10	28.60	34.10
3	34.10	39.60	34.10	39.60	34.10	39.60
5	48.40	52.80	48.40	63.80	61.60	63.80
7 1/2	63.80	63.80	63.80	77.00	74.80	77.00
10	80.30	80.30	80.30	80.30	91.30	102.30
15	110.00	110.00	99.00	99.00	123.20	134.20
20	130.90	141.90	114.40	125.40	136.40	147.40
25	163.90	163.90	158.40	158.40	158.40	158.40
30	187.00	187.00	176.00	176.00	176.00	176.00
35	220.00	.....	220.00	220.00	220.00	220.00
40	.....	.....	242.00	242.00	242.00	242.00
50	.....	.....	308.00	308.00	308.00	308.00

All speed regulators above 5 H.P. 110 volts, 10 H.P. 220 volts, and 15 H.P. 500 volts are equipped with renewable segments.

Compound Motor Starters

WITH NO VOLTAGE RELEASE

C-H. Bulletin 2230

H.P.	Summation Watts	115 Volts List Price	230 Volts List Price	500 Volts List Price
1/4-2	160	\$20.90	\$20.90	\$20.90
3	240	22.00	22.00	26.40
4	240	26.40	22.00	26.40
5	240	26.40	22.00	26.40
7 1/2	400	28.60	28.60	33.00
10	400	41.80	34.10	38.50
15	400	48.40	37.40	39.60
20	640	50.60	50.60	50.60
25	640	92.40	57.20	57.20
30	640	92.40	60.50	60.50
35	640	110.00	66.00	66.00
40	800	.....	99.00	99.00
50	800	.....	121.00	121.00

Add \$2.20 list to the above prices for each 100 "Summation watts" or fraction thereof, which must be ~~displaced~~ in excess of the values given in the above table.

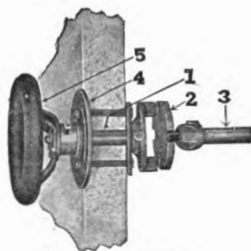
Add \$2.20 list to the above for each 1000 ohms, or fraction thereof, of field resistance required in excess of 2000 ohms.

Delivery F. O. B. Factory, Milwaukee, Wis. For warehouse deliveries write nearest house.

FIELD RHEOSTATS FOR DIRECT OR ALTERNATING CURRENT GENERATORS AND MOTORS



Bulletin No. 11110 Regulator

Copper Hand Wheel
Bulletin No. 11110Composition Hand
Wheel Bulletin No. 11110

C-H. Field Rheostats 125-160 Volts—Bulletin No. 11110

Amperes		Total Ohms of Rheostat	Minimum Ohms of Field	No. and Size of Plates	Front of Board Convertible Type	
Maximum	Minimum				List No.	List Price
Resistance of Rheostat Equal to Resistance of Field						
.8	.4	200	200	1- 6 in.	11020	\$3.52
1.0	.5	160	160	1- 6 in.	11021	3.52
1.25	.64	125	125	1- 6 in.	11022	3.52
1.6	.8	100	100	1- 6 in.	11023	3.52
2.0	1.0	80	80	1- 6 in.	11024	3.52
.5	.25	320	320	1- 9 in.	11025	6.06
.64	.32	250	250	1- 9 in.	11026	6.06
.8	.4	200	200	1- 9 in.	11027	6.06
1.0	.5	160	160	1- 9 in.	11028	6.06
1.25	.64	125	125	1- 9 in.	11029	6.06
1.6	.8	100	100	1- 9 in.	11030	6.06
2.0	1.0	80	80	1- 9 in.	11031	6.06
2.5	1.25	64	64	1- 9 in.	11032	6.06
3.2	1.6	50	50	1- 9 in.	11033	6.06
4.0	2.0	40	40	1- 9 in.	11034	6.06
5.0	2.5	32	32	1-12 in.	11035	8.14
6.4	3.2	25	25	1-12 in.	11036	8.14
8.0	4.0	20	20	1-12 in.	11037	8.14
10.	5.0	16	16	1-15 in.	11038	10.58
12.5	6.3	12.5	12.5	1-15 in.	11039	10.58
16	8.0	10	10	2-15 in.	11040	24.20
20	10	8	8	2-15 in.	11041	24.20
25	12.5	6.4	6.4	3-15 in.	11042	35.20
30	15	5	5	3-15 in.	11043	35.20
40	20	4	4	4-15 in.	11044	47.30
50	25	3.2	3.2	5-15 in.	11045	59.40
60	30	2.5	2.5	6-15 in.	11046	72.60

250-320 Volts

1.0	.5	320	320	1- 9 in.	12000	\$6.06
1.25	.64	250	250	1- 9 in.	12001	6.06
1.6	.8	200	200	1- 9 in.	12002	6.06
2.0	1.0	160	160	1- 9 in.	12003	6.06
2.5	1.25	125	125	1-12 in.	12004	8.14
3.2	1.6	100	100	1-12 in.	12005	8.14
4.0	2.0	80	80	1-12 in.	12006	8.14
5.0	2.5	64	64	1-15 in.	12007	10.58
6.0	3.0	50	50	1-15 in.	12008	10.58
8.0	4.0	40	40	2-15 in.	12009	24.20
10	5.0	32	32	2-15 in.	12010	24.20
12.5	6.4	25	25	3-15 in.	12011	35.20
15	7.5	20	20	3-15 in.	12012	35.20
20	10	16	16	4-15 in.	12013	47.30
25	12.5	12.5	12.5	5-15 in.	12014	59.40
30	15	10	10	6-15 in.	12015	72.60

Delivery F. O. B. Factory, Milwaukee, Wis. For warehouse delivery write nearest house.
 Power Apparatus

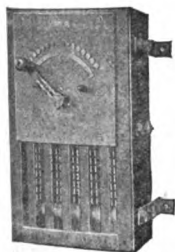
BATTERY CHARGING RHEOSTATS

C-H. Battery Charging Rheostats

The Battery Charging Rheostats illustrated are designed to meet every ordinary requirement of battery charging service.

To meet various requirements of installation several distinct types of battery charging rheostats are listed. Type A is designed for wall mounting, or for mounting on front of switchboard. Type B designed for back of switchboard mounting. Types C and E are intended for use in public garages or wherever it is necessary to assemble a number of rheostats in a bank so as to occupy the least possible space.

Types E and F are designed to meet the demand for a high grade Battery Charging Rheostat, handsome in appearance and provided with protective devices that will insure the battery against damage due to abnormal current conditions or carelessness on the part of the operator.



Type A



Type B



Type C

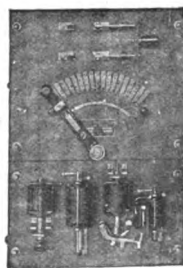


Type D

For prices see following page.



Type E



Type F

BATTERY CHARGING RHEOSTATS

No. 11410

C-H. Battery Charging Rheostats (Continued)

For Individual Vehicle Charging Installation

Electrical Data and List Prices

The electrical data given below is based on the assumption that the line potential does not exceed 115 volts. If the potential is higher than this the voltage should be stated, as in such cases the conditions will call for a special rheostat.

In ordering from this list it is necessary to state both List No. of rheostat desired and specify type of rheostat as well, since each of the twenty-six List Nos. comprises five different types—A, B, C, E and F. Do not use the List No. alone, therefore, but place after it the letter indicating type of rheostat required, thus: 115A, or 330C, or 460E, etc.

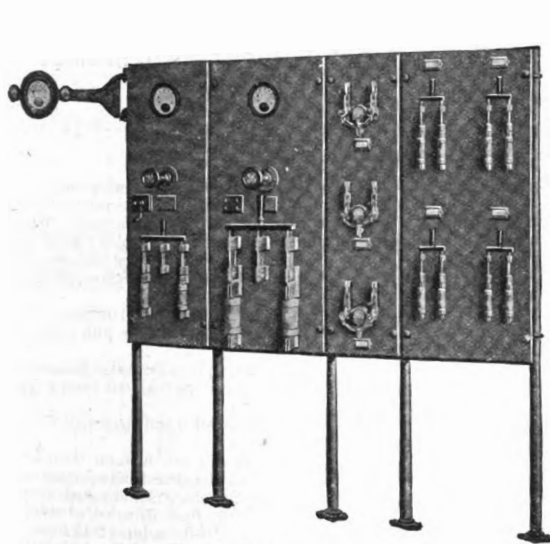
List No.	No. of Cells in Series	Amperes		Resistance in Ohms	No. of Steps	List Prices				
		Max.	Min.			Type A	Type B	Type C	Type E	Type F
115	12-18	15	5	17.0	13	\$49.50	\$56.10	\$50.60	\$193.90	\$108.90
120	12-18	20	5	17.0	13	59.40	66.00	61.60	211.20	124.30
*121	12-28	20	5	17.0	16	60.50	67.10	62.70	231.00	143.00
125	12-18	25	8	10.5	13	63.80	69.30	64.90	214.50	128.70
130	12-18	30	10	8.5	13	68.20	74.80	71.50	221.10	129.80
*160	1-44	10	6	17.0	25	95.70	102.30	97.90	259.60	171.60
	12-44	20	5							
	30-44	30	10							
	36-44	40	10							
	40-44	60	10							
220	20-28	20	5	13.0	13	51.70	58.30	53.90	202.40	116.60
221	24-28	20	8	7.0	13	47.30	53.90	49.50	194.70	106.70
225	24-28	25	8	7.0	13	55.00	61.60	57.20	202.40	115.50
230	24-28	30	10	5.5	13	48.40	55.00	45.10	203.50	116.60
240	24-28	40	15	3.7	13	51.70	58.30	48.40	212.30	126.50
250	24-28	50	20	2.7	13	55.00	60.50	50.60	214.50	128.70
320	30-36	20	8	5.0	13	44.00	50.60	46.20	196.90	108.90
325	30-36	25	8	5.0	13	47.30	53.90	49.50	194.70	103.70
330	30-36	30	10	3.7	16	45.10	50.60	41.80	193.60	112.20
340	30-36	40	15	2.6	16	37.40	44.00	38.50	189.20	101.20
350	30-36	50	20	2.0	16	45.10	50.60	41.80	202.40	115.50
331	36-44	30	10	2.5	16	45.10	50.60	41.80	196.90	111.10
341	36-44	40	10	2.5	16	49.50	56.10	46.20	206.80	119.90
*360	30-44	30	10	4.0	16	56.10	61.60	56.10	212.30	135.30
	36-44	40	10							
	40-44	60	10							
420	40-44	20	8	2.0	16	37.40	44.00	38.50	188.10	100.10
425	40-44	25	8	1.7	16	37.40	44.00	38.50	188.10	100.10
430	40-44	30	10	1.5	16	35.20	40.70	36.30	185.90	97.90
440	40-44	40	10	1.3	16	34.10	39.60	35.20	184.80	96.80
450	40-44	50	12	1.1	16	38.50	45.10	39.60	188.10	100.10
460	40-44	60	15	.9	16	45.10	50.60	46.20	190.30	101.20
470	40-44	70	20	.75	16	51.70	58.30	50.60	310.20	220.00

Rheostats marked with an asterisk (*) are recommended for use in public garages.

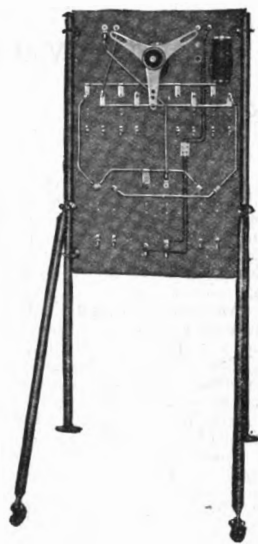
Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

Western Electric

125 and 250 Volt Direct Current Small Plant Switchboards



Typical Standard Unit Board for Two Generators and Seven Feeders



Back View of One of the Standard Panels, Showing Method of Arranging Connections

Wall Mounted or Floor Mounted on Supports 64 or 76 Inches High

FOR TWO-WIRE GENERAL POWER AND LIGHTING SERVICE

Double polarity panels, non-grounded operation are listed to control:
Generators, 0.8 to 120 K.W. at 125 volts; 1.6 to 240 K.W. at 250 volts.
MIC and MCC Motor-Generator sets, 0.2 to 13 K.W.
Feeders, 1200 amps., maximum, 1 to 9 circuits per panel.

Incoming lines, 2000 amps., maximum.
Bus tie circuits, 3000 amps., maximum.

APPLICATION

General. This line of standard switchboard units provides for a great variety of conditions in small plants where panels of simple and inexpensive design are required. Public service stations in towns and installations in industrial plants, particularly office buildings, hotels, apartment houses and department stores, are typical small plants where these switchboards apply.

Panel. Nos. 161700 to 162655 are for plants of the general class just referred to where there is but one generator, feeder circuit not exceeding six in number, and which will not be extended. They are the combination type, that is, the control for the generator and feeders is combined on a single panel with no provision for parallel operation of the generator.

Panel. Nos. 161700 to 162191, are for such installations (i.e., having one generator), where there are but one or two feeder circuits, and particularly in the latter case where the cheapest possible equipment is desired. The wall mounted panels are less expensive and can often be installed where space is not available for the floor mounted types. The instrument equipments shown meet varying price and operating conditions.

Panel. Nos. 162192 to 162655, differ in having a generator switch, single or double throw, in the number of feeder switches, and also in the case of the type of feeder protection. They, therefore, apply for installations having a single generator where the panels do not meet the following conditions:

Where there are more than two feeder circuits.

Where a two-circuit panel will take care of the feeders, but a generator switch is desirable for its added convenience in operating.

Where automatic circuit breaker protection is advisable for power or mixed power and lighting service.

Where outside direct current service at the plant voltage is available. The panels with double throw generator switches provide for this condition very conveniently, as the load can be transferred from the plant generator to the auxiliary service by simply throwing the generator switch from the upper to the lower clips.

Motor-Generator Outfits. Nos. 162656 to 162783, apply where a Western Electric MIC or MCC motor-generator set is installed and where there are one or two feeder circuits.

Panel. Nos. 162800 to 163370, apply for plants of the class referred to under the paragraph "General" which may or may not be extended; and where the initial installation may consist of the following combinations:

- One generator and one or more feeders.
- Two or more generators operating in parallel and one or more feeders.
- One or more generators, one or more incoming lines, operating in parallel, and one or more feeders.
- One or more incoming lines and one or more feeders.

Generator, incoming line or feeder panels are separate units, designed to line up with each other to form a switchboard, and panels can be added at any time to provide for an increased number of machines or circuits.

Generator and feeder panels can be selected with protective devices best suited to the character of the load and individual circuits.

The incoming line panels can be connected to an auxiliary source of supply to provide night or breakdown service; they also apply in plants where no generators are installed and all power is received from outside lines.

Of the panels Nos. 162800 to 163401 those listed with single throw switches connecting generators and feeders to a common set of buses apply to the average run of small plants under the conditions outlined in the preceding. The panels with double throw switches by which machines and circuits can be connected to either of two sets of buses apply especially in those plants where the power and lighting service is each important and where rapid fluctuations in the power load cause untoward variations of light load. Loads of the same general character can often be divided to advantage and circumstances of every day practice will indicate further applications of the double bus system.

The bus tie panels Nos. 163371 to 163401 apply only to double bus systems. They give an extra flexibility in operating which is sometimes useful in emergency.

Special plant conditions can occasionally be met by the use of panels arranged for both one and two sets of buses in the same board. The design permits this if special consideration is given to the order of assembly and selection of bus copper.

Western Electric

125 and 250 Volt Direct Current Small Plant Switchboards

CONTINUED

Details of Construction

Panels are set up in the factory before shipment with all equipment mounted and with connections and small wire bent to shape and completely assembled. Prices include boxing. Blue prints showing front and back views and wiring diagrams of individual panels are furnished with all panels ordered. Where panels are to line up as a switchboard, prints and wiring diagrams showing these assembled together will only be supplied by special arrangement. Publications will be furnished on request giving more complete information on devices briefly described below. Panels conform in all details of construction and equipment with the requirements of the National Board of Fire Underwriters.

Material of Panels. This is Penrhyn slate with a dull black marine finish. This slate has excellent insulating properties and is very strong mechanically. Natural black slate (Monsoon slate with oil finish), black enameled slate, and blue Vermont marble can be substituted.

Panel Pipe Supports. 1 and 1½ inch wrought iron pipe with malleable iron threadless fittings and threaded floor flanges. (A wooden sill is recommended for switchboards of more than one panel if sub-bases are added.) Brackets for wall mounted panels are malleable cast iron.

Finish. Current carrying parts on front of panel are natural copper, polished and lacquered. Others are dull black or black japan. Pipe supports are japanned.

Instruments. All of D'Arsonval pattern, polarity indicating. Scales are uniform throughout range. Instruments are dustproof, have smallest practicable air gap, specially hardened and aged magnets, light moving elements, high torque and very efficient damping. Type DE ammeters and voltmeters are specially designed for small direct current switchboards. Cases are practically flush mounted, an entirely new feature, and have all glass fronts with particularly legible scales. Type DK-5 combines both ammeter and voltmeter elements in one case. They are somewhat less expensive than the Type DE and admirably suited to small combination panels where long scales are not necessary.

Ground Detectors. Two lamp receptacle type, arranged to indicate continuously.

Potential Receptacles and Plugs. Have insulated escutcheon plates preventing accidental contact. Contacts are of brass and retain original shape and elasticity indefinitely.

Circuit Breakers. Type CP—Main contact brushes protected by carbon and metal secondaries; end on contact of brush laminations; studs and contact blocks drop forged in one piece from solid copper; breakers close easily and do not jar open; each breaker individually calibrated from approximately 50 to 150 per cent. of rating.

Type CG—Practically same electrical features as the Type CP, but differs in mechanical construction. Not designed for such severe duty, but suitable for small plant service as listed here.

Lever Switches. Contact studs and clip blocks are drop forged in one piece from solid copper; clips pinned and sweated in blocks; blades forged and machined from best hard drawn copper; true contact is guaranteed between blades and clips without grinding by means of emery, glass or similar substances. Cross bars are locked to blades, and handles permanently secured to handle studs.

Fuse Blocks. All adapted to N.E.C.S. fuses. Fuses themselves are not included, but may be ordered separately.

Terminal Lugs. Made from pure drawn copper tubing. Treated for sweating to cables.

Field Rheostat Supports. For wall mounted panels, supports are machine steel lugs. The support for floor mounted panels is a cast iron tripod. All types of supports, panel drillings, extension shafts and couplings, where included, are adapted only to Western Electric plate type rheostats, which are furnished with handwheels and dial plates.

Connections and Buses. Connections are bare copper rod or bar, buses are bare copper bar. Al copper is hard drawn and Mathiessen standard, 98 per cent. conductivity. Conductivity of connection is improved by bending to shape instead of using bolted or sweated joints. Cross sectional areas are determined by tests of actual heating effects rather than from current density values. Small wiring is of solid tinned copper wire with varnished cambric asbestos insulation, fastened to back of panel by metal cleats. Wiring is run in straight parallel lines with right angle bends as far as possible.

Bus Clamps and Supports. Clamps for attaching connections to bus bars are malleable iron, insulating bus supports are cast iron with porcelain insulators. Both clamps and supports are adjustable facilitating the addition of bus laminations if the station capacity is increased.

Heating. Panels are designed to carry indefinitely, currents equivalent to their full panel and circuit ampere ratings, with a rise of temperature in any part not exceeding 30 deg. C. above a surrounding atmosphere at 25 deg. C.

NOTE: In all component current carrying devices, as well as buses and connections, the determination of copper cross sectional areas is based on tests of actual heating effects. Experience has shown that this gives far more satisfactory results than the method of determination from current density values. This design in all cases secures the highest possible degree of conductivity with conservative heating limits and high switchboard efficiency.

Directions When Ordering

1. Order panels, accessories and extras by list numbers.
2. Give machine ratings with overload guarantees and sustained feeder currents.
3. Advise if any special order of assembly is desired.

Western Electric

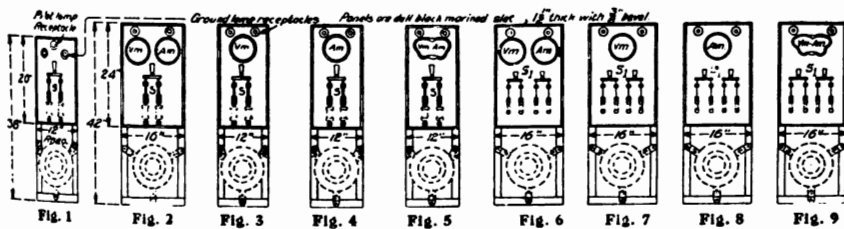
125 and 250 Volt Direct Current Combination Generator and Feeder Panels

**GENERATOR AND FEEDER SWITCH IDENTICAL ON SINGLE CIRCUIT PANELS, OTHER
PANELS WITHOUT GENERATOR SWITCH**

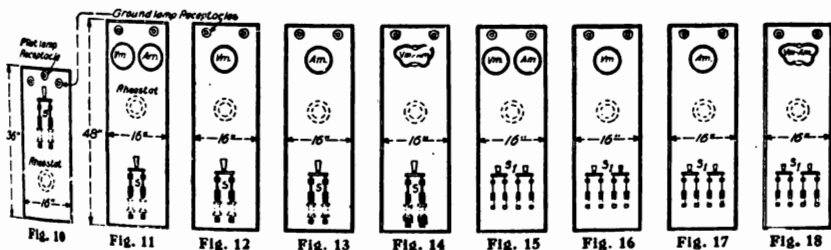
NON-PARALLEL OPERATION OF GENERATORS ONLY

Panels having one switch are to control one generator and one feeder circuit. Panels having two switches are to control one generator and two feeder circuits.

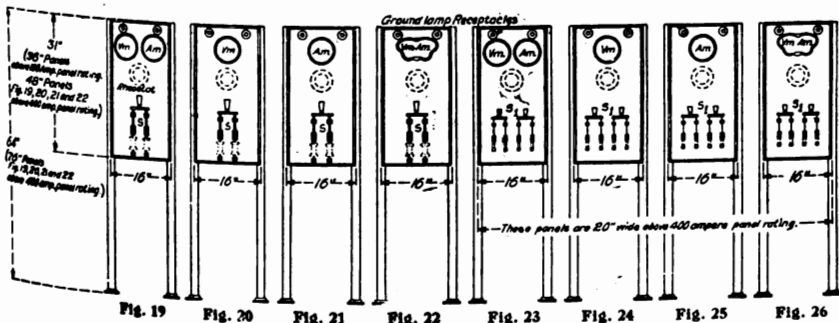
Panela have fuse blocks in all circuits. Generators may be shunt or compound wound and driven by any form of prime mover or by motor, but no motor control or starting equipment is provided. These panels are not designed to line up with any others.



Wall Mounted Panels



Wall Mounted Panels



Floor Mounted Panels

Western Electric

125 and 250 Volt Direct Current Combination Generator and Feeder Panels

GENERATOR AND FEEDER SWITCH IDENTICAL ON SINGLE CIRCUIT PANELS, OTHER PANELS WITHOUT GENERATOR SWITCH

NON-PARALLEL OPERATION OF GENERATORS ONLY

Equipments of Panels

List numbers include the following material beside the equipment specified in detail below:

Panel, name plate, all main and small wire connections except those between panel, generator, rheostat and load points for which suitable terminal lugs are provided.

Fig. 1. One pilot-light lamp receptacle.

Two ground detector lamp receptacles.

One D-P-S-T. 250 volt, amp. lever switch (S) with N.E.C.S. fuse blocks of same ampere capacity for generator and feeder circuit.

Supports for front of board type field rheostat.

Brackets for mounting panel on wall.

Fig. 2. One 150 (or 300) volt Type DE flush model voltmeter.

One amp. Type DE flush model ammeter and shunt.

Two ground detector lamp receptacles.

One D-P-S-T. 250 volt, amp. lever switch (S) with N.E.C.S. fuse blocks of same ampere capacity for generator and feeder circuit.

Supports for front of board type field rheostat.

Brackets for mounting panel on wall.

Fig. 3 is like Fig. 2 except the ammeter is not included.

Fig. 4 is like Fig. 2 except the voltmeter is not included.

Fig. 5 is like Fig. 2 except the equipment includes, instead of the DE ammeter and voltmeter, one Type DK-5 combination voltmeter-ammeter and shunt with 175 (or 300) volt and amp. elements.

Fig. 6. One 150 (or 300) volt Type DE flush model voltmeter.

One amp. Type DE flush model ammeter and shunt.

Two ground detector lamp receptacles.

One D-P-S-T. 250 volt, amp. lever switches (S) with N.E.C.S. fuse blocks of same ampere capacity for feeders.

One amp. N.E.C.S. fuse block mounted on back of panel in generator circuit.

Supports for front of board type field rheostat.

Brackets for mounting panel on wall.

Fig. 7 is like Fig. 6 except the ammeter is not included.

Fig. 8 is like Fig. 6 except the voltmeter is not included.

Fig. 9 is like Fig. 6 except the equipment includes, instead of the DE ammeter and voltmeter, one Type DK-5 combination voltmeter-ammeter and shunt with 175 (or 300) volt and amp. elements.

Figs. 10 to 18 inclusive are like Figs. 1 to 9 respectively except that drilling and supports for mounting a back of board type rheostat directly on the back of panel are provided.

Figs. 19 to 26 inclusive are like Figs. 2 to 9 respectively except that panels are mounted on pipe supports with floor braces and a cast iron support and extension shaft with coupling is provided for mounting a back of board rheostat a few inches back of panel.

Lamps, rheostats, rheostat handwheels and fuses are not included. Fuses may be ordered separately. See Accessories page.

Wiring. See page of wiring diagrams. For Figs. 1 and 10, wiring No. 1 applies; for Figs. 2, 3, 4, 5, 11, 12, 13, 14, 15, 20, 21 and 22, wiring No. 2; and for all others wiring No. 3.

Ratings. 125 volt panels have a range in voltage of 100 to 140 volts, and 250 volt panels of 200 to 250 volts. The panel ampere ratings given are the maximum currents the panels are designed to carry continuously in the generator circuit. See a panel having a rating not less than the generator current including the guaranteed 1 or 2 hour overload capacity of the machine.

Feeder circuits will carry currents continuously not greater than the ampere capacity of the switches. Ampere capacity of instruments, switches, etc., corresponding to the different panel ratings are given in the table below.

Panel Rating	Ammeter	S	Switches	S1	Generator Fuse Block	Panel Rating	Ammeter	S	Switches	S1	General Fuse Block
8	10	30	30	30	30	120	150	200	60	200	200
12	15	30	30	30	30	160	200	200	100	200	200
16	20	30	30	30	30	200	300	200	100	200	200
25	30	30	30	30	30	250	300	400	200	400	400
30	40	30	30	30	30	320	400	400	200	400	400
50	60	60	30	60	60	400	500	400	200	400	400
60	80	60	30	60	60	500	600	600	400	600	600
80	100	100	60	100	100	600	800	600	400	600	600
100	150	100	60	100	100						

LIST PRICES AND DATA

125 VOLT PANELS

Panel Rating	Fig. 1 List No.	List Price	Fig. 2 List No.	List Price	Fig. 3 List No.	List Price	Fig. 4 List No.	List Price	Fig. 5 List No.	List Price	Fig. 6 List No.	List Price	Fig. 7 List No.	List Price	Fig. 8 List No.	List Price
8	161700	\$33.00	161709	\$101.20	161718	\$60.50	161727	\$67.10	161736	\$84.70	161745	\$115.50	161754	\$72.10	161763	\$72.10
12	161701	33.00	161710	101.20	161719	60.50	161728	67.10	161737	84.70	161746	115.50	161755	72.10	161764	72.10
16	161702	33.00	161711	101.20	161720	60.50	161729	67.10	161738	84.70	161747	115.50	161756	72.10	161765	72.10
25	161703	33.00	161712	101.20	161721	60.50	161730	67.10	161739	84.70	161748	115.50	161757	72.10	161766	72.10
30	161704	33.00	161713	101.20	161722	60.50	161731	67.10	161740	84.70	161749	115.50	161758	72.10	161767	72.10
50	161705	34.10	161714	103.40	161723	61.60	161732	69.30	161741	86.90	161750	116.60	161759	72.10	161768	72.10
60	161706	34.10	161715	103.40	161724	61.60	161733	69.30	161742	86.90	161751	116.60	161760	72.10	161769	72.10
80	161707	35.20	161716	104.50	161725	62.70	161734	70.40	161743	89.10	161752	118.80	161761	72.10	161770	72.10
100	161708	35.20	161717	104.50	161726	62.70	161735	70.40	161744	89.10	161753	118.80	161762	72.10	161771	72.10

—125 VOLT PANELS—

—250 VOLT PANELS—

Panel Rating	Fig. 8 List No.	List Price	Fig. 9 List No.	List Price	Fig. 10 List No.	List Price	Fig. 11 List No.	List Price	Fig. 12 List No.	List Price	Fig. 13 List No.	List Price	Fig. 14 List No.	List Price	Fig. 15 List No.	List Price
8	161763	\$2.50	161772	\$103.40	161781	\$104.50	161790	\$106.60	161799	\$108.70	161808	\$110.80	161817	\$112.90	161826	\$115.00
12	161764	2.50	161773	103.40	161782	104.50	161791	106.60	161799	108.70	161809	110.80	161818	112.90	161827	115.00
16	161765	2.50	161774	103.40	161783	104.50	161792	106.60	161799	108.70	161809	110.80	161818	112.90	161827	115.00
25	161766	2.50	161775	103.40	161784	104.50	161793	106.60	161799	108.70	161809	110.80	161818	112.90	161827	115.00
30	161767	2.50	161776	103.40	161785	104.50	161794	106.60	161799	108.70	161809	110.80	161818	112.90	161827	115.00
50	161768	3.60	161777	104.50	161786	105.60	161795	107.70	161799	109.80	161809	111.90	161818	114.00	161827	117.10
60	161769	3.60	161778	104.50	161787	105.60	161796	107.70	161799	109.80	161809	111.90	161818	114.00	161827	117.10
80	161770	4.80	161779	106.70	161788	107.80	161797	109.90	161799	112.00	161809	114.10	161818	116.20	161827	119.30
100	161771	4.80	161780	106.70	161789	107.80	161798	109.90	161799	112.00	161809	114.10	161818	116.20	161827	119.30

Western Electric

125 and 250 Volt Direct Current Combination Generator and Feeder Panel—Continued

125 VOLT PANELS

Panel Amp. Rating	Fig. 10 List No.	List Price	Fig. 11 List No.	List Price	Fig. 12 List No.	List Price	Fig. 13 List No.	List Price	Fig. 14 List No.	List Price	Fig. 15 List No.	List Price	Fig. 16 List No.	List Price
8	161835	\$36.30	161844	\$105.60	161853	\$66.00	161862	\$72.60	161871	\$92.40	161880	\$119.90	161889	\$50.30
12	161836	36.30	161845	105.60	161854	66.00	161863	72.60	161872	92.40	161881	119.90	161890	80.30
16	161837	36.30	161846	105.60	161855	66.00	161864	72.60	161873	92.40	161882	119.90	161891	80.30
25	161838	36.30	161847	105.60	161856	66.00	161865	72.60	161874	92.40	161883	119.90	161892	80.30
30	161839	36.30	161848	105.60	161857	66.00	161866	72.60	161875	92.40	161884	119.90	161893	80.30
50	161840	37.40	161849	106.70	161858	67.10	161867	73.70	161876	93.50	161885	121.00	161894	81.40
60	161841	37.40	161850	106.70	161859	67.10	161868	73.70	161877	93.50	161886	121.00	161895	81.40
80	161842	38.50	161851	108.90	161860	69.30	161869	75.10	161878	95.70	161887	123.20	161896	83.60
100	161843	38.50	161852	108.90	161861	69.30	161870	75.10	161879	95.70	161888	123.20	161897	83.60

125 VOLT PANELS

250 VOLT PANELS

Panel Amp. Rating	Fig. 17 List No.	List Price	Fig. 18 List No.	List Price	Fig. 19 List No.	List Price	Fig. 20 List No.	List Price	Fig. 21 List No.	List Price	Fig. 22 List No.	List Price	Fig. 23 List No.	List Price	Fig. 24 List No.	List Price	Fig. 25 List No.	List Price	Fig. 26 List No.	List Price
8	161898	\$86.90	161907	\$106.70	161916	\$107.80	161925	\$68.20	161934	\$95.70	161943	\$122.10	161952	\$80.70	161961	\$110.00	161970	\$139.90	161979	\$169.80
12	161899	86.90	161908	106.70	161917	107.80	161926	68.20	161935	95.70	161944	122.10	161953	90.70	161962	110.00	161971	139.90	161980	169.80
16	161900	86.90	161909	106.70	161918	107.80	161927	68.20	161936	95.70	161945	122.10	161954	90.70	161963	110.00	161972	139.90	161981	169.80
25	161901	86.90	161910	106.70	161919	107.80	161928	68.20	161937	95.70	161946	122.10	161955	90.70	161964	110.00	161973	139.90	161982	169.80
30	161902	86.90	161911	106.70	161920	107.80	161929	68.20	161938	95.70	161947	122.10	161956	90.70	161965	110.00	161974	139.90	161983	169.80
50	161903	88.00	161912	107.80	161921	108.90	161930	69.30	161939	96.80	161948	123.20	161957	93.60	161966	111.10	161975	140.00	161984	170.70
60	161904	88.00	161913	107.80	161922	108.90	161931	69.30	161940	96.80	161949	123.20	161958	93.60	161967	111.10	161976	140.00	161985	170.70
80	161905	90.20	161914	110.00	161923	111.10	161932	71.50	161941	99.00	161950	125.40	161959	95.80	161968	113.30	161977	142.10	161986	172.80
100	161906	90.20	161915	110.00	161924	111.10	161933	71.50	161942	99.00	161951	125.40	161960	95.80	161969	113.30	161978	142.10	161987	172.80

125 VOLT PANELS

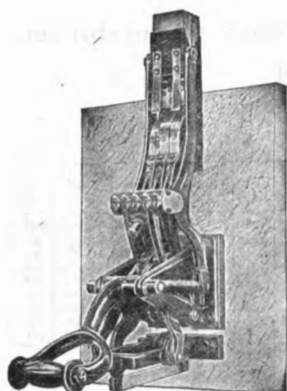
Panel Amp. Rating	Fig. 19 List No.	List Price	Fig. 20 List No.	List Price	Fig. 21 List No.	List Price	Fig. 22 List No.	List Price	Fig. 23 List No.	List Price	Fig. 24 List No.	List Price	Fig. 25 List No.	List Price	Fig. 26 List No.	List Price
8	161970	\$118.80	161987	\$80.30	162004	\$88.00	162021	\$104.50	162034	\$132.00	162051	\$94.60	162068	\$101.20	162085	\$118.80
12	161971	118.80	161988	80.30	162005	88.00	162022	104.50	162035	132.00	162052	94.60	162069	101.20	162086	118.80
16	161972	118.80	161989	80.30	162006	88.00	162023	104.50	162036	132.00	162053	94.60	162070	101.20	162087	118.80
25	161973	118.80	161990	80.30	162007	88.00	162024	104.50	162037	132.00	162054	94.60	162071	101.20	162088	118.80
30	161974	118.80	161991	80.30	162008	88.00	162025	104.50	162038	132.00	162055	94.60	162072	101.20	162089	118.80
50	161975	119.90	161992	81.40	162009	89.10	162026	107.80	162039	133.10	162056	94.60	162073	102.30	162090	121.00
60	161976	119.90	161993	81.40	162010	89.10	162027	107.80	162040	133.10	162057	94.60	162074	102.30	162091	121.00
80	161977	122.10	161994	82.50	162011	90.20	162028	108.90	162041	135.30	162058	96.80	162075	104.50	162092	123.20
100	161978	122.10	161995	82.50	162012	90.20	162029	108.90	162042	135.30	162059	96.80	162076	104.50	162093	123.20
120	161979	123.20	161996	85.00	162013	97.90	162030	115.50	162043	141.90	162060	102.30	162077	110.00	162094	128.70
160	161980	129.30	161997	88.00	162014	97.90	162031	115.50	162044	145.20	162061	105.60	162078	113.30	162095	132.00
200	161981	129.30	161998	88.00	162015	97.90	162032	115.50	162045	145.20	162062	105.60	162079	113.30	162096	132.00
250	161982	145.20	161999	101.20	162016	111.10	162033	128.70	162046	159.50	162063	119.90	162080	128.70	162097	146.30
300	161983	145.20	162000	101.20	162017	111.10	162034	128.70	162047	161.70	162064	119.90	162081	130.90	162098	146.30
400	161984	145.20	162001	101.20	162018	111.10	162035	128.70	162048	161.70	162065	119.90	162082	130.90	162099	146.30
500	161985	163.90	162002	104.50	162019	132.00	162036	141.90	162049	195.80	162066	150.70	162083	163.90	162100	163.90
600	161986	163.90	162003	104.50	162020	132.00	162037	141.90	162050	195.80	162067	150.70	162084	163.90	162101	163.90

250 VOLT PANELS

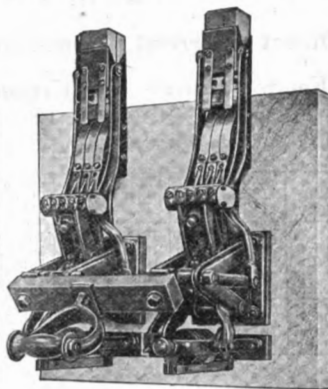
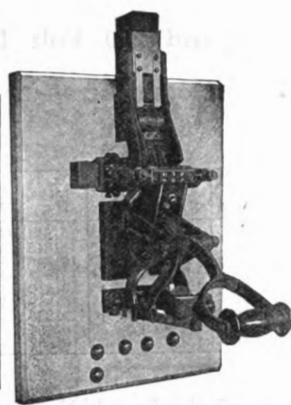
Panel Amp. Rating	Fig. 19 List No.	List Price	Fig. 20 List No.	List Price	Fig. 21 List No.	List Price	Fig. 22 List No.	List Price	Fig. 23 List No.	List Price	Fig. 24 List No.	List Price	Fig. 25 List No.	List Price	Fig. 26 List No.	List Price
8	162098	\$121.00	162115	\$82.50	162132	\$107.80	162145	\$135.30	162162	\$96.80	162179	\$122.10	162196	\$146.30	162213	\$170.70
12	162099	121.00	162116	82.50	162133	107.80	162146	135.30	162163	96.80	162180	122.10	162197	146.30	162214	170.70
16	162100	121.00	162117	82.50	162134	107.80	162147	135.30	162164	96.80	162181	122.10	162198	146.30	162215	170.70
25	162101	121.00	162118	82.50	162135	107.80	162148	135.30	162165	96.80	162182	122.10	162199	146.30	162216	170.70
30	162102	121.00	162119	82.50	162136	107.80	162149	135.30	162166	96.80	162183	122.10	162200	146.30	162217	170.70
50	162103	123.20	162120	83.60	162137	110.00	162150	136.40	162167	96.80	162184	123.20	162201	146.30	162218	172.80
60	162104	123.20	162121	83.60	162138	110.00	162151	136.40	162168	96.80	162185	123.20	162202	146.30	162219	172.80
80	162105	124.30	162122	84.70	162139	112.20	162152	138.60	162169	100.10	162186	126.50	162203	146.30	162220	174.90
100	162106	124.30	162123	84.70	162140	112.20	162153	138.60	162170	100.10	162187	126.50	162204	146.30	162221	174.90
120	162107	132.00	162124	90.20	162141	118.80	162154	144.10	162171	104.50	162188	130.90	162205	146.30	162222	174.90
160	162108	132.00	162125	90.20	162142	118.80	162155	144.10	162172	104.50	162189	130.90	162206	146.30	162223	174.90
200	162109	132.00	162126	90.20	162143	118.80	162156	144.10	162173	104.50	162190	130.90	162207	146.30	162224	174.90
250	162110	147.40	162127	103.40	162144	132.00	162157	161.70	162174	122.10	162191	149.60	162208	146.30	162225	174.90
300	162111	147.40	162128	103.40	162145	132.00	162158	165.00	162175	122.10	162192	149.60	162209	146.30	162226	174.90
400	162112	147.40	162129	103.40	162146	132.00	162159	165.00	162176	122.10	162193	149.60	162210	146.30	162227	174.90
500	162113	166.10	162130	106.70	162147	132.00	162160	165.00	162177	122.10	162194	149.60	162211	146.30	162228	174.90
600	162114	166.10	162131	106.70	162148	132.00	162161	165.00	162178	122.10	162195	149.60	162212	146.30	162229	174.90

Extras: For prices see listing of accessories.

WESTINGHOUSE CIRCUIT BREAKERS



Single Pole Type C Circuit Breaker

Two Pole Type C Circuit Breaker
Separate Handles Can Be
Furnished If DesiredType C Circuit Breaker
With Equalizer Contacts

Type C Carbon Circuit Breakers

For Voltages Up to 750 A.C. or D.C.

Westinghouse Type C Automatic Circuit Breakers are designed for severe service. They have an exceptionally long break and act quickly and accurately. These breakers have been tested by many years of actual service and have successfully opened the heaviest short circuits that have occurred on the largest power systems.

The brush is made up of thin laminated copper and closes under pressure against flat contact blocks. **The Finish.** Cast parts are black enamel. Current-carrying parts are made of polished copper.

Connection. These breakers are made for rear connection only.

Capacity. Direct or alternating current circuits of 750 volts or below. When used on an alternating-current circuit, however, a larger breaker will be required for a given capacity than on a direct-current circuit, due to skin effect and eddy current heating.

For capacities greater than 1500 amperes Type CA Carbon Circuit Breakers are recommended.

Calibration. The circuit breakers are calibrated to trip on loads of from 80 to 160 per cent. of rated load. The single pole breakers are calibrated on direct current unless otherwise ordered.

Automatic Operation. An overload tripping mechanism is furnished mounted on the plain overload breakers.

Adjustment. Individual adjustment is provided on each brush and the contact pressure should be properly adjusted when installed.

Care of Breakers. When installed in very dirty places the copper contacts must be kept clean and bright. Breakers that are rarely opened should be regularly cleaned and operated to secure good contact and insure prompt operation when needed.

Operation in Cement or Flour Mills. Carbon circuit breakers are not suitable for operation in cement mills, flour mills, plaster factories or any similar industry where acid fumes or flying particles of dust and dirt are present. Under such conditions the laminations of the brush contacts tend to spread, which may cause the breaker to heat and become unsatisfactory in operation. For operation in such places the installation of oil circuit breakers is strongly recommended.

Bases, Nuts and Terminals. The Mfr. No. and list price include breaker complete with nuts and terminals and mounted on black marine-finished slate bases.

Single Pole—Overload Release

List No.	Continuous Carrying Capacity Amperes D.C.	Range Amperes	List Price
14863	200	150- 300	\$136.80
14864	400	350- 600	144.00
14865	600	500- 900	149.76
14866	800	600-1400	165.60
14867A	1000	800-1600	177.12
14868A	1500	1200-2400	211.68

NOTE: When breakers are desired for use on alternating current circuits specify "Similar to style No. ——— except calibrated for ——— cycles alternating current."

See paragraph "Capacity." A.C. ratings furnished on application.

Delivery: F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

Protective Apparatus and Switchboard Accessories

WESTINGHOUSE CIRCUIT BREAKERS

Type C Carbon Circuit Breakers (Continued)

MULTIPLE BREAKERS

In the standard multiple breaker each pole is provided with an overload trip mechanism. Each of these breakers is provided with a mechanical connection so that all the poles trip together, and a cross bar so that all poles may be closed simultaneously.

Calibration. Multiple breakers are calibrated on 25 cycle alternating current unless otherwise specified on the order. Breakers for direct current or 60 cycle alternating current circuits require special calibration and same should be specified on the order.

Barriers for mounting between the poles will be supplied when specially ordered at an extra list price of \$14.40 for each barrier.

Spacing. The standard spacing between the vertical center lines of all multi-polar breakers is as follows: 200 to 800 amperes rated capacity, 9 inches; 1000 and 1500 amperes, 1 inch. Special 16 inch spacing can be supplied on all sizes at a slight additional cost.

Type C Auxiliary Attachments

Equalizer Contacts. All single pole breakers can be equipped with equalizer brushes and contacts mounted transversely to the main brush and insulated therefrom. The capacity of the equalizer brush is one-half that of the main brush.

An overload trip can be supplied with these breakers mounted as follows:

First. In the main line only.

Second. In the negative line only and insulated from the breaker.

Third. In both equalizer and main line.

Prices. For circuit breaker with equalizer brush and contacts and one trip coil only—first and second methods of tripping—add 25 per cent. to list price of standard breaker.

For circuit breaker with equalizer brush and contacts and two trip coils—third method of tripping—add 50 per cent. to list price of standard breaker.

Shunt Trip Mechanism. A direct current shunt trip attachment arranged for mounting on the rear of the panel, with a tripping arm extending through a slot in the panel, can be supplied for use with any single pole or multiple Type C overload release circuit breaker. The trip mechanism projects about $4\frac{1}{4}$ inches from the rear of the panel. In ordering, full information should be given regarding normal direct current voltage, rated capacity, number of poles of breaker, and thickness of panel on which it is to be mounted.

Prices. For shunt trip mechanism add to list price of standard breaker \$14.40 for single pole and \$2.88 for each additional pole. The price includes mounting the trip on the panel, provided the order for same accompanies the order for the circuit breaker.

Shunt Trip Cutout. In every case where there is a possibility of the shunt trip coil remaining actively in the circuit after the breaker opens, a shunt trip cutout should be ordered. This cutout opens the trip-coil circuit simultaneously with the opening of the breaker. The contact is insulated from the breaker.

Price. For a breaker equipped with a single pole single throw shunt trip cutout 10 ampere, 1100 volt and under, direct current or alternating current, \$1.44 should be added to list price of standard circuit breaker. This price includes mounting when ordered with the breaker.

Signal Contacts. For the addition of signal contacts add the following prices to list price of standard breakers: S.P.S.T. 3 ampere, for circuits not over 1100 volts, alternating current or direct current, to close when breaker opens, \$5.76 D.P.D.T. 10 ampere, not over 1100 volts, alternating current or direct current, \$7.20. The price includes mounting, when ordered with the breaker.

Undervoltage Release. A direct or alternating current undervoltage release mechanism mounted somewhat similarly to the shunt trip device described above, but projecting about $4\frac{3}{4}$ inches from the rear of the panel, can be supplied. This device is separately reset by hand when closing the breaker proper. When used on alternating current, the undervoltage release must be connected so that it will not be in the circuit when the breaker opens. A shunt trip cutout also should be ordered if necessary. The undervoltage mechanism, if supplied with a proper series resistance, can also be used as a shunt trip mechanism by momentarily short-circuiting the coil. In ordering, complete information regarding nature of the circuit, normal voltage, and if alternating current the frequency, should be given. The price includes mounting when ordered with the breaker.

Price. For the undervoltage mechanism add \$25.92 to list price of standard breaker for single pole, and \$5.04 for each additional pole.

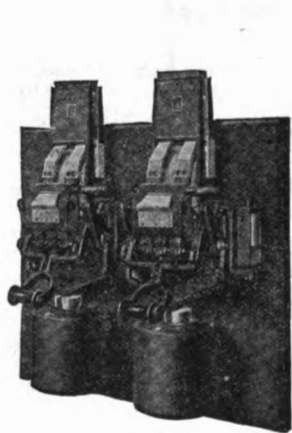
Underload Release. Type C carbon breakers can be furnished with plain underload or with both overload and underload release attachments.

The simple underload breaker is nearly identical in appearance with the standard overload breaker. The combined under and overload breakers have the underload release attachment mounted on the rear of the panel and projecting $4\frac{1}{8}$ inches therefrom. All underload attachments are reset by hand. Prices of these devices will be furnished on application.

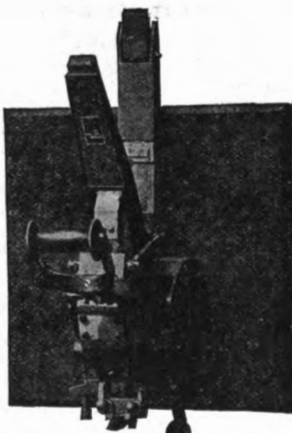
An Extended Hand Closing Mechanism for closing a one, two, three or four-pole breaker, which is mounted at the top of the panel, with one handle located down on the panel, can be supplied and prices will be furnished on application.

A Remote Control Hand Operated Mechanism for operating breakers mounted on a separate panel at some distance from the contact panel, can also be supplied, and prices will be furnished on application.

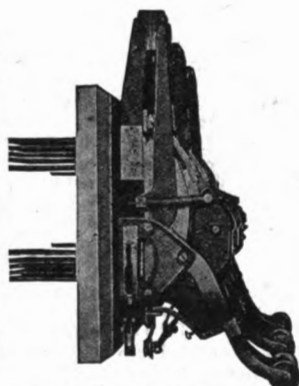
WESTINGHOUSE CIRCUIT BREAKERS



Type CA 8000-Ampere
Electrically Operated
Double Pole Circuit Breakers—Open



Hand Operated, Single Pole
3000-Ampere



Hand Operated, Three Pole, 3000-
Ampere, 60-Cycle, with
Laminated Studs

Type CA Carbon Circuit Breakers

For Alternating and Direct Current

Type CA carbon circuit breakers are designed particularly for the severe conditions found in operating low voltage alternating current and direct current systems. They are made for circuits up to 14000 amperes capacity operating at 750 volts or less, and up to 1600 amperes at 1500 volts direct current.

Closing Circuit Switch. At a small additional cost a small magnetically retained switch, operated by the overload trip armature, can be added to the breaker for opening the closing coil circuit if an overload exists, thus permitting the breaker to open independently of the operator and position of the control switch.

Finish. The finish of the circuit breaker conforms to that of Westinghouse standard switchboards; the cast parts are black marine, and the current-carrying parts are polished copper.

Mounting. These circuit breakers are designed for switchboard mounting and for separate mounting. For separate mounting they are furnished with a slate base with black marine finish. When furnished separately for switchboard mounting they are shipped mounted on slate or scrap marble template.

Connections. All type CA circuit breakers are arranged for rear connection. The main contact blocks form part of the terminal studs.

Electrically Operated Breakers. The electrically operated type is closed by means of a solenoid mounted below the main mechanism. The solenoid is equipped with a dashpot device to take care of the shock at the end of the closing operation and yet permit the breaker to be closed more quickly than is ordinarily possible with any other form of mechanism. When the closing switch is thrown, current flows through the solenoid and the plunger is drawn down. This closes the contacts, which are held closed automatically by a latch. When the closing circuit is opened, the solenoid plunger rises so that it will not retard the opening of the breaker when tripped. The breaker is opened by the overload trip or a shunt trip attachment mounted at the side of the mechanism. Standard closing coils and shunt trip coils are wound for all standard voltages: 125, 250, 600 or 750. A small plunger switch automatically opens the shunt trip circuit when the breaker trips and opens or closes the circuit of the signal lamps when used.

Multipole Circuit Breakers. Type CA circuit breakers are furnished with one, two, three or four poles, closed separately and tripped together. Each multipole breaker is provided with "common trip," that is, an overload on any one pole trips all the poles. Multipole breakers for potentials over 300 volts must be supplied with barriers between poles.

Alternating Current Circuit Breakers. Owing to the "skin effect" and eddy current heating in alternating current conductors, a circuit breaker has a lower alternating current rating than direct current rating, with the same rise in temperature. The alternating current rating of a circuit breaker is increased by the use of laminated studs, which are therefore used on larger capacity circuit breakers for alternating current service. These laminated studs will be supplied of any length desired, and arranged with the laminations running either vertically or horizontally, or with one stud with vertical and the other stud with horizontal laminations.

Prices and Manufacturer's Numbers

The list price and manufacturer's number include the circuit breaker complete, ready for installation, with three nuts per stud where round studs are supplied, but without any cable terminals. The switchboard mounting styles are shipped mounted on a scrap marble template. The separate mounting styles are shipped mounted on a black marine slate base. When cable terminals are required for use with these breakers and more nuts are required than three stud, they should be ordered separately.

List prices and discounts of multipole breakers are the same per pole as for single pole breakers with the additional price for barriers if they are required.

See following page for prices.

WESTINGHOUSE CIRCUIT BREAKERS Type CA Carbon Circuit Breakers (Continued)

List Prices and Data

List No. Switch- board Mounting	List No. Separate Mounting	Maximum Rating—Amperes						Calibration†† Amp.	List Price Per Pole	
		Automatic*			Non-Automatic†					
		D.C.	25 Cycles	60 Cycles	25 Cycles	60 Cycles				
HAND OPERATED—ROUND STUDS										
189030	189038	150	150	150	150	150	.....	\$128.16	
169826	188530	200	200	200	200	200	.....	129.60	
188528	185531	300	300	300	300	300	.....	133.20	
189827	188532	400	400	400	400	400	.....	135.36	
188529	188533	600	600	600	600	600	.....	144.00	
189828	188534	800	800	800	800	800	.....	151.20	
189829	188535	1000	900	900	900	900	.....	161.28	
189830	177060	1200	1000	1000	1000	1000	1000-1200	169.92		
189831	177061	1600	1200	1200	1200	1200	1200-1600	188.64		
189832	177062	2000	1600	1600	1600	1600	1600-2000	197.28		
130106	144272	3000	2500	2000	2800	2500	2000-3000	241.92		
130407	144273	3500	3000	2500	3300	2800	2500-3500	295.20		
130408	144274	4500	3500	.....	.....	.....	3500-4500	351.36
130409	144275	6000	4000	.....	.....	.....	3500-6000	567.36
130410	144276	8000	5300	.....	.....	.....	4000-8000	748.80
144282	.....	10000	.....	.....	.....	.....	10000	1010.88
144283	.....	14000	.....	.....	.....	.....	14000	1501.20

HAND OPERATED—LAMINATED STUDS†

165051	165055	3500	3500	2500	3500	3000	2500-3500	\$295.20
165052	165056	5000	4000	3000	4000	3500	3500-5000	351.36
165053	165037	6500	4500	3500	4500	4000	3500-6500	567.36
165054	165058	8500	5500	4000	6000	5000	4000-8500	748.80

ELECTRICALLY OPERATED—ROUND STUDS

142587	.....	3000	2500	2000	2800	2500	2000-3000	\$106.08
142588	.....	3500	3000	2500	3300	2800	2500-3500	143.52
142589	.....	4500	3500	.....	.....	.....	3500-4500	509.76
142590	.....	6000	4000	.....	.....	.....	3500-6000	741.60
142571	.....	8000	5300	.....	.....	.....	4000-8000	874.40
142572	.....	10000	.....	.....	.....	.....	10000	1087.20

ELECTRICALLY OPERATED—LAMINATED STUDS†

165059	.....	3500	3500	2500	3500	3000	2500-3500	\$113.52
165060	.....	5000	4000	3000	4000	3500	3500-5000	509.76
165061	.....	6500	4500	3500	4500	4000	3500-6500	741.60
165062	.....	8500	5500	4000	6000	5000	4000-8500	878.40

*In ordering automatic circuit breakers give the Mfr. No., current, and calibration desired, and specify whether for direct current 25 cycles, or 60 cycles.

†In ordering non-automatic circuit breakers, order "same as Mfr. No. but with automatic features omitted," and give current rating and whether for direct current, 25 cycles, or 60 cycles. The price of non-automatic will be the same as that of automatic circuit breakers.

††In ordering laminated stud circuit breakers state length of studs wanted and whether the laminations are to be horizontal or vertical.

†††Calibration. The standard calibration of circuit breakers carried in stock is 80 per cent. to 160 per cent. of the direct current rating. If specified on the order the circuit breakers will be calibrated for a range from 80 per cent. to 160 per cent. of either value given in this column or of any intermediate value in steps of 500 amperes.

Auxiliary Parts

Barriers, for mounting between the poles of multipole breakers to prevent arcing over are recommended for voltages above 300, and for all voltages when poles are placed closer together than standard spacing.

Shunt Trip Mechanism. A direct current shunt trip attachment arranged for mounting on the front of panel, can be supplied for any hand-operated type CA circuit breaker. In ordering, give direct current voltage, rated capacity, number of poles of breaker, and thickness of panel. If the circuit breaker does not cut out the shunt trip circuit, signal contacts, described below, should be provided to do this when the circuit breaker trips. Shunt trip mechanism is included in each electrically-operated circuit breaker.

Undervoltage Release. A direct or alternating current undervoltage release mechanism projecting about 4 1/4 inches from the back of panel can be supplied. This device is separately reset by hand when closing the circuit breaker. The undervoltage release mechanism, if supplied with a suitable resistor, can be used also as a shunt trip mechanism by momentarily short-circuiting the coil. In ordering give complete information regarding nature of the circuit, normal voltage, and frequency of alternating current.

Reverse Current. Reverse current trip can be supplied. Prices on application.

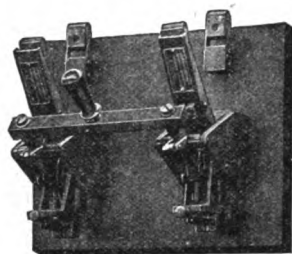
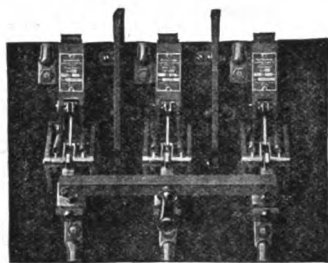
AUXILIARY PARTS

List price includes mounting if ordered with circuit breaker.

Description	List Price Each
Barriers for multipole circuit breakers	\$14.40
Shunt trip for 1 pole hand-operated breakers	17.23
Shunt trip for 2 pole hand-operated breakers	20.16
Shunt trip for 3 pole hand-operated breakers	23.04
Shunt trip for 4 pole hand-operated breakers	25.92
Undervoltage trip for 1 pole hand-operated breakers	30.06
Undervoltage trip for 2 pole hand-operated breakers	36.00
Undervoltage trip for 3 pole hand-operated breakers	41.94
Undervoltage trip for 4 pole hand-operated breakers	48.00
Signal contacts, 10 amperes, single pole-double break, double throw	7.20

Delivery: F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

WESTINGHOUSE CIRCUIT BREAKERS

Fig. 1. Two-Pole Rear-Connected Breaker,
Without Barriers, Open PositionFig. 2. Three-Pole Front-Connected Breaker,
With Barriers, Closed Position

Standard Type CC Carbon Circuit Breakers

For Voltages Up to 750, A.C. or D.C.—400 to 800 Amperes

Application. Type CC carbon circuit breakers are intended for separate mounting or for use on motor starting or control panel switchboards on circuits of 400 to 800 amperes capacity where the voltage is 750 or less.

Caution. No carbon circuit breakers should be directly exposed to the severe conditions present in cement or flour mills, plaster or furniture factories, or similar plants where acid fumes or much dirt or dust are present. In case type CC circuit breakers are installed where dirt and dust are likely to accumulate, particular care should be taken to keep the contacts clean and bright. Breakers should be opened and cleaned regularly to insure good contact and avoid overheating.

Mounting. These breakers are furnished mounted on black marine finished slate bases which are included in the list prices and Mfr. No. When desired for use on switchboards, circuit breakers are removed from the slate bases and mounted directly on the switchboard panels.

Multipole Circuit Breakers. Type CC circuit breakers are furnished with one, two, three, or four poles. Each multipole breaker is provided with a "common trip," that is, all poles trip simultaneously. Separate closing handles for each pole with common trip can be supplied.

Calibration. Type CC circuit breakers are calibrated as follows: Single and double pole breakers on direct current; three-pole and four-pole breakers on 25 cycle alternating current. If other calibration is desired, it should be specified on the order.

If immediate delivery is desired and a maximum error of 10 per cent. in calibration is permissible, standard circuit breakers should be ordered for use on either alternating current or direct current circuits, thus eliminating the necessity for special calibration and the consequent delay in shipment.

Standard Type CC Carbon Circuit Breakers

Mfr. No. and list price include circuit breaker complete, with black marine finished slate base, terminal lugs, and clamping nuts, ready for installation.

List No. Front Connected	List No. Rear Connected	Amperes		List Price
		Continuous Carrying Capacity	Calibration Range	
Single Pole for Voltages up to 750, A.C. or D.C.				
107593	65942	400	320- 640	\$66.24
107594	65943	600	480- 960	86.40
107595	65944	800	640-1280	103.68
Double Pole for Voltages up to 250, A. C. or D. C.—Without Barriers				
107603	65952	400	320- 640	\$108.00
107604	65953	600	480- 960	136.80
107605	65954	800	640-1280	165.60
Double Pole for Voltages up to 750, A. C. or D. C.—With Barriers				
.....	155805	400	320- 640	\$113.76
.....	101473	600	480- 960	142.56
.....	101474	800	640-1280	171.36
Three-Pole for Voltages up to 250*, A. C. or D. C.—Without Barriers				
107613	65962	400	320- 640	\$182.88
107614	65963	600	480- 960	230.40
107615	65964	800	640-1280	277.92
Four-Pole for Voltages up to 250*, A. C. or D. C.—Without Barriers				
107623	74598	400	320- 640	\$252.00
107624	74599	600	480- 960	316.80
107625	74600	800	640-1280	381.60

*The three-pole and four-pole breakers listed above may be used on circuits up to 750 volts by the addition of barriers. For these barriers, add to the list prices \$10.08 for the three-pole breakers, and \$12.96 for the four-pole breakers.

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.
Protective Apparatus and Switchboard Accessories

WESTINGHOUSE CIRCUIT BREAKERS



Fig. 3 Breaker With Shunt Trip Attachment



Fig. 4 Breaker With Undervoltage Release Attachment



Fig. 5 Breaker With Under-Load Attachment

Type CC Carbon Circuit Breakers (Continued)

Shunt Trip. The shunt trip attachment consists of an electro-magnet and a small lever pivoted to the supporting bracket of the magnet. The magnet coil attracts one end of the lever, while the other end engages a small pin set in the trigger, and trips the circuit breaker. A shunt trip cutout, consisting of a contact pin mounted on the panel under the circuit breaker brush in such a way that the tripping-coil circuit is opened when the breaker opens, is also furnished with the tripping device. The current required to operate this device is from .1 to .9 ampere at the ratings given.

Undervoltage Trip. This device consists of an electro-magnet, the armature of which is attached to a tripping lever through a toggle mechanism. The magnet acts against the tension of a couple of strong springs so that when the line voltage fails the armature is released, causing the tripping lever to fly up and open the circuit breaker.

Only one undervoltage attachment is necessary with multipole breakers.

Underload Trip. This attachment, for rear-connected breakers only, consists of an electro-magnet, the coil of which is in series with the circuit breaker, and a weighted armature pivoted to the supporting bracket of the magnet. The armature has to be raised and set by hand. When the coil is energized, the armature is attracted and released from the catch holding it. Failure of current releases the armature, which falls approximately 90 degrees and strikes a small pin set in the trigger of the circuit breaker, giving a very positive trip.

Double Arm Attachment. This attachment eliminates the necessity for switches in series with a two-pole breaker and at the same time affords automatic protection to the circuit throughout the closing period. With this arrangement, each pole of the breaker is closed independently and in succession, so that the pole first closed is left free to open while the second or final pole is being thrown in. The breaker being closed, an overload in either positive or negative line, or both, will trip both poles simultaneously.

List Number and List Price include attachment complete. Where resistors are specified below, they are included in the list price but not in the List number, and must be called for separately in the order.

Shunt Trip Attachments

List No.	Series	D.C.	Volts	A.C.	Approx. Net Wt., Pounds*	List Price
Shunt Trip	Resistor					
112535	None	10-70	25 Cycles	60 Cycles	2 1/4	\$8.64
112536	None	90-250	180-500		2 1/4	7.56
112536	186465	71-150	251-600		4 1/2	12.46
112536	186467	151-300			4 1/2	12.46
112536		301-600			4 1/2	12.46

*Weight includes resistance where required.

Undervoltage Trip Attachments *

List No.	Series	Current	Cycles	Voltage	Approx. Net Weight Pounds	List Price
Undervoltage Coil	Resistor					
114921	None	D.C.		125	2	\$17.28
114921	186469	D.C.		250	2	19.80
114921	186464	D.C.		600	2	19.80
114922	None	A.C.	25	220	2	19.80
114923	None	A.C.	25	550	2	19.80
114924	None	A.C.	60	220	2	19.80
114925	None	A.C.	60	550	2	19.80

*For multipole breakers a trip similar to those listed can be furnished at same price. In ordering ordinary undervoltage trip be sure to specify List No. of breaker (or capacity and number of poles), voltage and frequency if for alternating current.

Underload Trip Attachments

List No.	Capacity, Amperes	Approx. Net Weight, Pounds	List Price
115122	400	3 1/4	\$27.36
115123	600	3 1/4	31.68
115124	800	5	36.00

Double Arm Attachments

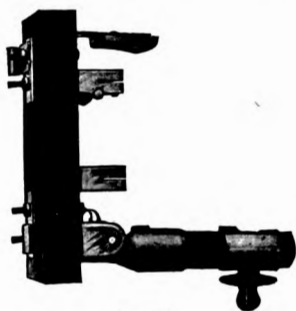
List No. and List Price include the device complete with insulating cross bar and mounting screws and all parts necessary to mount them, but do not include the circuit breaker.

List No.	Amperes	D.C.	A.C.	Spacing Ctr. to Ctr.	Approx. Net Wt., Pounds	List Price
133972	400	750	750	7 ins.	1 1/4	\$4.68
133973	600-800	250	250	7 ins.	1 1/4	5.04
133975	800-800	750	750	8 ins.	2	6.84

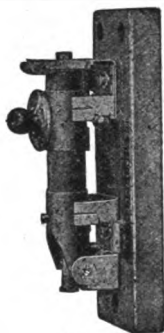
Two single pole breakers, if ordered mounted on one base complete with double arm attachment, will be supplied at the price of two single pole breakers.

Delivery: F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

WESTINGHOUSE CIRCUIT BREAKERS



Type F
Automatic Breaker Open



Type F
Automatic Breaker Closed



Type F Circuit Breaker
With Shunt Trip Coil

Type F Carbon Circuit Breakers

Current Rating. The current rating of these breakers is maximum based on 30 degrees Centigrade temperature rise in conducting parts. A breaker should be selected that has a rating at least as great as the total one-half hour overload guarantees of the machine controlled.

The current-carrying contacts are copper and the arcing contacts are carbon and are readily renewable. The opening of the breaker is assisted by a spring.

Front and Rear Connection. Front-connected breakers are mounted on porcelain bases. Rear-connected breakers are shipped on wooden templates for remounting on switchboard panels 1 inch to 1½ inch thick.

Styles of Breakers

Automatic Overload. The operating solenoid is inside of a fiber tube forming the lever arm, adjustment of the tripping point being easily regulated by means of the knurled nut below the pivot. The tripping point may be set for any current within the range given in the table. A small insulating knob at the right controls the tripping device and offers a means of opening the breaker by hand.

Automatic Overload with Shunt Trip. By the addition of a shunt trip coil the Type F Circuit Breaker can be tripped electrically. The shunt trip does not interfere with the overload trip and the one circuit breaker affords protection from overloads and in addition permits opening the circuit from a distance or by an automatic device. This type of breaker is shipped mounted on a slate base.

These breakers are applicable to any installation where it is desired to open the circuit by means of a push button, a contact-making relay, a contact-making voltmeter, a speed limit mechanism, a tank float, or, in fact, any equivalent contact-making device.

Non-Automatic with Shunt Trip. These circuit breakers are non-automatic; that is, they do not open automatically when a predetermined value of current or voltage is reached. They are, however, equipped with a shunt trip to open the breaker from a distant point.

List Prices and Data

Mfr. No. and list price include breaker complete with base and terminals.

WITH AUTOMATIC OVERLOAD RELEASE

Capacity Amperes	Range of Overload Adjustment Amperes	Approximate Wt., Lbs.		List No.	List Price	Rear-Connected List No.	List Price
		Net	Boxed				
5	4-8	2	4	154713A	\$9.88	154714	\$10.96
12.5	10-20	2	4	43670	9.88	88823	10.96
25	20-40	2	4	43671	9.88	88824	10.96
50	40-80	2	4	43672	9.88	88825	10.96
75	60-120	2	4	43673	9.88	88826	10.96

WITH AUTOMATIC OVERLOAD RELEASE AND SHUNT TRIP

Capacity Amperes	Range of Overload Adjustment Amperes	Approximate Wt., Lbs.		Front-Connected		Rear-Connected	
		Net	Boxed	110 Volts D.C.	List No.	220 Volts D.C.	List Price
5	4-8	5	8	154715A	154716A		\$16.2
12.5	10-20	5	8	101292	101296		16.2
25	20-40	5	8	101293	101297		16.2
50	40-80	5	8	101294	101298		16.2
75	60-120	5	8	101295	101299		16.2

NON-AUTOMATIC WITH SHUNT TRIP

Capacity Amperes	Range of Tripping Voltage		Approximate Wt., Lbs.		Front-Connected	
	D.C.	A.C. 25 to 60 Cycles	Net	Boxed	List No.	List Price
75 or less	20-50	30-80	2½	4½	133892	\$14.0
75 or less	50-130	80-230	2½	4½	129224	15.0
75 or less	130-250	230-440	2½	4½	133893	16.0

*Furnished at same price rear-connected for mounting on a 1 to 1½ inch panel if so specified in order.

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

WESTINGHOUSE CIRCUIT BREAKERS

Type CD Carbon Circuit Breakers

Maximum Voltage 600, A.C. or D.C.

Application. Type CD carbon circuit breakers are intended for separate mounting or for use on motor starting and control panel switchboards and small installations where the capacity of no circuit exceeds 300 amperes and the voltage is 600 or less. The circuit breakers are rugged in construction, and well finished. The rear-connected breaker has the standard Westinghouse finish for switchboard apparatus.

Caution. No carbon circuit breakers should be directly exposed to the severe conditions present in cement or flour mills, plaster or furniture factories, or similar plants where acid fumes or much dirt or dust are present. In case Type CD circuit breakers are installed where dirt and dust are likely to accumulate, particular care should be taken to keep the contacts clean and bright. Breakers should be opened and cleaned regularly



Fig. 1—Single Pole Rear-Connected Breaker With Overload Tripping. Coil—50 Amperes, 600 Volts

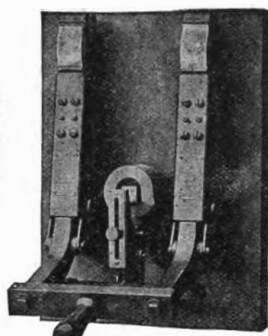


Fig. 2—Two-Pole Rear-Connected Breaker With One Overload Tripping Coil—100 Amperes, 300 Volts

to insure good contact and avoid overheating.

Temperature Rise. These circuit breakers will carry their rated current with a maximum temperature rise of 30 degrees Centigrade, in accordance with the National Electrical Code.

General Construction. The type CD circuit breaker is closed by a toggle mechanism and held from opening by a trigger or latch. The various trip mechanisms operate to disengage this latch and permit the breaker to open. Current-carrying contact brushes are of laminated copper having high pressure contact with an excellent wiping or self-cleaning action. The circuit is broken by self-cleaning carbon arcing contacts to protect the main contacts from burning. The tripping mechanism is so arranged that any of the automatic tripping devices below can be used, or any combination of them.

Multipole Circuit Breakers. Type CD circuit breakers are furnished with one, two, three or four poles. Each multipole breaker is provided with "common trip," that is, all poles trip simultaneously. Breakers can have separate closing handles for each pole with common trip if desired at the same price as standard breakers.

Mounting. These circuit breakers are mounted on slate slabs, for separate mounting. If desired for mounting on panels thicker than the standard 1 1/4 inch base, the rear-connected breakers will be shipped on wooden templates or scrap slabs of the thickness specified. Price the same as for standard mounting.

Connections. Suitable terminals are supplied for front or rear-connected breakers.

Finish. Front-connected breakers have black lacquer finish. Rear-connected breakers have copper parts polished and laquered and the frame details have a velvety black finish.

Auxiliary Parts

Barriers between poles of multiple breakers are supplied where the voltage exceeds 300. The voltage should therefore be specified in every order.

Tripping Devices. All CD breakers will be supplied with overload trip unless otherwise ordered. Underload, overvoltage, under voltage, reverse current and shunt tripping devices can be furnished with these breakers. The standard number of tripping coils of the various kinds required for multiple circuit breakers is as follows: however, one coil per pole can be supplied for overload or underload tripping if specified.

Number of Coils Required

Kind of Trip	1 Pole	2 Pole	3 Pole	4 Pole	Kind of Trip	1 Pole	2 Pole	3 Pole	4 Pole
Overload.....	1	1	2	2	Undervoltage.....	1	1	1	1
Underload.....	1	1	2	2	Shunt.....	1	1	1	1
Overvoltage.....	1	1	1	1					

Special size of base is required when auxiliary trips are added to overload breakers. This base must be ordered separately when auxiliary trips are added to breakers already in purchaser's possession.

Auxiliary Contacts. To operate an alarm circuit, or to open the shunt trip circuit when shunt trip is used, special auxiliary contacts should be ordered. These contacts open when the breaker opens. Contacts can also be supplied to close or to open and close when breaker opens.

Special Bases

For Use With Front-Connected Underload Trip

List With Front-Connected Underload Trip													
List No.	No. of Poles	Voltage Rating of Breaker	Current Rating of Breaker	Approx. Wt. Lbs.	List Price	List No.	No. of Poles	Voltage Rating of Breaker	Current Rating of Breaker	Approx. Wt. Lbs.	List Price		
			Base	Net	Boxed Only					Base	Net	Boxed Only	
168372.....	1	600	5 to 100	25	30	\$2.88	168376.....	3	300	5 to 100	35	45	\$7.56
168373.....	1	600	150 to 300	25	30	3.60	168377.....	3	300	150 to 300	35	45	8.28
168374.....	2	300	5 to 100	25	30	5.04	168382.....	3	600	5 to 100	45	55	7.92
168375.....	2	300	150 to 300	25	30	5.76	168383.....	3	600	150 to 300	45	55	8.64
168380.....	2	600	5 to 100	30	35	5.76	168378.....	4	300	5 to 100	45	55	9.36
168381.....	2	600	150 to 300	30	35	6.48	168379.....	4	300	150 to 300	45	55	11.16
For Use With Front-Connected Underload or Shunt Trip													
168384.....	1	600	5 to 100	25	30	\$3.96	168388.....	3	300	5 to 100	35	45	\$7.92
168385.....	1	600	150 to 300	25	30	4.68	168389.....	3	300	150 to 300	35	45	9.36
168390.....	2	300	5 to 100	25	30	5.76	168394.....	3	600	5 to 100	45	55	8.64
168391.....	2	300	150 to 300	25	30	6.48	168395.....	3	600	150 to 300	45	55	10.08
168392.....	2	600	5 to 100	30	35	7.56	168396.....	4	300	5 to 100	45	55	11.88
168393.....	2	600	150 to 300	30	35	9.00	168391.....	4	300	150 to 300	45	55	13.68

For Use With Front-Connected Undervoltage or Shunt Trip

See following page for further prices.

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

Protective Apparatus and Switchboard Accessories

WESTINGHOUSE CIRCUIT BREAKERS CD CIRCUIT BREAKERS (CONTINUED) Standard Type CD Carbon Circuit Breakers

Amperes		List No.		List Price		
Continuous Carrying Capacity	Calibration Range	Front Connection	Rear Connection	Complete Breaker	Front Connected	Rear Connected
Single Pole for Voltages Up to 600, A.C. or D.C.						
5	4-8	168246	168300	\$24.48	\$9.52	\$11.96
10	8-16	168247	168301	24.48	9.52	11.96
25	20-40	168248	168302	26.28	10.66	13.26
50	40-80	169249	168303	26.28	10.66	13.26
75	60-120	169250	168304	28.08	11.16	14.40
100	80-160	168251	168305	28.08	11.16	14.40
150	120-240	168252	168306	32.04	14.04	16.20
200	160-320	168253	168307	32.04	14.04	16.20
300	240-480	168254	168308	34.56	15.84	17.64
Double Pole for Voltages Up to 300, A.C. or D.C.—Without Barriers						
5	4-8	168255	168309	\$41.76	\$9.52	\$11.96
10	8-16	168256	168310	41.76	9.52	11.96
25	20-40	168257	168311	44.64	10.66	13.26
50	40-80	168258	168312	44.64	10.66	13.26
75	60-120	168259	168313	47.52	11.16	14.40
100	80-160	169260	168314	47.52	11.16	14.40
150	120-240	168261	168315	54.72	14.04	16.20
200	160-320	168262	168316	54.72	14.04	16.20
300	240-480	168263	168317	59.04	15.84	17.64
Double Pole for Voltages Up to 600, A.C. or D.C.—With Barriers						
5	4-8	168282	168336	\$44.64	\$9.52	\$11.96
10	8-16	168283	168337	44.64	9.52	11.96
25	20-40	168284	168338	47.52	10.66	13.26
50	40-80	168285	168339	47.52	10.66	13.26
75	60-120	168286	168340	50.40	11.16	14.40
100	80-160	168287	168341	50.40	11.16	14.40
150	120-240	168288	168342	57.60	14.04	16.20
200	160-320	168289	168343	57.60	14.04	16.20
300	240-480	168290	168344	61.92	15.84	17.64
Three Pole for Voltages Up to 300, A.C. or D.C.—Without Barriers						
5	4-8	168264	168318	\$67.68	\$19.02	\$23.92
10	8-16	168265	168319	67.68	19.02	23.92
25	20-40	168266	168320	72.36	21.32	26.50
50	40-80	168267	168321	72.36	21.32	26.50
75	60-120	168268	168322	77.04	22.32	28.80
100	80-160	168269	168323	77.04	22.32	28.80
150	120-240	168270	168324	88.56	28.08	32.40
200	160-320	168271	168325	88.56	28.08	32.40
300	240-480	168272	168326	95.76	31.68	35.28
Three Pole for Voltages Up to 600, A.C. or D.C.—With Barriers						
5	4-8	168291	168345	\$73.08	\$19.02	\$23.92
10	8-16	168292	168346	73.08	19.02	23.92
25	20-40	168293	168347	77.76	21.32	26.50
50	40-80	168294	168348	77.76	21.32	26.50
75	60-120	168295	168349	82.44	22.32	28.80
100	80-160	168296	168350	82.44	22.32	28.80
150	120-240	168297	168351	93.96	28.08	32.40
200	160-320	168298	168352	93.96	28.08	32.40
300	240-480	168299	168353	101.16	31.68	35.28

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 Protective Apparatus and Switchboard Accessories 10

WESTINGHOUSE CIRCUIT BREAKERS

CD CIRCUIT BREAKERS (Continued)

Standard Type CD Carbon Circuit Breakers

Four Pole for Voltages up to 300, A. C. or D. C.—Without Barriers

Amperes		List No.		Complete Breaker	List Price	
Continuous Carrying Capacity	Calibration Range	Front Connection	Rear Connection		Deduction for Omission of Overload Coil and Mechanism	
					Front Connected	Rear Connected
5	4-8	168273	168327	\$84.24	\$19.02	\$23.92
10	8-16	168274	168328	84.24	19.02	23.92
25	20-40	168275	168329	90.00	21.32	26.50
50	40-80	168276	168330	90.00	21.32	26.50
75	60-120	168277	168331	95.76	22.32	28.80
100	80-160	168278	168332	95.76	22.32	28.80
150	120-240	168279	168333	110.16	28.08	32.40
200	160-320	168280	168334	110.16	28.08	32.40
300	240-480	168281	168335	118.80	31.68	35.28

The four-pole breakers listed may be used for voltages up to 600 by adding barriers, extra list price \$7.20 *or all sizes.

Auxiliary Tripping Devices

UNDERLOAD TRIP

List No.		Amperes		Approx. Wt., Lbs.		List Price
Front Connection	Rear Connection	Rating of Breaker	Trips at	Net	Boxed	
168354	168363	5	0.5	5	7	\$15.84
168355	168364	10	1	5	7	15.84
168356	168365	25	2.5	5	7	16.56
168357	168366	50	5	5	7	16.56
168358	168367	75	7.5	5	7	18.00
168359	168368	100	10	5	7	18.00
168360	168369	150	15	5	7	19.44
168361	168370	200	20	5	7	19.44
168362	168371	300	30	5	7	20.16

Shunt Trip and Cutout Contacts

List No.	Voltages			Approximate Wt., Lbs.		List Price
	D.C.	25 Cycles	60 Cycles	Net	Boxed	
168995	20 to 35	55 to 100	110 to 200	5	7	\$8.64
168996	40 to 90	110 to 220	220 to 500	5	7	8.64
168997	100 to 250	275 to 550	600	5	7	8.64
168998	260 to 600	600	...	5	7	11.10

Undervoltage Trip

List No.	Voltages			Approx. Wt., Lbs.		List Price
	D.C.	25 Cycles	60 Cycles	Net	Boxed	
169000	3 to 5	15 to 25	35 to 60	5	7	\$11.16
169001	6 to 15	30 to 50	75 to 125	5	7	12.24
169002	20 to 45	75 to 125	175 to 275	5	7	13.32
169003	50 to 115	175 to 275	400 to 600	5	7	14.40
169004*	125 to 275	400 to 600	...	5	7	14.40
170300*	...	...	...	6	9	14.40
*170301	290 to 600	...	...	6	9	15.48

*Includes trip Mfr. No. 169002 and resistor.

Overvoltage Trip

List No.	D.C. Voltage	Approximate Wt., Lbs.		List Price
		Net	Boxed	
500602	55	5	7	\$9.72
500603	110	6	9	13.32
500604	(Including resistor) above 110	17.28

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11 Protective Apparatus and Switchboard Accessories

WESTINGHOUSE CARBON CIRCUIT BREAKERS
Type F Circuit Breakers
ELECTRICALLY OPERATED ACCESSORIES

**Type F Breaker
with Shunt Trip**

These auxiliary attachments may be applied to any standard type F carbon circuit breakers, either front or rear connected. They may also be applied, without interference with the existing mechanism, to type F breakers equipped with the standard shunt trip attachments. It will be necessary, however, to supply a wider base than is furnished with the standard breaker.

Mounting. The release attachment may be mounted on the right hand side of any standard type F carbon circuit breaker without interfering in any way with the existing mechanism of a standard breaker or one equipped with a shunt trip. When the breaker and attachment are mounted on the switchboard, no base is supplied and the apparatus is mounted directly on the panel. Drilling plan will be furnished on request.

Overvoltage Trip. The overvoltage attachment is used principally in connection with storage battery charging, where it is desired to cut off the current supply when the battery becomes fully charged. It may, however, be used in any alternating current or direct current circuit that it is desired to open automatically in case of either moderate or abnormal rise in voltage.


**Overvoltage Trip
Mechanism**

It has a shunt winding which raises a plunger that trips the breaker. On alternating and direct current circuits below 130 volts the coil is connected directly across the circuit, but in direct current circuits, over 130 volts, a series resistance is used. The tripping circuit may be entirely distinct from the breaker circuit.

The adjustment of the tripping range is easily made by varying the vertical location of the plunger by means of a knurled thumb screw which carries an index, located in the downward-projecting calibration tube. The tripping range is exceedingly wide, the maximum point being 100 per cent. greater than the minimum voltage calibration. No permanent magnets are used in the construction of this device. It trips the breaker directly and consequently requires no shunt-trip auxiliary attachment.

Electrically Operated Accessories

Mfr. No. of the mechanism includes the device complete with the necessary contact nuts, terminals, mounting screws for 1 inch to 1½ inch panel and necessary terminal clips, resistance (when required) and spring cut-out for opening the shunt coil circuit when the breaker is tripped. The Mfr. No., however, does not include the base or breaker proper, which must be ordered separately.

OVERVOLTAGE TRIP

List No.	Tripping Range Volts	Approximate (Wt., Lbs.)		List Price	List No.	Tripping Range Volts	Approximate (Wt., Lbs.)		List Price
		Net	Shipping				Net	Shipping	
133738	10 to 20	2¾	3½	\$13.32	133741	65 to 130	2¾	3½	\$15.84
133739	20 to 40	2¾	3½	13.68	133742	125 to 250	5	6 (with resistance)	20.16
133740	35 to 70	2¾	3½	14.40					

NOTE: If desired for use on alternating current circuits, the voltage and frequency of the tripping coil circuit must be specified on the order.

D. C. Reverse Current and Underload Trip

List No.	List No. of Resistance	Rated Amperes of Circuit Breaker	Rated Voltage of Trip Mechanism	No. of 2 Volt Cells in Series	Approximate Weight Trip. Mech., Lbs.		List Price
					Net	Shipping	
129225B	None	12½	32	16	3¼	4	\$14.40
129226B	None	25	32	16	3¼	4	15.12
129227B	None	50	32	16	3¼	4	15.84
129228B	None	75	32	16	3¼	4	16.92
133407B	None	12½	55	28	3¼	4	15.84
133408B	None	25	55	28	3¼	4	16.56
133409B	None	50	55	28	3¼	4	17.28
133410B	None	75	55	28	3¼	4	18.36
129229B	None	12½	110	56	3¼	4	16.56
129230B	None	25	110	56	3¼	4	17.28
129231B	None	50	110	56	3¼	4	18.00
129232B	None	75	110	56	3¼	4	19.08
129229B	186470	12½	220-110	..	5½	6½	21.24
129230B	186470	25	220-110	..	5½	6½	21.96
129231B	186470	50	220-110	..	5½	6½	22.68
129232B	186470	75	220-110	..	5½	6½	23.76

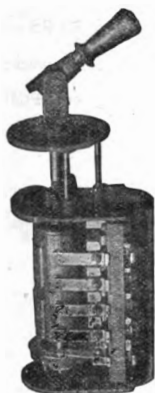
For any given value of current at any special voltage under 150 use the list price of next higher voltage unless ordered in quantities of 25 or more at one time, in which case the additional charge may be omitted.

List No.	Description	Approx. Wt., Lbs.		List Price
		Net	Shipping	
133743	One inch black marine slate base for any type F carbon circuit breaker and auxiliary attachment.	5	5½	\$1.44

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Protective Apparatus and Switchboard Accessories

WESTINGHOUSE CIRCUIT-BREAKER ACCESSORIES



Controlling Switch



Type AR Relay

Controlling Switch

The switch is used to actuate electrically operated circuit breakers. It allows the placing of all controlling apparatus within the reach of one operator and results in a considerable saving in wiring. It has a carrying capacity of 50 amperes, with a voltage not exceeding 500.

The controlling switches here listed are designed particularly for the control of electrically operated circuit breakers. The indicators show whether the remote circuit breaker is open or closed, and in some types, if open, whether it has been opened intentionally or tripped automatically, as the result of abnormal conditions on the circuit.

The hinged handle when thrown to the open position may be locked by swinging the handle outward so that it is in line with the drum shaft. It cannot be locked when in the closed position. When the handle is raised it indicates to the operator that the switch is out of service. The act of raising the handle cuts off the current from the controller and extinguishes the signal lamps.

List No. and list price include switch complete without indicators.

List No.	For	No. of	For Use With	List Price Each
	Marble	Indicators		
57953A	2 ins. thick	2	Electrically operated oil or carbon circuit breakers.....	\$28.80
57954A	1½ ins. thick	2	Electrically operated oil or carbon circuit breakers.....	28.80
119930	2 ins. thick	3	Electrically operated oil or carbon circuit breakers.....	28.80
119931	1½ ins. thick	3	Electrically operated oil or carbon circuit breakers.....	28.80
73452A	1½ ins. thick	2	Circuit breakers and automatic synchronizers.....	28.80
73453A	2 ins. thick	2	Circuit breakers and automatic synchronizers.....	28.80

Indicators

Each indicator consists of a lamp receptacle projecting through the switchboard for holding a candelabra lamp, and a lens holder with a special prismatic lens. The lamp is removable from the front of the panel and the receptacle is provided with a glass tube fuse at the back of the board. The receptacle is arranged for mounting on 2 inch thick panel, but can be used on 1¼ inch and 1½ inch panels by the addition of an adapter. The lens holder is pushed into the end of the receptacle from the front of the board and is held firmly by spring clips. A special feature of the lens is the prismatic protection extending across its face, which make the indications visible from any position in front of the board.

List No. and list price of lamp receptacle include one fuse, but do not include a lamp. A 125 or 140 volt standard candelabra lamp should be used.

List No.	Description	List Price Each
154255	Lens holder with red lens.....	\$1.80
154256	Lens holder with green lens.....	1.80
154257	Lens holder with white lens.....	1.80
154275	Lamp receptacle for 2 inch panel.....	1.16
156145	Adapter for 1¼ and 1½ inch panels.....	.29
156096	Glass tube fuse.....	.08

Type AR, Reverse Current, Direct Current, Relay

This device closes the circuit through a circuit breaker shunt trip coil when the circuit is reversed. Designed particularly for use with battery charging apparatus. Operates when a reversed voltage of 25 millivolts is applied to coil terminals.

Price does not include shunt or tripping coil. The circuit breaker should have an auxiliary contact to open trip circuit when the breaker opens, thereby relieving the relay of this function. The contacts will close a tripping circuit of 1 ampere at 100 volts, or a proportionately lower current at higher voltage for switchboard mounting.

72826 Relay with leads 8 feet long..... \$22.32

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G. E. CIRCUIT BREAKERS

FEATURES OF GENERAL ELECTRIC CIRCUIT BREAKERS

1. Can be furnished from stock in a greater and more complete range of ampere capacities (3 to 10,000 amp.) than any other standard make.
2. Are designed with ample conducting parts so that the temperature rise of no portion of the circuit breaker exceeds 30 degrees centigrade when operated at rated load.
3. Direct and alternating current breakers cover all voltages up to and including 1200 volts, single, double and triple pole.
Double pole breakers have each pole operated by a separate handle.
Triple pole breakers have all three poles operated by a single handle and include the "trip free" feature.
- The above breakers are furnished to operate on overload, low voltage, overvoltage and shunt trip or any combination of the above. In addition direct current breakers are furnished for underload or reverse current.
4. Auxiliary switches can be applied to any of the breakers without alteration; for use in ringing bells, lighting lamps, tripping other breakers, etc.
5. Low voltage and shunt trip attachments can also be applied to any of the circuit breakers after they are installed without any change in the circuit breaker.
6. Generally require less space on switchboards than other standard types.
7. Take less power to close than other makes.
8. Studs and contact blocks are drop-forged in one piece in all but the smallest sizes.
9. The carbon secondary contacts are made of solid blocks of selected carbon, securely fastened by clamping jaws, without the use of screws, which require grooves or holes in the carbon tending to cause breakage.
10. Carbon arcing tips are given a sliding motion under pressure on each other in closing, thus insuring a good contact.
11. The main brush contact is effectively protected from burning by a properly located burning tip.
12. A special form of laminated brush is used for making the main contact. It gives the laminations an end-on contact with the contact blocks and allows a heavy pressure to be placed upon and uniformly distributed over its entire contact surface. There is no tendency to force any part of the brush out of contact, which results in maximum efficiency.
13. A special arrangement is provided for making adjustment of the pressure of the contact brush.
14. The brush meets the contact block with a decided wiping motion, thus cleaning the area of the contact at each operation.
15. The breakers are all held closed by a positive lock which cannot jar loose.
16. All these breakers trip easily without the use of auxiliary accelerating devices, such as springs or weighted handles.
17. The manual tripping device is well insulated from the live parts of the circuit breaker.
18. Each circuit breaker is calibrated individually.
19. The calibration is marked with white numerals on a black background and shows up distinctly.
20. The range of calibration extends from approximately 50 per cent. to 150 per cent. or more of the rated ampere capacity.
21. All circuit breakers are given a high potential test of at least five times their rated voltage.
22. All parts of circuit breakers likely to require replacement are made renewable and repair parts are carried in stock.
23. These circuit breakers have been submitted to exhaustive tests with regard to their rupturing capacity and their mechanical construction. In all cases they have proven eminently satisfactory.
24. These breakers can be removed from the shipping template, or from one panel to another without disturbing the adjustment.
25. Designed by engineers who are largely instrumental in developing reliable circuit interrupting apparatus.
26. Life tests on all lines of breakers eliminate weak points in mechanical construction.

DIRECTIONS FOR ORDERING

Attention to following will avoid errors and delays in shipment.

Always give Mfr. No. if listed.

Direct current or alternating current. If alternating current, state frequency.

Voltage.

Rated ampere capacity (maximum load if less).

Overload, underload or plain shunt trip.

Single, double or triple pole.

Front or back connected. Thickness of panel.

Number of overload coils.

Kind of service { Lighting
Power
Railway

Attachments, if any, giving Mfr. No. of each.

Complete shipping instructions—freight or express.

In case Mfr. Nos. are not listed covering exact requirements order should read, "Circuit Breaker(s) similar to Mfr. No. . . .," followed by concise description of combination or operation required.

In ordering repair parts give serial No. of breaker and name of part by reference to Lists of Parts.

Protective Apparatus and Switchboard Accessories 15

G. E. CIRCUIT BREAKERS

Automatic Circuit Breakers (Overload)

CARBON BREAK, TYPE C, FORM Q, DIRECT AND ALTERNATING CURRENT



Direct Current, Type C, Form
Q Overload Circuit Breaker

The Type C, Form Q circuit breaker has been designed to meet the demand for a compact, single pole breaker of low price, for the automatic protection of small capacity motor, lighting and heating circuits and similar service.

It is made in the front-connected, single pole form only, for use on direct current and alternating current circuits of 250 volts or less, and is mounted on a natural black slate base $8\frac{1}{2}$ inches long, $2\frac{3}{4}$ inches wide and $\frac{3}{4}$ inch thick.

These circuit breakers are quick-acting, of rugged construction and the temperature rise will not exceed 28 degrees C. at rated full load current. The main contacts are of the laminated brush type. Heavy carbon secondary contacts on suitable spring supports are provided to prevent injury to the main contacts. The secondary contacts may be easily replaced when necessary. Two cable terminals are furnished with each circuit breaker.

The tripping mechanism consists of a plunger actuated by a series coil and arranged to deliver a "hammer blow" to the latch which holds the breaker closed. Once the plunger commences to move, the pull continually increases and the tripping action is therefore absolutely positive. An insulated button is provided on the latch for hand operation, and this latch, as well as the catch, are of hardened steel.

The calibrating device is insulated from the live metal parts of the breaker and is locked in position. To adjust the tripping point, loosen the calibrating arm by giving the handle a half turn to the left, then raise or lower the arm until the proper line on the scale appears opposite the line on the name plate. Lock the calibrating arm in position by giving the handle a half turn to the right.

All live metal parts have bright copper finish, insulated parts, black oxidized.

These breakers will stand a high potential test between circuit breaker and ground of about five times their normal voltage rating.

Type C, Form Q, Carbon Break—Direct and Alternating Current Overload, 250 Volts

DIRECT CURRENT, SINGLE POLE, 250 VOLTS OR LESS

List No.	Ampere Capacity	Calibration Minimum	Maximum	List Price Each
75337	3	1.5	5	\$12.10
75338	5	3	8	12.10
75339	10	5	15	12.10
75340	15	10	25	12.10
75341	30	15	45	12.10
75342	60	30	90	13.20
75343	100	60	150	13.20

ALTERNATING CURRENT, SINGLE POLE, 250 VOLTS

List No.	Ampere Capacity	Calibration Minimum	Maximum	List Price Each
76794	3	2	5	\$13.20
76795	5	4	8	13.20
76796	10	8	15	13.20
76797	15	12	25	13.20
76798	30	25	45	13.20
76799	60	45	90	14.30
76800	100	80	150	14.30

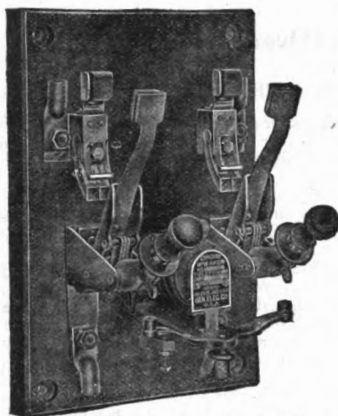
Note: Approximate shipping weight is 4 lbs.

These breakers can be furnished back connected for mounting on $1\frac{1}{4}$ inch base or panel. When so furnished, breakers are shipped mounted on wooden templates. For back connection add \$1.38 to above list prices.

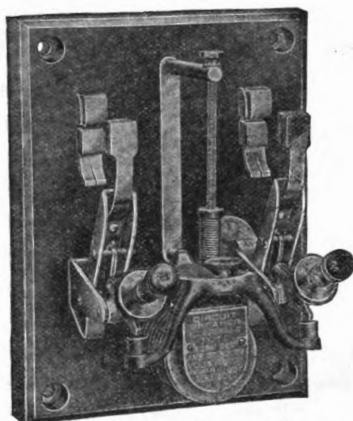
"Ampere Capacity" denotes the load that the breaker will carry continuously without excessive heating.

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G. E. CIRCUIT BREAKERS



200 Amperes, 250 Volts, without Barrier



200 Amperes, 500 Volts, DP Underload

Type C, Form G, Carbon Break—Direct Current—Overload

Recommended for small panels for motor control, mercury rectifiers, etc.

Single Pole, 500 Volts or Less**Double Pole, 250 Volts**

Amp. Capac- ity	Calibration		List No.		List Price Each	List No.		List Price Each
	Min.	Max.	Front Con- nected on Base	Back Connected for 1½ In. or 2 In. Panel		Front Con- nected on Base	Back Connected for 1½ In. or 2 In. Panel	
3	1.5	5	39899	39911	\$18.70	39898	39910	\$25.30
5	3	8	39903	39915	18.70	39902	39914	25.30
10	5	15	39907	39919	18.70	39906	39918	25.30
15	10	25	35483	35507	18.70	35482	35506	25.30
25	15	40	35487	35511	18.70	35486	35510	25.30
50	25	75	35491	35515	18.70	35490	35514	25.30
100	50	150	35495	35519	22.00	35494	35518	30.80
200	100	300	35499	35523	29.70	35498	35522	42.90
300	200	450	35503	35527	37.40	35502	35526	50.60

Double Pole, 500 Volts

3	1.5	5	.....	.....	.....	39900	39912	\$29.70
5	3	8	.....	.....	.....	39904	39916	29.70
10	5	15	.....	.....	.....	39908	39920	29.70
15	10	25	.....	.....	.....	35484	35508	29.70
25	15	40	.....	.....	.....	35488	35512	29.70
50	25	75	.....	.....	.....	35492	35516	29.70
100	50	150	.....	.....	.....	35496	35520	35.20
200	100	300	.....	.....	.....	35500	35524	48.40
300	200	450	.....	.....	.....	35504	35528	56.10

Direct Current—Underload**Single Pole, 500 Volts or Less****Double Pole, 250 Volts****Double Pole, 500 Volts**

Amp. Capac- ity	List No.		List Price Each	List No.		List Price Each	List No.		List Price Each
	Front Con- nected on Base	Back Connect- ed for 1½ In. or 2 In. Panel		Front Con- nected On Base	Back Connect- ed for 1½ In. or 2 In. Panel		Front Con- nected On Base	Back Connect- ed for 1½ In. or 2 In. Panel	
15	37493	37517	\$20.90	37492	37516	\$28.60	37494	37518	\$33.00
25	37497	37521	20.90	37496	37520	28.60	37498	37522	33.00
50	37501	37525	20.90	37500	37524	28.60	37502	37526	33.00
100	37505	37529	24.20	37504	37528	34.10	37506	37530	38.50
200	37509	37533	33.00	37508	37532	47.30	37510	37534	52.80
300	37513	37537	41.80	37512	37536	60.50	37514	37538	66.00

NOTE: Ampere capacity denotes the load that the breaker will carry continuously at 30 degrees C. rise or less. Underload breakers can be set to trip between the minimum limit of 10 per cent. and the minimum limit of 20 per cent. of their carrying capacity.

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Protective Apparatus and Switchboard Accessories 17

G. E. CIRCUIT BREAKERS

Type C, Form G, Carbon Break

DIRECT CURRENT—COMBINED OVERLOAD AND UNDERLOAD

Single Pole, 500 Volts or Less

Double Pole, 250 Volts

Amp. Capac- ity	Calibration		List No.		List Price Each	List No.		List Price Each
	Min.	Max.	*Front Con- nected on Base	Back Connected for 1½ In. or 2 In. Panel		*Front Con- nected on Base	Back Connected for 1½ In. or 2 In. Panel	
15	10	25	77676	77688	\$39.60	77675	77687	\$39.60
25	15	40	77678	77690	39.60	77677	77689	39.60
50	25	75	77680	77692	39.60	77679	77691	39.60
100	50	150	77682	77694	46.20	77681	77693	46.20
200	100	300	77684	77696	62.70	77683	77695	62.70
300	200	450	77686	77698	79.20	77685	77697	79.20

Double Pole, 500 Volts

Manufacturers' No., list prices, etc., same as above.

*Each pole mounted on separate base.

†Combination consists of one single pole overload and one single pole underload breaker. When used as single pole breaker, both breakers are connected in series. When used as double pole breaker, connect overload breaker in one side of line, underload in the other side.

Direct Current—Combined Overload and †Low Voltage

Single Pole, 500 Volts or Less—Front Connected
on 1½ Inch Base

Single Pole, 500 Volts or Less—Back
Connected for 1½ or 2 Inch Panel

Amp. Capac- ity	Calibration		**List No.			**List Price Each	**List No.			**List Price Each
	Min.	Max.	For 125 Volts	For 250 Volts	For 500 Volts		For 125 Volts	For 250 Volts	For 500 Volts	
3	1.5	5	77243	77245	77247	\$29.70	77297	77299	77301	\$29.70
5	3	8	77249	77251	77253	29.70	77303	77305	77307	29.70
10	5	15	77255	77256	77259	29.70	77309	77311	77313	29.70
15	10	25	77261	77263	77265	29.70	77315	77317	77319	29.70
25	15	40	77267	77269	77271	29.70	77321	77323	77325	29.70
50	25	75	77273	77275	77277	29.70	77327	77329	77331	29.70
100	50	150	77279	77281	77283	33.00	77333	77335	77337	33.00
200	100	300	77285	77287	77289	42.90	77339	77341	77343	42.90
300	200	450	77291	77293	77295	50.60	77345	77347	77349	50.60

Double Pole, 125 and 250 Volts—Front Connected
on 1½ Inch Base

Double Pole, 125 and 250 Volts—Back
Connected for 1½ or 2 Inch Panel

Amp. Capac- ity	Calibration		**List No.		**List Price Each	**List No.		**List Price Each
	Min.	Max.	For 125 Volts	For 250 Volts		For 125 Volts	For 250 Volts	
3	1.5	5	77244	77246	\$36.30	77298	77300	\$36.30
5	3	8	77250	77252	36.30	77304	77306	36.30
10	5	15	77256	77258	36.30	77310	77312	36.30
15	10	25	77262	77264	36.30	77316	77318	36.30
25	15	40	77268	77270	36.30	77322	77324	36.30
50	25	75	77274	77276	36.30	77328	77330	36.30
100	50	150	77280	77282	41.80	77334	77336	41.80
200	100	300	77286	77288	56.10	77340	77342	56.10
300	200	450	77292	77294	63.80	77346	77348	63.80

Double Pole, 500 Volts—Front Connected
on 1½ Inch Base

Double Pole, 500 Volts—Back Connected
for 1½ or 2 Inch Panel

Amp. Capac- ity	Calibration		**List No. for 500 Volts	**List Price Each	**List No. for 500 Volts	**List Price Each
	Min.	Max.				
3	1.5	5	77248	\$40.70	77302	\$40.70
5	3	8	77254	40.70	77308	40.70
10	5	15	77260	40.70	77314	40.70
15	10	25	77266	40.70	77320	40.70
25	15	40	77272	40.70	77326	40.70
50	25	75	77278	40.70	77332	40.70
100	50	150	77284	46.20	77338	46.20
200	100	300	77290	61.60	77344	61.60
300	200	450	77296	69.30	77350	69.30

NOTE: Ampere capacity denotes the load that the breaker will carry continuously at 30 degrees C. rise or less. For alternating current prices refer to lists of overload breakers and attachments.

**Manufacturer's No. and list price includes series resistance for low voltage coil.

†Low voltage releases at approximately one-half rated voltage.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries, write nearest house.

G. E. CIRCUIT BREAKERS

Type C, Form G, Carbon Break—Direct Current

PLAIN SHUNT TRIP, WITH CIRCUIT OPENING AUXILIARY SWITCH

Single Pole, 500 Volts or Less

List No.	Front Connected On Base	Back Connected for 1½ In. Panel	Back Connected for 2 In. Panel	Ampere Capacity	Approx. Ship. Wt., Lbs.		List Price Each
					On Base	For Panel	
	77164	77176	77188	100	20	12	\$25.30
	77168	77180	77192	200	32	20	33.00
	77172	77184	77196	300	32	20	40.70

Double Pole, 250 Volts

	77163	77175	77187	100	25	15	\$34.10
	77167	77179	77191	200	48	32	46.20
	77171	77183	77195	300	48	32	43.90

Double Pole, 500 Volts

	77165	77177	77189	100	25	15	\$38.50
	77169	77181	77193	200	48	32	51.70
	77173	77185	77197	300	48	32	59.40

NOTE: No overload coils on these breakers.

OVERLOAD AND SHUNT TRIP, WITH CIRCUIT OPENING AUXILIARY SWITCH

Single Pole, 500 Volts or Less

List No.	Front Connected On Base	Back Connected for 1½ In. Panel	Back Connected for 2 In. Panel	Ampere Capacity	Calibration		Approx. Ship. Wt., Lbs.		List Price Each
					Min.	Max.	On Base	For Panel	
	77461	77497	77533	3	1.5	5	25	15	\$30.80
	77465	77501	77537	5	3	8	25	15	30.80
	77469	77505	77541	10	5	15	25	15	30.80
	77473	77509	77545	15	10	25	25	15	30.80
	77477	77513	77549	25	15	40	25	15	30.80
	77481	77517	77553	50	25	75	25	15	30.80
	77485	77521	77557	100	50	150	25	15	34.10
	77489	77525	77561	200	100	300	40	30	41.80
	77493	77529	77565	300	200	450	40	30	49.50

Double Pole, 250 Volts

	77460	77496	77532	3	1.5	5	30	20	\$37.40
	77464	77500	77536	5	3	8	30	20	37.40
	77468	77504	77540	10	5	15	30	20	37.40
	77472	77508	77544	15	10	25	30	20	37.40
	77476	77512	77548	25	15	40	30	20	37.40
	77480	77516	77552	50	25	75	30	20	37.40
	77484	77520	77556	100	50	150	30	20	42.90
	77488	77524	77560	200	100	300	55	40	55.00
	77492	77528	77564	300	200	450	55	40	62.70

Double Pole, 500 Volts

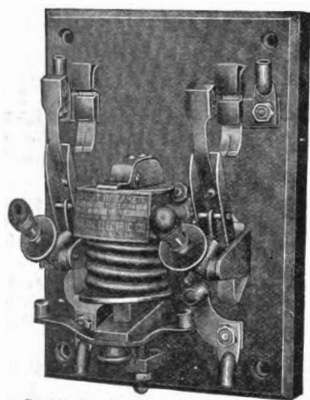
	77462	77498	77534	3	1.5	5	35	20	\$41.80
	77466	77502	77538	5	3	8	35	20	41.80
	77470	77506	77542	10	5	15	35	20	41.80
	77474	77510	77546	15	10	25	35	20	41.80
	77478	77514	77550	25	15	40	35	20	41.80
	77482	77518	77554	50	25	75	35	20	41.80
	77486	77522	77558	100	50	150	35	20	47.30
	77490	77526	77562	200	100	300	60	40	60.50
	77494	77530	77566	300	200	450	60	40	68.20

NOTE: Ampere capacity denotes the load that the breaker will carry continuously at 30 degrees C. rise or less. Capacities below 100 amperes, same price.

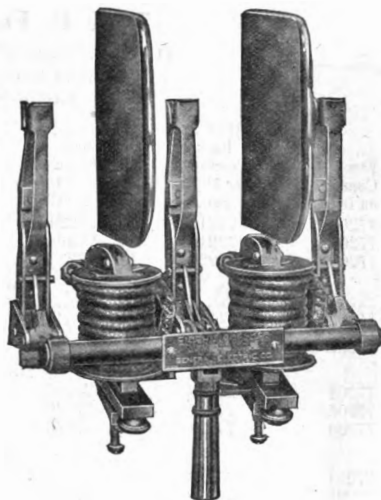
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Protective Apparatus and Switchboard Accessories 19

G. E. ALTERNATING CURRENT CIRCUIT BREAKERS



Double Pole, Type C, Form G, Front Connected



Triple Pole, Type C, Form G, Two Overload Coils

Type C, Form G, Carbon Breaker

Single Pole, 600 Volts or Less

Ampere Capacity	Calibration		List No.		List Price Each
	Min.	Max.	Front Connected on Base	Back Connected for 1½ In. or 2 In. Panel	
3	1.5	5	43340	43352	\$20.90
5	3	8	43344	43356	20.90
10	5	15	43348	43360	20.90
15	10	25	38144	38168	20.90
25	15	40	38148	38172	20.90
50	25	75	38152	38176	20.90
100	50	150	38156	38180	24.20
200	100	300	38160	38184	33.00
300	200	450	38164	38188	41.80

Double Pole, 250 Volts

Front Connected on Base	List No.		List Price Each
	Back Connected for 1½ In. or 2 In. Panel		
43339	43351		\$28.60
43343	43355		28.60
43347	43359		28.60
38143	38167		28.60
38147	38171		28.60
38151	38175		28.60
38155	38179		34.10
38159	38183		47.30
38163	38187		60.50

Double Pole, 600 Volts, One Overload Coil Only

Ampere Capacity	Calibration		List No.		List Price Each
	Min.	Max.	Front Connected on Base	Back Connected for 1½ In. or 2 In. Panel	
3	1.5	5	43341	43353	\$33.00
5	3	8	43345	43357	33.00
10	5	15	43349	43361	33.00
15	10	25	38145	38169	33.00
25	15	40	38149	38173	33.00
50	25	75	38153	38177	33.00
100	50	150	38157	38181	38.50
200	100	300	38161	38185	52.80
300	200	450	38165	38189	66.00

T. P. 600 Volts, One Overload Coil Only

Front Connected on Base	List No.		List Price Each
	Back Connected for 1½ In. or 2 In. Panel		
46271	46280		\$47.30
46272	46281		47.30
46273	46282		47.30
38196	40322		47.30
38197	40323		47.30
38198	40324		47.30
38199	40325		56.10
38200	40326		75.90
38201	40327		94.60

Triple Pole, 600 Volts, Two Overload Coils Only

Ampere Capacity	Calibration		List No.		List Price Each
	Min.	Max.	Front Connected on Base	Back Connected for 1½ In. or 2 In. Panel	
3	1.5	5	46268	46277	\$56.10
5	3	8	46269	46278	56.10
10	5	15	46270	46279	56.10
15	10	25	38190	38214	56.10
25	15	40	38191	38215	56.10
50	25	75	38192	38216	56.10
100	50	150	38193	38217	64.90
200	100	300	38194	38218	88.00
300	200	450	38195	38219	110.00

Triple Pole, 600 Volts, 25-40-60 Cycles, One Overload and One Low Voltage Coil

Front Connected on Base	List No.		List Price Each
	Back Connected for 1½ In. or 2 In. Panel		
46274	46283		\$62.70
46275	46284		62.70
46276	46285		62.70
38202	38220		62.70
38203	38221		62.70
38204	38222		62.70
38205	38223		71.50
38206	38224		93.50
38207	38225		112.20

NOTE: Ampere capacity denotes the load that the breakers will carry continuously at 30 degrees C. rise or less.

Use one overload coil on balanced circuits; two overload coils on unbalanced circuits.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries, write nearest house.

G. E. CIRCUIT BREAKERS
Type C, Form G, Carbon Break
ALTERNATING CURRENT—PLAIN SHUNT TRIP
 With Circuit Opening Auxiliary Switch
 Single Pole, 600 Volts or Less

Front Connected on Base	††List No. Back Connected for 1½ In. Panel	Back Connected for 2 In. Panel	Ampere Capacity	Approx. Ship. Wt. Lbs. On Base	For Panel	††List Price Each
77200	77212	77224	100	20	12	\$27.50
77204	77216	77228	200	32	20	36.30
77208	77220	77232	300	32	20	45.10
Double Pole, 250 Volts						
77199	77211	77223	100	25	15	\$37.40
77203	77215	77227	200	48	32	50.60
77207	77219	77231	300	48	32	63.80
Double Pole, 600 Volts						
77201	77213	77225	100	25	15	\$41.80
77205	77217	77229	200	48	32	56.10
77209	77221	77233	300	48	32	69.30
Triple Pole, 600 Volts						
77234	77237	77240	100	40	30	\$59.40
77235	77238	77241	200	65	50	79.20
77236	77239	77242	300	65	50	97.90

Direct and Alternating Current Attachments—Auxiliary Switches

Circuit Closing		Circuit Opening		Combined Circuit Opening and Circuit Closing		Am. Cap. of Circuit Breaker	For Mounting on
List No.	List Price Each	List No.	List Price Each	List No.	List Price Each		
37553	\$3.30	37547	\$3.30	37559	\$5.50	3-100	1¼ ins. Base
37554	3.30	37548	3.30	37560	5.50	3-100	1½ ins. Panel
37555	3.30	37549	3.30	37561	5.50	3-100	2 ins. Panel
37556	3.30	37550	3.30	37562	5.50	200-300	1½ ins. Base
37557	3.30	37551	3.30	37563	5.50	200-300	1½ ins. Panel
37558	3.30	37552	3.30	37564	5.50	200-300	2 ins. Panel

†Shunt Trip Attachments

List No.	Mfr. No. Attachment	Voltage of Circuit	Description of Circuit Breakers Ampere Capacity	Poles	List Price Each
300889	37545	125-250-500	3-100	Single and Double	\$8.80
300890	37546	125-250-500	200-300	Single and Double	8.80

***Low Voltage Release Attachments**

Alternating Current		Direct Current					
List No. Attachment	List Price Each	Mfr. No. Attachment	List Price Each	Voltage of Circuit	Approx. Releasing Voltage	Description of Circuit Breakers	
						Ampere Capacity	Poles
43378	\$15.40	37539	\$11.00	125	60	3-100	Single and Double
43381	17.60	37542	13.20	125	60	200-300	Single and Double
43379	15.40	37540	11.00	250	125	3-100	Single and Double
43382	17.60	37543	13.20	250	125	200-300	Single and Double
43380	15.40	37541	11.00	500 (600)	250	3-100	Single and Double
43383	17.60	37544	13.20	500 (600)	250	200-300	Single and Double

*Release at one-half rated load.

†Should be allowed to remain in circuit only momentarily.

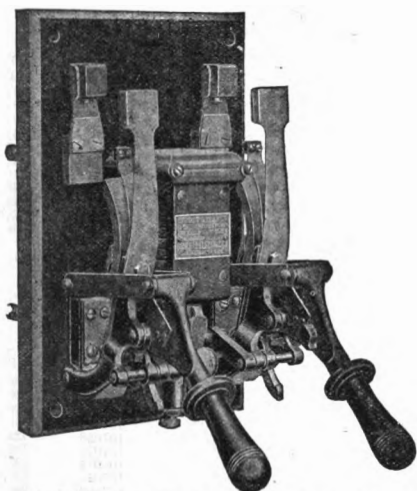
Same attachments with either single or double pole breakers.

Only one pole (the right hand from the front) is tripped out by these attachments.

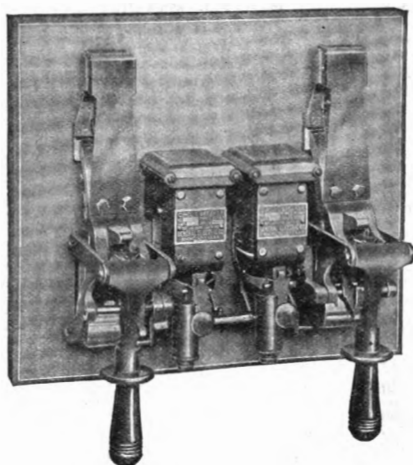
††Mfr. No. and list price includes circuit opening auxiliary switch for opening shunt coil circuit.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries, write nearest house.

G. E. CIRCUIT BREAKERS



Single Pole, Overload, 650 Volts, 500 Amperes



Double Pole, Overload, 250 Volts, 1200 Amperes

Type C, Form P, Carbon Break

BACK CONNECTED DIRECT CURRENT—OVERLOAD

Recommended for general switchboard work. Main contact brushes are protected by carbon and metal secondaries. Contact pressure adjustable. Each breaker calibrated individually and has wide range of calibration, clearly marked. Double pole breakers, each pole separate handle; triple pole breakers, one handle for all poles and "trip-free" feature. Contact studs and blocks drop forged in one piece.

Single Pole—650 Volts or Less

*Ampere Capacity	Calibration		List No.		List Price Each
	Minimum	Maximum	On 1 1/4 In. Base	For 1 1/2 In. Panel	
15	10	25	36206	36233	\$44.00
25	15	45	36209	36236	44.00
50	25	75	36212	36239	44.00
100	50	150	36215	36242	46.20
200	100	300	36218	36245	58.30
300	200	450	36221	36248	69.30
500	300	750	36224	36251	92.40
600	400	900	†105725	105731	104.50
800	500	1200	†105727	105734	126.50
1000	600	1500	†105728	105735	149.60
1200	800	1800	†36230	36257	171.60

Double Pole—250 Volts (One Overload Coil)

List No.	List No.		List Price Each
	On 1 1/4 In. Base	For 1 1/2 In. Panel	
36205	36232	36232	\$63.80
36208	36235	36235	63.80
36211	36238	36238	63.80
36214	36241	36241	68.20
36217	36244	36244	85.80
36220	36247	36247	103.40
36223	36250	36250	140.80
†105724	105730	105730	158.40
†36226	36253	36253	193.60
†105727	105733	105733	231.00
†36229	36256	36256	266.20

Double Pole, Double Coil, 250 Volts

*Ampere Capacity	Calibration		List No.		List Price Each
	Minimum	Maximum	On 1 1/4 In. Base	For 1 1/2 In. Panel	
15	10	25	107088	107099	\$85.80
25	15	45	107089	107100	85.80
50	25	75	107090	107101	85.80
100	50	150	107091	107102	90.20
200	100	300	107092	107103	115.50
300	200	450	107093	107104	137.50
500	300	750	107094	107105	185.90
600	400	900	†107095	107106	211.20
800	500	1200	†107096	107107	257.40
1000	600	1500	†107097	107108	305.80
1200	800	1800	†107098	107109	352.00

NUTS AND TERMINALS

List prices include complete equipment of nuts and terminals for each stud.
*Load which the breaker will carry continuously at 30 degrees C. rise or less.
†Mounted on 1 1/4 inch base.

Double pole, 650 volt breakers, prices on application, stating requirements.
Underload breakers may be set to trip between the limits of 10 per cent. and 20 per cent. of their rated ampere capacity.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKER

Type C, Form P, Carbon Break—Direct Current—Underload
BACK CONNECTED

Single Pole, 650 Volts or Less					Double Pole, 250 Volts or Less				
*Amp. Cap.	On 1½ In. Base	List No.	For 1½ In. or 2 In. Panel	List Price Each	On 1½ In. Base	List No.	For 1½ In. or 2 In. Panel	List Price Each	
15	42076	42103		\$66.00	42075	42102		\$101.20	
25	42079	42106		66.00	42078	42105		101.20	
50	42082	42109		66.00	42081	42108		101.20	
100	42085	42112		70.40	42084	42111		105.60	
200	42088	42115		78.10	42087	42114		117.70	
300	42091	42118		88.00	42090	42117		132.00	
500	42094	42121		114.40	42093	42120		174.90	
600	†107012	107018		129.80	†107011	107017		190.90	
800	†12097	42124		157.30	†42096	42123		242.00	
1000	†107015	107021		187.00	†107014	107020		288.20	
1200	†42100	42127		215.60	†42099	42126		334.40	

Overload and Underload—Direct Current

Single Pole, 650 Volts or Less—Back Connected					Double Pole, 250 Volts or Less				
*Amp. Cap.	Calibration Min. Max.	List No.	On 1½ In. Base	For 1½ In. or 2 In. Panel	List Price Each	On 1½ In. Base	For 1½ In. or 2 In. Panel	List Price Each	
15	10	25	107024	107057	\$66.00	107023	107056	\$90.20	
25	15	45	107027	107060	66.00	107026	107059	90.20	
50	25	75	107030	107063	66.00	107029	107062	90.20	
100	50	150	107033	107066	69.30	107032	107065	95.70	
200	100	300	107036	107069	88.00	107035	107068	122.10	
300	200	450	107039	107072	104.50	107038	107071	145.20	
500	300	750	†107042	107075	138.60	†107041	107074	195.80	
600	400	900	†107045	107078	157.30	†107044	107077	220.00	
800	500	1200	†107048	107081	190.30	†107047	107080	269.50	
1000	600	1500	†107051	107084	224.40	†107050	107083	321.20	
1200	800	1800	†107054	107087	257.40	†107053	107086	369.60	

NOTE: No relays used. Both underload and overload coils are combined with the breakers.

Direct Current—Shunt Trip, with Circuit Opening Auxiliary Switch

Used with Circuit Closing Relays, Speed Limit Devices, Push Button Control, Etc.

Single Pole, 650 Volts or Less—Back Connected					Double Pole, 250 Volts				
*Amp. Cap.	On 1½ In. Base	List No.	For 1½ In. Panel	For 2 In. Panel	List Price Each	On 1½ In. Base	For 1½ In. Panel	For 2 In. Panel	List Price Each
100	107292	107316	107340		\$52.80	107291	107315	107339	\$74.90
200	107295	107319	107343		64.80	107318	107342		92.40
300	107298	107322	107346		75.90	107321	107345		110.00
500	107301	107325	107349		99.00	107300	107324	107348	147.40
600	†107304	107328	107352		111.10	†107303	107327	107352	165.00
800	†107307	107331	107355		133.10	†107306	107330	107354	200.20
1000	†107310	107334	107358		156.20	†107309	107333	107357	237.60
1200	†107313	107337	107361		178.20	†107312	107336	107360	272.90

Direct Current—Overload and Shunt Trip

With Circuit Opening Auxiliary Switch—Back Connected

Used with Circuit Closing Relay, Speed Limit Device—Push Button Control

Single Pole, 650 Volts or Less Double Pole, 250 Volts

*Amp. Cap.	Calibration		List No.			List Price Each	List No.			List Price Each
	Min.	Max.	On 1½ In. Base	For 1½ In. Panel	For 2 In. Panel		On 1½ In. Base	For 1½ In. Panel	For 2 In. Panel	
15	10	25	105847	105880	105913	\$63.80	105846	105879	105912	\$83.60
25	15	40	105850	105883	105916	63.80	105849	105882	105915	83.60
50	25	75	105853	105886	105919	63.80	105852	105885	105918	83.60
100	50	150	105856	105889	105922	66.00	105855	105888	105921	88.00
200	100	300	105859	105892	105925	78.10	105858	105891	105924	105.60
300	200	450	105862	105895	105928	89.00	105861	105894	105927	123.20
500	300	750	105865	105898	105931	112.20	105864	105897	105930	160.60
600	400	900	†105868	105901	105934	124.30	†105867	105900	105933	178.20
800	500	1200	†105871	105904	105937	146.30	†105870	105903	105936	213.40
1000	600	1500	†105874	105907	105940	169.40	†105873	105906	105939	250.80
1200	800	1800	†105877	105910	105943	191.40	†105876	105909	105942	286.00

If the shunt trip coil is connected so that the trip coil circuit is opened when circuit breaker opens, the auxiliary switch will be omitted if so ordered. If omitted, deduct \$6.00 list.

NUTS AND TERMINALS

List Prices include complete equipment of nuts and terminals for each stud.

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

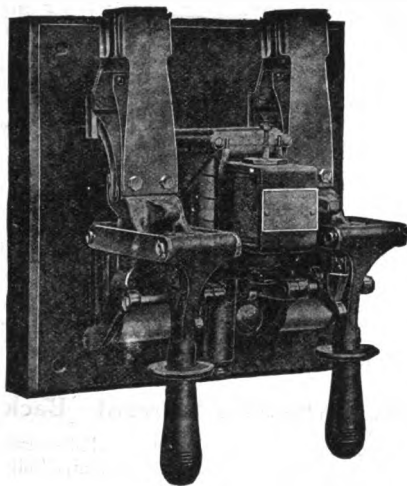
†Mounted on 1½ inch base.

‡Mr. No. and list price include circuit opening auxiliary switch.

§Shunt trip coil should be left in circuit only momentarily.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKERS



TYPE C, FORM P, CARBON BREAK

Direct Current—†Overload and Low Voltage

SINGLE POLE, 125, 250 or 650 VOLTS—BACK CONNECTED

Specify voltage desired. Mounted on 1¼ inch base.

Mounted on 1¼ Inch Base

Mounted on 1½ or 2 Inch Panel

*Ampere Capacity	Calibration		††List No.	††List Price Each	List No.	List Price Each
	Minimum	Maximum				
15.....	10	25	105739	\$59.40	105794	\$59.40
25.....	15	40	105744	59.40	105799	59.40
50.....	25	75	105749	59.40	105804*	59.40
100.....	50	150	105754	61.60	105809	61.60
200.....	100	300	105759	73.70	105814	73.70
300.....	200	450	105764	84.70	105819	84.70
500.....	300	750	105769	107.80	105824	107.80
600.....	400	900	†105774	119.90	105829	119.90
800.....	500	1200	†105779	141.90	105834	141.90
1000.....	600	1500	†105784	165.00	105839	165.00
1200.....	800	1800	†105789	197.00	105844	197.00

DOUBLE POLE—250 VOLTS OR LESS

For 1¼ Inch Base

For 1½ or 2 Inch Panel

*Ampere Capacity	Calibration		††List No.		††List Price Each	††List No.		††List Price Each
	Min.	Max.	For 125 Volts	For 250 Volts		For 125 Volts	For 250 Volts	
15.....	10	25	105736	105738	\$79.20	105791	105793	\$79.20
25.....	15	40	105741	105743	79.20	105796	105798	79.20
50.....	25	75	105746	105748	79.20	105801	105803	79.20
100.....	50	150	105751	105753	83.60	105806	105808	83.60
200.....	100	300	105756	105758	101.20	105811	105813	101.20
300.....	200	450	105761	105763	118.80	105816	105818	118.80
500.....	300	750	105766	105768	156.20	105821	105823	156.20
600.....	400	900	†105771	†105773	173.80	105826	105828	173.80
800.....	500	1200	†105776	†105778	209.00	105831	105833	209.00
1000.....	600	1500	†105781	†105783	246.40	105836	105838	246.40
1200.....	800	1800	†105786	†105788	281.60	105841	105843	281.60

NUTS AND TERMINALS

List prices include complete equipment of nuts and terminals for each stud.

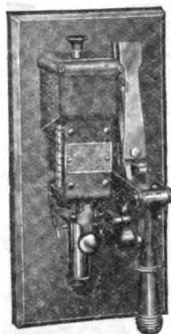
*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†Mounted on 1½ inch base.

†Releases at approximately one-half rated voltage.

††Include series resistance for low voltage coil.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKERS

S. P.—500 Amperes, 650 Volts—Reverse Current
Direct Current—††Reverse Current—Back Connected

Generally used for protecting generators, storage batteries and like service.

Reverse current feature does not operate on overload. Potential coil only in circuit while breaker is being closed, requires no exciting current in normal operation.

Is independent of voltage in operation and, consequently, not affected by low voltage conditions.

Single Pole—650 Volts or Less
Double Pole—250 Volts

*Ampere Capacity	Calibration		List No.		List Price Each	List No.		List Price Each
	Minimum	Maximum	On 1¼ In. Base	For 1½ In. or 2 In. Panel		On 1¼ In. Base	For 1½ In. or 2 In. Panel	
15			107112	107145	\$52.80	107111	107144	\$72.60
25			107115	107148	52.80	107114	107147	72.60
50	5%	20%	107118	107151	52.80	107117	107150	72.60
100	of	of	107121	107154	55.00	107120	107153	77.00
200	rated	rated	107124	107157	70.40	107123	107156	99.00
300	Ampere	Ampere	107127	107160	83.60	107126	107159	116.60
500	Capacity	Capacity	107130	107163	110.00	107129	107162	158.40
600	on	on	†107133	107166	125.40	†107132	107165	179.30
800	Reversal	Reversal	†107136	107169	151.80	†107135	107168	218.90
1000			†107139	107172	180.40	†107138	107171	260.70
1200			†107142	107175	206.80	†107141	107174	300.30

Direct Current—†Overload and Reverse Current—Back Connected

15	10	25	107178	107211	\$70.40	107177	107210	\$94.60
25	15	40	107181	107214	70.40	107180	107213	94.60
50	25	75	107184	107217	70.40	107183	107216	94.60
100	50	150	107187	107220	73.70	107186	107219	100.10
200	100	300	107190	107223	93.50	107189	107222	127.60
300	200	450	107193	107226	111.10	107192	107225	151.80
500	300	750	107196	107229	147.40	107195	107228	204.60
600	400	900	†107199	107232	167.20	†107198	107231	233.20
800	500	1200	†107202	107235	202.40	†107201	107234	281.60
1000	600	1500	†107205	107238	239.80	†107204	107237	336.60
1200	800	1800	†107208	107241	275.00	†107207	107240	387.20

NUTS AND TERMINALS

List prices include complete equipment of nuts and terminals for each stud.

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†Mounted on 1½ inch base.

‡Calibration of reverse current coil is from 5 per cent. to 20 per cent. of rated ampere capacity on reversal.

††No overload coil, operates on reversal only.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Protective Apparatus and Switchboard Accessories

G. E. CIRCUIT BREAKERS Type C, Form P, Carbon Break

DIRECT CURRENT—OVERLOAD AND TIME LIMIT (INVERSE)

Back Connected

*Ampere Capacity	Single Pole—650 Volts or Less		Double Pole—250 Volts					
	Calibration		List No.		†List Price Each	List No.		†List Price Each
	Min.	Max.	On 1½ In. Base	For 1½ In. Panel		On 1½ In. Base	For 1½ In. Panel	
15.....	10	25	105946	105979	\$81.40	105945	105978	\$101.20
25.....	15	40	105949	105982	81.40	105948	105981	101.20
50.....	25	75	105952	105985	81.40	105951	105984	101.20
100.....	50	150	105955	105988	83.60	105954	105987	105.60
200.....	100	300	105958	105991	103.40	105957	105990	132.00
300.....	150	450	105961	105994	115.50	105960	105993	149.60
500.....	250	750	105964	105997	143.00	105963	105996	191.40
600.....	300	900	105967	107000	165.00	105966	105999	220.00
800.....	400	1200	105970	107003	189.20	105969	107002	257.40
1000.....	500	1500	105973	107006	213.40	105972	107005	294.80
1200.....	800	1800	105976	107009	242.00	105975	107008	336.60

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†This combination includes a shunt trip circuit breaker, circuit opening auxiliary switch and Type B Form C-25 inverse time limit series overload relay (circuit closing). The relay is separate from the circuit breaker and electrically connected with it, consequently it may be mounted apart from the breaker in any convenient location. Time limit feature adjustable from instantaneous operation to thirty seconds delay.

‡IMPORTANT: When used on 125 volts or less, and also on 650 volts or less when the shunt trip coil is connected so that the trip coil circuit is opened when the circuit breaker opens, the auxiliary switch will be omitted if so ordered. If omitted, deduct \$6.00 from the list price.

Alternating Current—Overload—Back Connected

**Triple Pole—Two Overload Coils—
480 Volts or Less**

**Triple Pole—Two Overload Coils—
650 Volts or Less**

*Ampere Capacity	Calibration		List No.		†List Price Each	List No.		List Price Each
	Min.	Max.	For 1½ In. Panel	For 1½ In. Panel		On 1½ In. Base	For 1½ or 2 In. Panel	
15.....	10	25	60655	60782	\$140.80	60664	60791	\$154.00
25.....	15	45	60656	60783	140.80	60665	60792	154.00
50.....	25	75	60657	60784	140.80	60668	60793	154.00
100.....	50	150	60658	60785	151.80	60776	60794	165.00
200.....	100	300	60659	60786	173.80	60777	60795	197.00
300.....	200	450	60660	60787	193.60	60778	60796	209.00
500.....	300	750	60661	60788	237.60	60779	60797	253.00
800.....	400	900	†114639	114643	257.40	†114640	114644	275.00
800.....	500	1200	†60662	†60789	301.40	†60780	†60798	319.00
800.....	500	1200		**62345	301.40		**62347	319.00
1000.....	600	1500	†114641	†114645	345.40	†114642	†114646	363.00
1000.....	600	1500		**114647	345.40		**114648	363.00
1200.....	800	1800	†60663	†60790	389.40	†60781	†60799	407.00
1200.....	800	1800		**62346	389.40		**62348	407.00

**Single Pole—650 Volts or Less—
Back Connected**

**Double Pole—††480 Volts or Less
(On Overload Coil)**

*Ampere Capacity	Calibration		List No.		†List Price Each	List No.		List Price Each
	Min.	Max.	For 1½ In. Panel	For 1½ In. Panel		On 1½ In. Base	For 1½ or 2 In. Panel	
15.....	10	25	40879	40906	\$48.40	40878	40905	\$70.40
25.....	15	40	40882	40909	48.40	40881	40908	70.40
50.....	25	75	40885	40912	48.40	40884	40911	70.40
100.....	50	150	40888	40915	50.60	40887	40914	74.80
200.....	100	300	40891	40918	63.80	40890	40917	95.70
300.....	200	450	40894	40921	75.90	40893	40920	114.40
500.....	300	750	40897	40924	101.20	40896	40923	155.10
600.....	400	900	†107364	107370	115.50	†107363	107369	174.90
800.....	500	1200	†40900	40927	139.70	†40899	†40926	213.40
1000.....	600	1500	†107367	107372	165.00		**40932	213.40
1200.....	800	1800	†40903	40930	189.20	†107373	†107373	254.10
							**107374	254.10
						†40902	†40929	293.70
							**40935	293.70

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†Mounted on 1½ inch base.

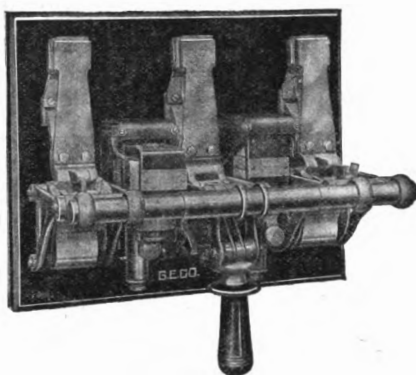
‡For mounting on 1½ inch panel only.

††Double pole, 650 volt breakers, prices on application, stating requirements.

**For mounting on 2 inch panel only.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKERS



Triple-Pole, Overload and Low Voltage Attachment

Type C, Form P, Carbon Break

Back Connected

Alternating Current—††Shunt Trip with Circuit Opening Auxiliary Switch

*Shunt trip breakers generally used for push button control or where it is desired to operate breaker by a limit switch. Also used in combination with relays.

Triple pole shunt trip breakers can be furnished for direct current. No extra charge when ordered for direct current.

Circuit opening auxiliary switch included may be omitted if breaker itself opens shunt trip circuit. Deduct \$6.00 list.

Triple Pole—480 Volts or Less

Triple Pole—650 Volts or Less

*Ampere Capacity	†List No.			†List Price Each	†List No.			†List Price Each
	On 1¼ In. Base	For 1½ In. Panel	For 2 In. Panel		On 1¼ In. Base	For 1½ In. Panel	For 2 In. Panel	
100.....	114681	114697	114713	\$134.20	114682	114698	114714	\$147.40
200.....	114683	114699	114715	152.90	114684	114700	114716	167.00
300.....	114685	114701	114717	169.40	114686	114702	114718	184.80
500.....	114687	114703	114719	207.90	114688	114704	114720	223.30
600.....	†114689	114705	114721	222.20	†114690	114706	114722	239.80
800.....	†114691	114707	114723	260.70	†114692	114708	114724	278.30
1000.....	†114693	114709	114725	299.20	†114694	114710	114726	316.80
1200.....	†114695	114711	114727	336.60	†114696	114712	114728	354.20

Single Pole—650 Volts or Less

Double Pole—480 Volts or Less

*Ampere Capacity	List No.			†List Price Each	List No.			†List Price Each
	On 1¼ In. Base	For 1½ In. Panel	For 2 In. Panel		On 1¼ In. Base	For 1½ In. Panel	For 2 In. Panel	
100.....	114569	114593	114617	\$57.20	114568	114592	114616	\$81.40
200.....	114572	114596	114620	70.40	114571	114595	114619	102.30
300.....	114575	114599	114623	82.50	114574	114598	114622	121.00
500.....	114578	114602	114626	107.80	114577	114601	114625	161.70
600.....	†114581	114605	114629	122.10	†114580	114604	114628	181.50
800.....	†114584	114608	114632	146.30	†114583	114607	114631	220.00
1000.....	†114587	114611	114635	171.60	†114586	114610	114634	260.70
1200.....	†114590	114614	114638	175.80	†114589	114613	114637	300.30

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†Mounted on 1½ inch base.

†Mfr. No. and list price include circuit opening auxiliary switch. If the shunt trip coil is connected so that the trip coil circuit is opened when circuit breaker opens, the auxiliary switch will be omitted, if so ordered. If omitted, deduct \$6.60 list.

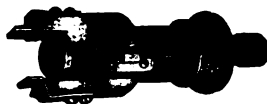
††Shunt trip coil should be left in circuit only momentarily.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKERS



Circuit Closing Switch



**Combined Circuit Closing
and Circuit Opening Switch**



Circuit Opening Switch

**Type C, Form P, Carbon Break—Attachments
Alternating and Direct Current**

Shunt trip and low voltage release attachments where mounted on a standard multiple breaker trip out all poles.

Shunt trip should be connected in circuit only momentarily.

Low voltages can be connected in circuit continuously. Always specify voltage so proper resistance can be supplied. Low voltage releases at approximately one-half voltage.

‡Shunt Trip Attachment

Alternating Current	Direct Current	Voltage of Circuit	List Price Each	Used with Circuit Breaker	
				Ampere Capacity	Poles
List No. of Attachment	List No. of Attachment				
36267	36267	650 or less.....	\$13.20	15- 600	Single, Double, Triple
	36269	650 or less.....	13.20	800-1200	Single
43371		650 or less.....	13.20	800-1200	Single
	36268	250 or less.....	13.20	800-1200	Double
36268		650 or less.....	13.20	800-1200	Double and Triple

Approximate shipping weight, 10 pounds. ‡Should be left in circuit only momentarily.

‡Low Voltage Release Attachment

Alternating Current	Direct Current	Voltage of Circuit	**List Price		Used with Circuit Breaker	
			Alternating Current	Direct Current	Ampere Capacity	Poles
**List No. of Attachment	**List No. of Attachment					
43362	36258	125.....	\$17.60	\$15.40	15- 600	Single and Double
43363	36259	250.....	17.60	15.40	15- 600	Single and Double
43364	36260	650 (480)*.....	17.60	15.40	15- 600	Single and Double
43368	36264	125.....	17.60	15.40	800-1200	Single
43369	36265	250.....	17.60	15.40	800-1200	Single
43370	36266	650 (480)*.....	17.60	15.40	800-1200	Single
	36261	125.....	17.60	15.40	800-1200	Double
	36262	250.....	17.60	15.40	800-1200	Double
43365		125.....	17.60	15.40	800-1200	Double and Triple
43366		250.....	17.60	15.40	800-1200	Double and Triple
43367		650 (480)*.....	17.60	15.40	800-1200	Double and Triple

Approximate shipping weight, 15 pounds.

*For use on alternating current only at 480 volts. Attachments with 650 volt, 480 volt rating adjusted to release at approximately 240 volts. ‡Releases at approximately one-half rated voltage. **Include series resistance for low voltage coil.

Auxiliary Switches

Circuit Closing		Circuit Opening		Combined Circuit Closing and Circuit Opening		For Mounting on	Used With Circuit Breaker	
List No.	List Price Each	List No.	List Price Each	List No.	List Price Each		Amp. Cap.	For
36270	\$6.60	36278	\$6.60	36286	\$12.10	Base (1¼ ins. thick)	15-300	Single, double or triple
36271	6.60	36279	6.60	36287	12.10	1½ in. panel	15-200	single alternating and direct
36272	6.60	36280	6.60	36288	12.10	2 in. panel	15-200	current.
36273	6.60	36281	6.60	36289	12.10	Base 1(¼ in. thick)	300-500	
36274	6.60	36282	6.60	36290	12.10	1½ in. panel	300-500	
36275	6.60	36283	6.60	36291	12.10	2 in. panel	300-500	
36276	6.60	36284	6.60	36292	12.10	1½ in. panel or base	600-1200	Single or double pole
36277	6.60	36285	6.60	36293	12.10	2 in. panel	600-1200	direct current, double or
43372	6.60	43374	6.60	43376	12.10	1½ in. panel or base	600-1200	triple pole alternating cur-
43373	6.60	43375	6.60	43377	12.10	2 in. panel	600-1200	rent.
								Single pole alternating
								current.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKERS

Type C, Form K & K-2 Carbon Break Circuit Breakers

General

CK rated 250 volts.

CK-2 rated 650 volts.

Standard capacities from 1500 to 6000 amperes D.C.; 1500 to 3000 amperes A.C. inclusive. Higher capacities made on order only.

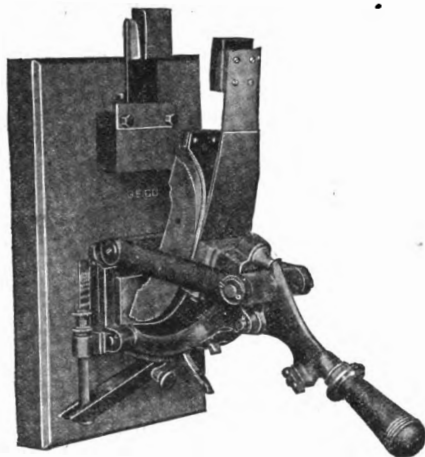
Single and double pole, back connected CK recommended for heavy service where large capacity breakers are required for power or lighting installations.

CK-2 recommended any service however severe and especially adapted to large railway installations having highly inductive loads.

Include nuts but no terminals.

Can be furnished with spade handles and laminated studs.

Shunt trip and low voltage attachment standard for D.C. only.



Type C, Form K, 2000 Amperes, 250 Volts

Type C, Form K, Carbon Break

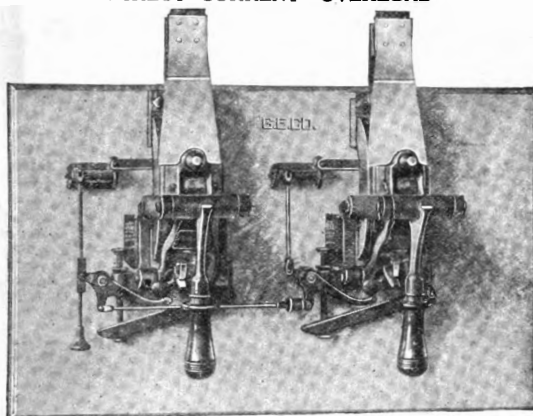
Back Connected

DIRECT AND ALTERNATING CURRENT

Features

1. Can be furnished from stock in capacities from 2000 to 10,000 amperes. Breakers for 1500 and 14,000 amperes can be furnished made up on order.
2. Are designed with ample conducting parts.
3. Complete line of attachments at low price.
4. Require small amount of space on panel.
5. Close easily.
6. Studs and contact blocks drop forged in one piece.
7. Very heavy and substantial carbon secondaries.
8. "End on" contact construction of main brush, being largely copied by competing manufacturers.
9. Heavy brush pressure, high efficiency contact and means of adjusting pressure.
10. Wiping contact, both main brush and secondaries.
11. Trip easily but cannot jar open.
12. Handle and tripping button well insulated from live parts of breaker.
13. Each breaker calibrated individually. Wide range of calibration.
14. Life tests to eliminate weak parts, actual load tests up to 64,000 amperes.

**G. E. CIRCUIT BREAKERS
DIRECT CURRENT—OVERLOAD**



D. P., 2000 Amperes, 250 Volts, Type C, Form K

Type C, Forms K and K-2, Carbon Break

Type C, Form K—Single Pole, 250 Volts

Type C, Form K-2—Single Pole, 650 Volts

*Ampere Capacity	Calibration		List No.		List Price Each	List No.		List Price Each
	Min.	Max.	For Mounting on 2 In. Panel	For Mounting on 2 1/4 In. Panel		For Mounting on 2 In. Panel	For Mounting on 2 1/4 In. Panel	
1500.....	1000	3000	115805	.....	\$198.00	115087	.....	\$220.00
2000.....	1200	4000	28921	.....	142.00	104195	.....	264.00
3000.....	1500	6000	104007	.....	352.00	104197	.....	385.00
4000.....	2000	10000	28922	.....	473.00	104198	.....	517.00
6000.....	2000	15000	28923	28923	715.00	104199	104199	770.00
Type C, Form K—Double Pole, 250 Volts					Type C, Form K-2—Double Pole, 650 Volts			
1500.....	1000	3000	119863	.....	\$415.80	119864	.....	\$462.00
2000.....	1500	4000	104492	.....	508.20	104497	.....	554.40
3000.....	1200	6000	104994	.....	739.20	104499	.....	808.50
4000.....	2000	10000	104495	.....	993.30	.....	.....	1085.70
6000.....	2000	15000	.....	104496	1501.50	.....	104501	1617.00

Direct Current—Overload and Shunt Trip

Back Connected

Type C, Form K—Single Pole, 250 Volts or Less

Type C, Form K-2—Single Pole, 650 Volts

Type C, Form K—Single Pole, 250 Volts or Less				Type C, Form K-2—Single Pole, 650 Volts				
1500.....	1000	3000	119871	.....	\$217.80	119873	.....	\$239.80
2000.....	1200	4000	105707	.....	261.80	105714	.....	283.80
3000.....	1500	6000	105709	.....	371.80	105716	.....	404.80
4000.....	2000	10000	105710	.....	492.80	105717	.....	536.80
6000.....	2000	15000	105711	105712	734.80	105718	105719	789.80

Direct Current—Overload and Low Voltage

Back Connected

Type C, Form K—Single Pole, 250 Volts or Less

Type C, Form K-2—Single Pole, 650 Volts or Less

*Amp. Cap.	Calibration	List No.			List Price Each	List No.			List Price Each
	Min. Max.	For 125 Volt	For 250 Volt	For 650 Volt		For 125 Volt	For 250 Volt	For 650 Volt	
1500.....	1000 3000	119867	119868	.....	\$215.60	.....	.....	119869	\$237.60
2000.....	1200 4000	104471	104472	.....	259.60	.....	.....	104481	281.60
3000.....	1500 6000	104475	104476	.....	369.60	.....	.....	104483	402.60
4000.....	2000 10000	104477	104478	.....	490.60	.....	.....	104484	534.60
6000.....	2000 15000	104479	104480	.....	732.60	.....	.....	104485	787.60
						104486	104487	104488	1051.60
						104489	104490	104491	1304.60

Thickness of panels for 1500 to 4000 ampere, 2 inches above 4000 ampere, 2 1/2 inches.

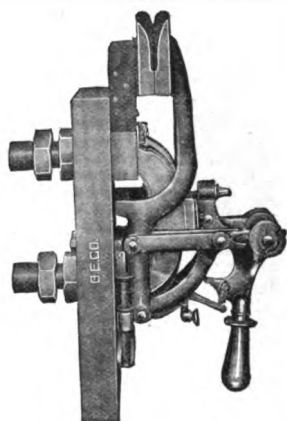
Prices of alternating current breakers with shunt trip attachment on application. Always specify frequency. List prices include complete sets of nuts for each stud, but no terminals.

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

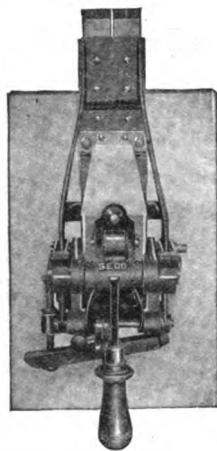
†Release at approximately one-half rated voltage. Mfr. number and list price include series resistance for low voltage coil.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKERS



CK-2 Circuit Breaker, 650 Volts, 2000 Amperes



CK Circuit Breaker, 250 Volts, 2000 Amperes

Type C, Form K, Carbon Break

ALTERNATING CURRENT—OVERLOAD—BACK CONNECTED

Type C, Form K—Single Pole, 480 Volts

*Ampere Capacity	Calibration	List No. for Mounting on 2 In. Panel
1500	Min. 1000 Max. 3000	115809
2000	1200 4000	40872
3000	1500 6000	104009
4000	2000 10000	40875

Type C, Form K-2—Single Pole, 650 Volts

List Price Each	List No. for Mounting on 2 In. Panel	List Price Each
\$198.00	115811	\$220.00
242.00	104203	264.00
352.00	104205	385.00
On appl.	104206	On appl.

†Type C, Form K—Double Pole, 480 Volts

Ampere Capacity	Calibration	List No.
1500	1000 3000	119865
2000	1200 4000	104502
3000	1500 6000	104504
4000	2000 10000	104505

Type C, Form K-2—Single Pole, 650 Volts or Less

List Price Each	List No.	List Price Each
\$415.80	119866	\$462.00
508.20	104506	554.40
739.20	104508	808.50
On appl.	104509	On appl.

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†Double pole, two coil breakers, consist of two single pole overload breakers with mechanical interlock.

Type C, Form K, Carbon Break—Direct Current Attachments††

**LOW VOLTAGE RELEASE ATTACHMENTS
250 Volts or Less, for Use with Type C, Form K

Attachment

125 Volts	250 Volts	650 Volts	Amperes	For Circuit Breaker No.	Approx. Shpg. Wt. in Lbs.	List Price Each
119874	119875	.....	1500	115808	15	\$17.60
32466	32645	.....	2000	28921	15	17.60
104510	104511	.....	3000	104007	15	17.60
32469	32468	.....	4000	28922	15	17.60
32472	32471	.....	6000	28923	15	17.60
.....	.....	.....	1500	115807	15	\$17.60
.....	.....	.....	2000	104195	15	17.60
.....	.....	.....	3000	104197	15	17.60
.....	.....	.....	4000	104198	15	17.60
.....	.....	.....	6000	104199	15	17.60
32475	32474	32473	8000	104200	15	17.60
32475	32474	32473	10000	104201	15	17.60

The list price includes series resistance for low voltage coil.

**Releases at approximately one-half rating voltage.

†SHUNT TRIP ATTACHMENTS
125, 250 or 650 Volts for Use with Type C, Form K or Form K-2

List No.	Amperes	Mr. CK	Mr. CK-2	Approx. Shpg. Wt. in Lbs.	List Price Each
119877	1500	115805	115807	15	\$13.20
32456	2000	28921	104195	15	13.20
104513	3000	104007	104197	15	13.20
32457	4000	28922	104198	15	13.20
32458	6000	28923	104199	15	13.20
32459	8000	.....	104200	15	13.20
32459	10000	.....	104201	15	13.20

Use circuit opening auxiliary switch in shunt trip coil circuits unless opening of circuit breakers opens the shunt trip coil circuit. Will operate on line voltage from 60 to 650 volts. †Should be allowed to remain in circuit only momentarily. ††Price of alternating current attachments on application. Only one attachment may be used with a single pole breaker or two single pole breakers with mechanical interlocks. This attachment must be used with the right-hand pole, on right-hand side, looking at front of panel. Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Protective Apparatus and Switchboard Accessories

G. E. CIRCUIT BREAKERS

Type C, Form K, Carbon Break—Direct and Alternating Current Attachments

Auxiliary Switches.

Direct Current—250 Volts, for Use with Type C, Form K

Circuit Closing		Circuit Opening		Combined Circuit Opening and Circuit Closing		Thick-ness of Panel in Inches	For Circuit Breaker	
List No.	List Price Each	List No.	List Price Each	List No.	List Price Each		Amp.	List No.
119885.....	\$6.60	119883.....	\$6.60	119887.....	\$12.10	2	1500	115805
32496.....	6.60	32484.....	6.60	32508.....	12.10	2	2000	28921
104519.....	6.60	104516.....	6.60	104522.....	12.10	2	3000	104007
32497.....	6.60	32485.....	6.60	32509.....	12.10	2	4000	28922
32498.....	6.60	32486.....	6.60	32510.....	12.10	2	6000	28923
32502.....	6.60	32490.....	6.60	32514.....	12.10	2½	6000	28923

Direct Current—650 Volts, for Use with Type C, Form K-2

119891.....	\$6.60	119889.....	\$6.60	119893.....	\$12.10	2	1500	115807
32492.....	6.60	32480.....	6.60	32504.....	12.10	2	2000	104195
104528.....	6.60	104525.....	6.60	104531.....	12.10	2	3000	104197
32493.....	6.60	32481.....	6.60	32505.....	12.10	2	4000	104198
32494.....	6.60	32482.....	6.60	32506.....	12.10	2	6000	104199
32499.....	6.60	32487.....	6.60	32511.....	12.10	2½	6000	104199
32500.....	6.60	32488.....	6.60	32512.....	12.10	2½	8000	104200
32501.....	6.60	32489.....	6.60	32513.....	12.10	2½	10000	104201

Alternating Current—480 Volts, for Use with Type C, Form K

119897.....	\$6.60	119895.....	\$6.60	119899.....	\$12.10	2	1500	115809
104538.....	6.60	104533.....	6.60	104543.....	12.10	2	2000	104502
104540.....	6.60	104535.....	6.60	104545.....	12.10	2	3000	104504
104541.....	6.60	104536.....	6.60	104546.....	12.10	2	4000	104505

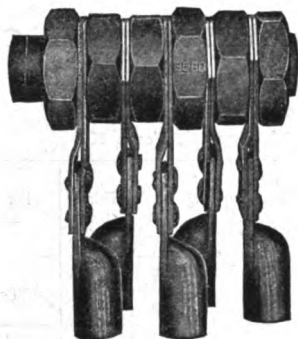
Alternating Current—650 Volts, for Use with Type C, Form K-2

119903.....	\$6.60	119901.....	\$6.60	119905.....	\$12.10	2	1500	115811
104553.....	6.60	104548.....	6.60	104558.....	12.10	2	2000	104506
104555.....	6.60	104550.....	6.60	104560.....	12.10	2	3000	104508
104556.....	6.60	104551.....	6.60	104561.....	12.10	2	4000	104509

Spade Handles

Form	Amperes	Volts	List Price per Pole
K	1500 to 6000	250	\$9.90
K-2	1500 to 2000	650	9.90
K-2	3000 to 10000	650	13.20

Spade handles may be furnished for all types C, Form K and Form K-2 circuit breakers.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. CIRCUIT BREAKER ATTACHMENTS


Nuts and Terminals

Type C, Form K, Carbon Break—Direct and Alternating Current Attachments

Nuts and Terminals

A complete set of nuts for each stud is furnished in accordance with standard practice. Terminals are not included with the circuit breaker, as in many cases bus bar connections are used. Where terminals are required, the size and quantity of cable connections vary so widely, depending on the length of run, the line drop allowed and other conditions, that it seems preferable to list them separately so that proper selection may be made to suit each case.

Nuts for Type C, Form K and Form K-2

List No.	List Price per 100	Thickness Inches	Diam. Across Flats Inches	Diam. of Stud Inches	Shape	For Circuit Breaker Ampere Capacity
26971	\$181.50	1	2 1/4	1 1/2	Hex.	1500
104762	187.00	1	2 1/4	1 1/2	Hex.	2000
104763	192.50	1	3 1/8	2	Hex.	3000
26974	291.50	1	3 1/8	2 1/2	Hex.	4000
104764	456.50	1	4 5/8	3 1/4	Oct.	6000
26969	643.50	1	5 3/8	4	Oct.	8000
104765	907.50	1	6	4 3/4	Oct.	10000

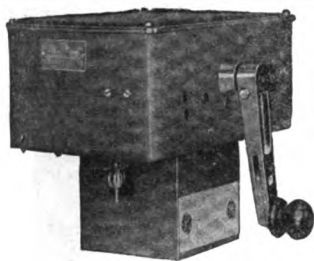
Terminals for Type C, Form K and Form K-2

Straight List No.	Offset List No.	Size of Cable (Circular Mils)	*Quan. of Term. per Stud	Used with Circuit Breaker			List Price Each	
				Amp. Cap.	Size of Studs	Nuts per Stud	Straight	Offset
104958	104977	1000000	2, 3, 4	1500	1 1/2	3	\$2.88	\$3.30
104959	104978	1500000	2, 3, 4	1500	1 1/2	3	3.30	4.06
104960	104979	1500000	2, 3, 4	2000	1 1/2	3	3.30	4.06
104961	104980	2000000	2, 3, 4	2000	1 1/2	3	4.18	5.06
104962	104981	1000000	3, 4	3000	2	4	3.20	3.64
104963	104982	1500000	3, 4	3000	2	4	3.74	4.18
104964	104983	2000000	3, 4	3000	2	4	4.30	5.28
104965	104984	1000000	4	4000	2 1/2	5	3.52	4.06
104966	104985	1500000	4	4000	2 1/2	5	4.06	4.52
104967	104986	2000000	4	4000	2 1/2	5	4.84	5.50
104970	104989	1000000	4, 5, 6	6000	3 1/4	5	3.96	4.30
104971	104990	1500000	4, 5, 6	6000	3 1/4	5	4.40	4.84
104972	104991	2000000	4, 5, 6	6000	3 1/4	5	5.18	5.72
104973	104992	1500000	6, 7, 8	8000	4	7	5.18	5.40
104974	104993	2000000	6, 7, 8	8000	4	7	6.06	6.50
104975	104994	1500000	6, 7, 8	10000	4 3/4	7	7.26	7.04
104976	104995	2000000	6, 7, 8	10000	4 3/4	7	8.04	7.70

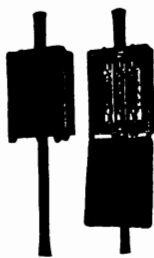
*Where even number is called for, use offset terminals, adding one straight terminal to the combination for odd number if required.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.
 Protective Apparatus and Switchboard Accessories 33

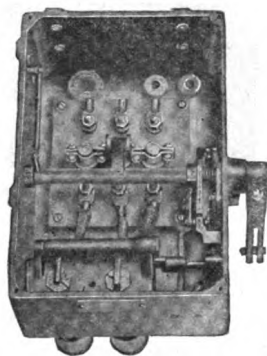
G. E. OIL BREAK SWITCHES



Type F, Form P3 Oil Break Switch



Cutout



Type F, Form P6 Oil Break Switch

Types F, Forms P3 and P6 Oil Switches

Type F, Forms P3 and P6 are designed specially for use in industrial plants in connection with induction motors of capacities not in excess of 25 horse power at 600 volts, or with normal current ratings not greater than 50 amperes at voltages less than 600. They are arranged for mounting directly on a wall, post, or where used with spinning frames in textile mills on the frame itself. When mounted on the spinning frame the switch is operated by a shipper rod. The live parts being entirely enclosed, the switches are particularly suitable for use in factories in which the air contains inflammable particles, or where explosive materials are prevalent.

The Type F, Form P3 Oil Switch is made non-automatic only.

The Type F, Form P6 Oil Switch is made automatic only. In the main these switches are similar and differ only in a few details.

Capacities. These switches are made in the following capacities:

Type F, Form P3 non-automatic 600 volts, 50 amperes triple pole and four pole, single throw.

Type F, Form P6 automatic 600 volts, 50 amperes, triple pole, single throw.

Type F, Form P3 Oil Break Switches FOR WALL MOUNTING (SPINNING FRAMES, MACHINE TOOLS, ETC.)

Non-automatic (Quick Make and Quick Break)

Ampere Capacity	Voltage	Rating	**Poles and Throw	Wt. Boxed in Lbs.	List No.	List Price
50	600	Motors of 25 h.p. or less	T. P. S. T.	35	64063	\$22.00
50	600		4 P. S. T.	40	64064	28.00

*Include wooden handle and plate to adapt switch for hand operation. As switches are boxed with these parts included, no deduction can be made for their omission.

GRAVITY CLOSED, DUST-PROOF CUTOUTS (Without Fuses)

For Use With Type F, Form P3 Non-automatic Oil Switches
Conduit Drilling

Amp. Cap.	Voltage	Poles	Top (Service)	Bottom (Feeder)	List No.	Package Quantity	List Price
30	600	T. P.	1 1/4 in. for 1 in. Conduit	1 1/4 in. for 1 1/4 in. Conduit	48422	25	\$4.50
30	600	4 P.	1 1/4 in. for 1 1/4 in. Conduit	2 in. for 1 1/4 in. Conduit	58441	25	6.50
31-40	600	T. P.	1 1/4 in. for 1 1/4 in. Conduit	2 in. for 1 1/4 in. Conduit	48423	25	6.00

Type F, Form P6 Oil Break Switches

FOR WALL MOUNTING (SPINNING FRAMES, MACHINE TOOLS, ETC.)

Ampere Capacity		Calibration		Approx. Shpg. Wt. in Lbs.	Quick Break Only (Without Quick Make)		Quick Make and Quick Break	
*Switch	†Series Coils‡	Min.	Max.		List No.	List Price	List No.	List Price
50	2	2	6	70	143104	\$54.00	143117	\$64.00
50	3	3	9	70	143105	54.00	143118	64.00
50	4	4	12	70	143106	54.00	143119	64.00
50	6	6	18	70	143107	54.00	143120	64.00
50	8	8	24	70	143108	54.00	143121	64.00
50	10	10	30	70	143109	54.00	143122	64.00
50	12	12	36	70	143110	54.00	143123	64.00
50	15	16	48	70	143111	54.00	143124	64.00
50	20	20	60	70	143112	54.00	143125	64.00
50	25	25	75	70	143113	54.00	143126	64.00
50	30	30	90	70	143114	54.00	143127	64.00
50	40	40	120	70	143115	54.00	143128	64.00
50	50	50	150	70	143116	54.00	143129	64.00

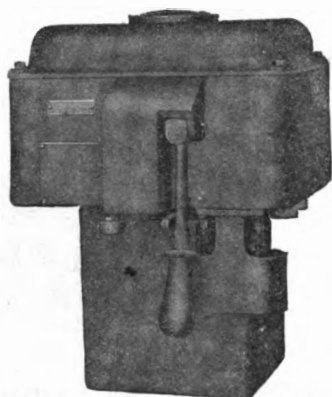
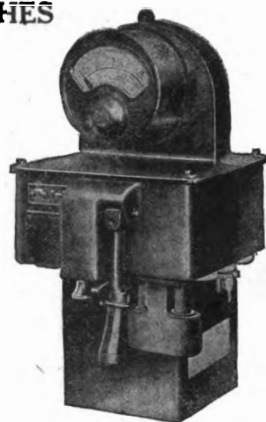
*Load which the switch will carry continuously at 28 degrees C. rise or less.

†Load which the series trip coil will carry continuously at 28 degrees C. rise or less. Coil will carry for 2 hours at 45 degrees C. rise.

‡For use only in connection with three-phase induction motors of 25 horse power or less.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. OIL BREAK SWITCHES

Form K-20 Oil Switch with Overload
and Low Voltage ReleaseForm K-20 Oil Switch with Overload
Low Voltage Release and Cover for
Mounting R-6 AmmeterType F Form K-20 Oil Break Switches
2500 VOLTS OR LESS

The Type F Form K-20 Oil Switch is designed especially for the protection of induction motors in industrial application. Switches are made single throw only and are for mounting on wall, post or flat surface.

AUTOMATIC (WITH DOUBLE SERIES I.T.L. OVERLOAD TRIP)

Triple Pole—Single Throw					Four Pole—Single Throw				
List No.	*Ampere Capacity	†Series Coils	G.E. Oil No. 6 in Gals.	Approx. Ship. Wgt. in Lbs.	List No.	*Ampere Capacity	†Series Coils	G.E. Oil No. 6 in Gals.	Approx. Ship. Wgt. in Lbs.
167373	60	2	2	145	167399	60	2	3	185
167374	60	3	2	145	167400	60	3	3	185
167375	60	4	2	145	167401	60	4	3	185
167376	60	5	2	145	167402	60	5	3	185
167377	60	8	2	145	167403	60	8	3	185
167378	60	10	2	145	167404	60	10	3	185
167379	60	12	2	145	167405	60	12	3	185
167380	60	16	2	145	167406	60	16	3	185
167381	60	20	2	145	167407	60	20	3	185
167382	60	25	2	145	167408	60	25	3	185
167383	60	30	2	145	167409	60	30	3	185
167384	60	40	2	145	167410	60	40	3	185
167385	60	50	2	145	167411	60	50	3	185
167386	60	60	2	145	167412	60	60	3	185
167387	200	70	2	150	167413	200	70	3	195
167388	200	80	2	150	167414	200	80	3	195
167389	200	100	2	150	167415	200	100	3	195
167390	200	125	2	150	167416	200	125	3	195
167391	200	145	2	150	167417	200	145	3	195
167392	200	160	2	150	167418	200	160	3	195
167393	200	170	2	150	167419	200	170	3	195
167394	200	200	2	150	167420	200	200	3	195
167395	300	225	4	200					
167396	300	250	4	200					
167397	300	275	4	200					
167398	300	300	4	200					

NON-AUTOMATIC (WITHOUT OVERLOAD RELEASE)

Double Pole—Single Throw					Triple Pole—Single Throw				
List No.	*Ampere Capacity	G.E. Oil No. 6 in Gals.	Approx. Ship. Wgt. in Lbs.	List Price Each	List No.	*Ampere Capacity	G.E. Oil No. 6 in Gals.	Approx. Ship. Wgt. in Lbs.	List Price Each
167365	60	2	125	\$36.00	167368	60	2	130	\$38.00
167366	200	2	130	40.00	167369	200	2	135	48.00
167367	300	2	130	60.00	167370	300	4	185	68.00

Four Pole—Single Throw

List No.	*Ampere Capacity	G.E. Oil No. 6 in Gals.	Approx. Ship. Wgt. in Lbs.	List Price Each	List No.	*Ampere Capacity	G.E. Oil No. 6 in Gals.	Approx. Ship. Wgt. in Lbs.	List Price Each
167371	60	3	170	\$58.00	167372	200	3	180	\$70.00

LOW-VOLTAGE RELEASE ATTACHMENTS

List No.	Circuit	Volts	Cycles	Includes Transformer	Spec. No.	Approx. Net Wt. Extra	List Price Each
167421		110	60	none		3	\$7.00
		110	25-40				
		220	25-40-60				
167422		440	25-40-60	353001		6	12.00
		550	25-40-60				
167423		2200	60	353002		8	16.00
167424		2200	25-40	353146		9	18.00

Switch Covers for Mounting Ammeters

List No.	For Switch	Ammeter	Mounting R-6	Approx. Ship. Wgt.	List Price Each	For Switch	Ammeter	Mounting R-6	Approx. Ship. Wgt.	List Price Each
167425	60-200	D and T	4 to 300	50	\$13.00	60-200	D and T	4 to 300	50	\$4.50
	300	D and T	4 to 400	60	15.00	300	D and T	4 to 400	60	5.00
	60-200	Four	4 to 300	60	15.00	60-200	Four	4 to 300	60	6.00

Overload and Low Voltage Switches

The switch will carry continuously at 30 deg. C. rise or less.

It will carry 25 per cent. overload for two hours at 45 deg. C. rise or less.

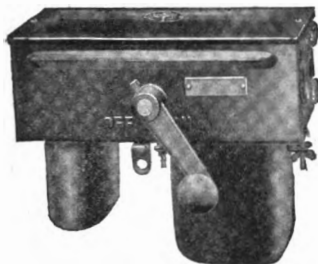
By combining proper low voltage release attachment with any switch listed above.

Give List No. of both

Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Accessories and Switchboard Accessories 35

G. E. OIL BREAK SWITCHES



**Type F Form P-10 Oil Switch, 30 Amp., 600 Volt
T.-P. S.-T. Automatic with Two Series I T L Overload Trip Coils**

Type F Form P-10 Oil Switches

30 Ampere 600 Volts or Less

FOR INDUCTION MOTORS OF 10 H.P. OR LESS

These switches are especially adapted for the protection of small induction motors which can be thrown directly onto the line.

The Type F form P-10 switches are listed triple pole, single throw non-automatic. Automatic with double series inverse time limit overload trip; and plain low-voltage switches.

These switches are small, compact and inexpensive. Mechanical and electrical features are not surpassed by switches of larger size for motor protection. Although made largely from punchings, all parts are rugged and substantial, ensuring long life under severe operating conditions. All live parts are totally enclosed. Frame, oil vessels and calibrating features are practically dustproof. The frame is provided with a lug to take a padlock by which the switch may be locked in the open position.

Automatic switches trip free from handle and cannot be held on overload or short circuit or left in an intermediate position. The handle follows the operation of the switch and the position of the switch contacts is indicated by on and off stamped on the frame. The frame is arranged for mounting on any flat surface or bracket and is held rigidly by two bolts.

The contact parts are insulated from ground and between phases by porcelain insulation, giving a higher factor of safety and are constructed as a unit so that they may be removed easily from the frame or replaced. The switch is double-break, opening by gravity with speed augmented by springs on the mechanism. Contact fingers of the well-known K types are so constructed that the burning occurs on a surface other than that used for contacting when the switch is in the closed position.

The mechanism is simple in construction. All parts held by lock washers, they are practically all made from dies so that they are accurately interchangeable and repair parts can be easily installed. The switch frame is arranged to take either open or conduit wiring at right hand end of switch.

Automatic switches have series trip coils from 2 to 30 amperes and calibrating from normal to two times normal. These coils are assembled in pairs in a single piece, magnet frame complete with calibrating tubes and time limit features. These units are interchangeable for coils of all ratings. All coils are calibrated individually.

Triple Pole, Single Throw

600 VOLTS OR LESS

Non-Automatic Without Overload Release

List No.	Non-Automatic Without Overload Release		Approx. Wgt.	List Price Each
	Switch 20	*Ampere Capacity Series Coils None		
171040			20	\$30.00
Automatic With Double Series I T L Overload Trip				
171041	30	2	30	\$30.00
171042	30	3	30	30.00
171043	30	4	30	30.00
171044	30	6	30	30.00
171045	30	8	30	30.00
171046	30	10	30	30.00
171047	30	12	30	30.00
171048	30	16	30	30.00
171049	30	20	30	30.00
171050	30	25	30	30.00
171051	30	30	30	30.00

††T. P. S. T. Plain Low Voltage Switches

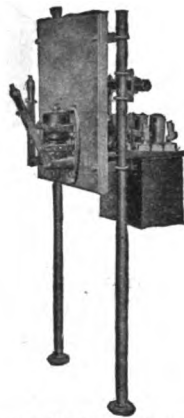
List No.	Amp. Capacity	Circuit		Includes Transformers Special No. None	Approx. Wgt. 22	List Price Each \$19.00
		Volts	Cycles			
171052	30	110	60	} 353001	25	24.00
171053	30	110	25-40			
		220	25-40-60			
		440	25-40-60			
		550	25-40-60			

*Load which the switch will carry continuously at 30 deg. C. rise or less. †Auto-Transformer with tap tagged to indicate proper connections for various voltages. ††Release at approximately one-half rated voltage. Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. OIL BREAK SWITCHES



Non-automatic Triple Pole, Single Throw
Switch on Panel



Automatic Triple Pole, Double Throw
Switch on Panel Pipes

Type F, Form K-13 Switches

Type F, Form K-13 oil switches are intended primarily for use in small and isolated alternating current plants having voltages not greater than 3300, and for generating stations and substations coming under the classifications given below.

The use of the Form K-13 oil switch on circuits of 751 to 3300 volts, inclusive, is subject to the following limitations irrespective of the "bus capacity" of the station:

1. It is not to be used for railway service.
2. It is not to be used anywhere on a system the maximum generating capacity of which exceeds 20,000 kv-a. (except as outlined in clause 6) or on any system in districts subject to severe lightning disturbances.
3. It is not to be used anywhere in a generating station of which maximum capacity exceeds 2800 kv-a.
4. For systems of 2600 to 5000 kv-a. maximum generating capacity it may be used in substations providing a higher duty switch is interposed between it and the main station bus.
5. For systems of 5000 to 20,000 kv-a. maximum generating capacity, it may be used only under the following conditions:

(a) In a substation providing transformer capacity not exceeding 750 kv-a. is interposed between the Form K-13 switch and the line.

(b) On a substation feeder providing a higher duty switch is interposed between the Form K-13 switch and the substation bus.

6. When considering switches for connection to busses fed from the low voltage units of motor-generator sets, the capacity of the system supplying energy to the motor-generator sets need not be considered. In such cases the sum of the rated capacities of the generator units of the motor-generator sets must come within the limits given in the above table to allow the use of K-13 switches.

Classes and Capacity. They are made double, triple and four pole, single and double throw, with a normal current rating of 200 amperes, and may be non-automatic, automatic with one overload coil, automatic with two overload coils.

Calibration. When relays are used with automatic oil switches, the trip coil of the switch should be set at its minimum point of calibration, and the relay at the point corresponding to the overload at which the switch is desired to operate. Both relay coils and switch trip coils (except middle tap coils) for use with current transformers are calibrated for 5, 7 and 9 amperes secondary current, which values multiplied by the ratio of the current transformer used give the corresponding primary currents. The graduations on the calibrating tubes of switches actuated by series trip coils represent actual current values.

CONSTRUCTION

Each Type F, Form K-13 switch is a self-contained unit with bushings, studs, contacts, mechanism and oil vessels, all supported from one frame.

Contacts. The switch opens downward in oil. The movable contacts for each pole consist of two copper half blades fastened together to form a single wedge-shaped blade.

The stationary contacts consist of flared fingers of drop forged copper secured to the lower rectangular part of the copper studs by flat steel springs and copper laminations. This is the well-known K type construction, which years of actual operating experience have proved to be the best known form of contact for oil switches. With this construction a distinct rubbing movement is imparted to the contact surfaces in opening and closing which insures not only clean contact surfaces at all times, but also perfect contact over the entire contact surfaces.

In opening the circuit the current is ruptured between the flared portion of the stationary contact fingers and the upper extremity of the movable contact blade, thus protecting the working contact surfaces from the damaging effects of the arc. Contact fingers and blades can be easily replaced when necessary.

Oil. For oil switches we recommend the specially treated switch oil No. 6. This is prepared by a special process, has a high flash point, and strongly resists carbonisation.

G. E. OIL BREAK SWITCHES Type F, Form K-13 Oil Break Switches

2500 VOLTS*—HAND OPERATED—200 AMPERES†

Poles	Throws	Transformer No.	Operating Lever for Mounting on 1½ In. or 2 In. Panel					
			FOR PANEL MOUNTING			FOR PANEL PIPE MOUNTING		
			Switch on Panel			Switch on Panel Pipe, 5 in. Back of Panel		
			Approx. Shpg. Wt. in Lbs.	List No.	List Price	Approx. Shpg. Wt. in Lbs.	List No.	List Price
Non-Automatic—Without Overload Release								
D.P.	S.T.	..	80	129704	\$41.80	90	129734	\$48.40
T.P.	S.T.	..	80	129705	50.60	90	129735	57.20
4 P.	S.T.	..	100	129706	61.60	110	129736	68.20
D.P.	D.T.	..	130	129707	74.80	140	129737	83.60
T.P.	D.T.	..	140	129708	92.40	150	129738	101.20
4 P.	D.T.	..	170	129709	110.00	180	129739	118.80

Automatic—One Coil—Series Overload Trip								
D.P.	S.T.	..	100	129728	\$66.00	110	129758	\$72.60
D.P.	D.T.	..	170	129729	96.80	180	129759	105.60

Automatic—Two Coils—Series Overload Trip								
T.P.	S.T.	..	120	129730	\$88.00	130	129760	\$94.60
4 P.	S.T.	..	140	129731	99.00	150	129761	105.60
T.P.	D.T.	..	180	129732	127.60	190	129762	136.40
4 P.	D.T.	..	210	129733	145.20	220	129763	154.00

Automatic—One Coil and Current Transformers								
D.P.	S.T.	1	130	129710	\$92.40	140	129740	\$99.00
T.P.	S.T.	2	170	129711	132.00	180	129741	138.60
4 P.	S.T.	2	190	129712	145.20	200	129742	151.80
T.P.	S.T.	†3	200	†129713	162.80	210	†129743	169.40
4 P.	S.T.	†3	220	†129714	176.00	230	†129744	182.60
D.P.	D.T.	1	190	129715	129.80	200	129745	138.60
T.P.	D.T.	2	230	129716	176.00	240	129746	184.80
4 P.	D.T.	2	260	129717	195.80	270	129747	204.60
T.P.	D.T.	†3	260	†129718	206.80	270	†129748	215.60
4 P.	D.T.	†3	290	†129719	226.60	300	†129749	235.40

Automatic—Two Coils and Current Transformers								
T.P.	S.T.	2	180	129720	\$145.20	190	129750	\$151.80
4 P.	S.T.	2	200	129721	156.20	210	129751	162.80
T.P.	S.T.	†3	210	†129722	176.00	220	†129752	182.60
4 P.	S.T.	†3	230	†129723	187.00	240	†129753	193.60
T.P.	D.T.	2	240	129724	195.80	250	129754	193.60
T.P.	D.T.	2	270	129725	202.40	280	129755	211.20
4 P.	D.T.	†3	270	†129726	215.60	280	†129756	224.40
4 P.	D.T.	†3	300	†129727	233.20	310	†129757	242.00

Poles	Throws	Approx. Shpg. Wt. in Lbs.	FOR REMOTE CONTROL Switch on Panel Framework		
			List No. *	Current Transformers	List Price
Non-Automatic—Without Overload Release					
D.P.	S.T.	150	129764	..	\$72.60
T.P.	S.T.	150	129765	..	81.40
4 P.	S.T.	170	129766	..	92.40
D.P.	D.T.	220	129767	..	134.20
T.P.	D.T.	230	129768	..	151.80
4 P.	D.T.	260	129769	..	169.40
Automatic—One Coil and Current Transformers					
D.P.	S.T.	200	129770	1	\$123.20
T.P.	S.T.	240	129771	2	162.80
4 P.	S.T.	260	129772	2	176.00
T.P.	S.T.	270	129773	†3	†193.60
4 P.	S.T.	290	129774	†3	†206.80
D.P.	D.T.	280	129775	1	189.20
T.P.	D.T.	320	129776	2	235.40
4 P.	D.T.	350	129777	2	255.20
T.P.	D.T.	350	129778	†3	†206.20
4 P.	D.T.	380	129779	†3	†286.00
Automatic—Two Coils and Current Transformers					
T.P.	S.T.	250	129780	2	\$176.00
4 P.	S.T.	270	129781	2	187.00
T.P.	S.T.	280	129782	†3	†206.80
4 P.	S.T.	300	129783	†3	†217.80
T.P.	D.T.	330	129784	2	244.20
4 P.	D.T.	360	129785	2	261.80
T.P.	D.T.	360	129786	†3	†275.00
4 P.	D.T.	390	129787	†3	†292.60

*Non-automatic switches may be used on 3300 volts.

†Load which the switch will carry continuously at 30 degrees C. rise or less.

‡For use only in connection with circuit closing relays.

§For use only in connection with circuit opening relays.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. OIL BREAK SWITCHES

Type F, Form K-13 Oil Break Switches

LOW-VOLTAGE RELEASE ATTACHMENTS

A complete line of new low-voltage release attachments is listed below for voltages up to and including 550 volts. Above 550 volts, use 110 volt attachment with series resistance in secondary of a voltage or potential transformer.

Plain Low-voltage Operating Levers

The attachments listed are for use with automatic operating levers. Where no overload features are required the left-hand low-voltage attachment for single throw, one coil lever may be used with a special, plain, low-voltage operating lever provided with a tripping toggle for the low-voltage attachment, but otherwise similar to non-automatic mechanism. Plain low-voltage switches are not listed but prices may be obtained by adding the list price of left hand, low-voltage attachment and transformer, if required, to the list price of a non-automatic (single throw) switch and substituting the plain low-voltage operating lever at the extra list price as per the following table:

For Substituting Plain Low-voltage Operating Levers

List No.	For Switch Mounted	*Add to List Price Non-Automatic, Single Throw Switch
301878	On Panel.....	\$8.80
301879	On Panel Pipe.....	8.80
301880	Remote Control.....	8.80

*Double throw switches are usually automatic and would use standard low-voltage attachments as listed. Plain low-voltage, double throw switches will require special consideration. Prices on request.

*Low-voltage Release Attachments

25-60 CYCLES

For Single Throw Switch—One Coil Operating Lever Also Plain Low-voltage Operating Lever (Left Hand Only)

Line Voltage	Approximate Ship. Weight in Lbs.	Left Hand †List No.	Right Hand †List No.	List Price
110	10	137655	137659	\$22.00
220	10	137656	137660	22.00
440	15	137657	137661	23.30
550	15	137658	137662	23.30
For Single Throw Switch—Two Coil Operating Lever				
110	10	137663	137667	\$22.00
220	10	137664	137668	22.00
440	15	137665	137669	23.30
550	15	137666	137670	23.30
††For Double Throw Switch—One Coil Operating Lever				
110	10	137671	137675	\$22.00
220	10	137672	137676	22.00
440	15	137673	137677	23.30
550	15	137674	137678	23.30
For Double Throw Switch—Two Coil Operating Lever				
110	10	137679	137683	\$22.00
220	10	137680	137684	22.00
440	15	137681	137685	23.30
550	15	137682	137686	23.30

*Low-voltage release operates at approximately one-half rated voltage.

†Includes series resistance for low-voltage coil, List No. 115968 for 110 volts, List No. 115967 for 220 volts, List No. 115966 for 440 volts, List No. 115965 for 550 volts.

††For voltages above 550, use 110 volt low-voltage with series resistance and suitable voltage or potential transformer.

†††Plain low-voltage operating lever not made for double throw. Use automatic switch with one low-voltage release or refer for special quotation.

Shunt Resistance

To be used when low-voltage release is operated by being short-circuited (circuit-closing relays or auxiliary switches).

List No.	Line Voltage	Ship. Weight in Lbs.	List Price
137580	110, 220, 450 or 550.....	5	\$4.40

Panels for Mounting

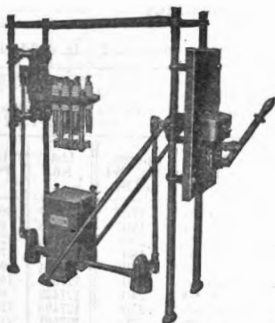
Dull Black Marine Finish With 48 Inch Pipe Supports and Floor Brace

List No. of Panel	Description	Switch All Capacities	Throw	List Price
133899	16 ins. high, 20 ins. wide, 1½ ins. thick.....	K-13	S.T.	\$19.80
133900	16 ins. high, 24 ins. wide, 1½ ins. thick.....	K-13	D.T.	22.00

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Protective Apparatus and Switchboard Accessories 40

G. E. OIL BREAK SWITCHES



Triple Pole, Single Throw, K-5 Automatic Oil Break Switch Remote Control



Triple Pole, Single Throw, K-5 Automatic Oil Break Switch Mounted on Panel Pipe Supports

Oil Break Switches for 600, 4500 and 7500 Volt Alternating Current Service

TYPE F, FORM K-5

The Type F, Form K-5 oil break switch is a thoroughly reliable switch of moderate rupturing capacity for use on alternating current circuits up to 7500 volts.

It is the result of years of study and experience in the design, manufacture and use of oil break switches, and contains every essential for long and reliable service. It is liberally designed and conservatively rated, simple in construction and operation, made of the best materials, and is economical in initial cost, cost of installation and cost of upkeep.

The arc incident to opening the circuit is confined in the oil vessel under oil and cannot involve adjacent apparatus. The circuit is ruptured at the zero point of the wave, reducing to a minimum the possibility of a surge occurring on the line.

Capacities

This switch is made in the following capacities:

600 volt, 300 and 500 amperes, double, triple and four pole, single and double throw. 800 ampere single throw only.

4500 volt, 200 amperes, double, triple and four pole, single and double throw.

7500 volt, 300 and 500 amperes, single, double, triple and four pole, single and double throw.

The double throw switch consists of two single throw units with a common frame and oil vessel. The operating levers are equipped with a simple and positive mechanical interlock so arranged that one switch only can be closed at a time.

Types

The Type F, Form K-5 oil break switches can be furnished as follows:

Non-automatic—Without overload release.

Automatic—With overload release, with trip coils for connecting to the secondaries of current transformers, up to 7500 volts; or with trip coils for connecting directly in series with the main circuit, up to 2500 volts.

Oil

For oil break switches we recommend No. 6 transil oil, which is prepared by a special process and is of superior quality because of its resistance to carbonizing and its high flash point.

Hand-operated Switches Include

Switch complete with oil, cable terminals and insulating sleeves,

Operating mechanism except pipe connecting rods,

Current transformers (for automatic current transformer trip switches only).

Solenoid-operated Switches

Solenoid-operating mechanisms can be furnished for operating any of the K-5 switches. These consist of the ordinary closing and opening solenoids wound for 125, 250 or 600 volts direct current, and are operated by suitable control switches and relays.

G. E. OIL BREAK SWITCHES

Type F, Form K-5 Oil Break Switches

Hand Operated—Without Overload Release—Non-Automatic

Poles and Throw	No. Coils	†Amp. Cap.	Voltage	Operating Mechanism for Mounting on 1½ In. or 2 In. Panel					
				FOR PANEL MOUNTING Switch on Panel			FOR PANEL PIPE MOUNTING Switch on Panel Pipe, 5 in. Back of Panel		
				Approx. Shpg. Wt. in Lbs.	List No.	List Price	Approx. Shpg. Wt. in Lbs.	List No.	List Price
D. P.—S. T.	1	300	600	160	127411	\$59.40	170	127487	\$66.00
D. P.—S. T.	1	500	600	170	127417	74.80	180	127493	81.40
D. P.—S. T.	1	800	600	190	127423	121.00	200	127499	125.40
T. P.—S. T.	1	300	600	170	127412	72.60	180	127488	77.00
T. P.—S. T.	1	500	600	190	127418	92.40	200	127494	96.80
T. P.—S. T.	1	800	600	200	127424	160.60	210	127500	165.00
4 P.—S. T.	1	300	600	230	127413	85.80	240	127489	90.20
4 P.—S. T.	1	500	600	250	127419	118.80	260	127495	123.20
4 P.—S. T.	1	800	600	260	127425	211.20	270	127501	215.60
D. P.—D. T.	1	300	600	260	127414	112.20	270	127490	118.80
D. P.—D. T.	1	500	600	290	127420	134.20	300	127496	140.80
T. P.—D. T.	1	300	600	280	127415	132.00	290	127491	138.60
T. P.—D. T.	1	500	600	310	127421	165.00	320	127497	171.60
4 P.—D. T.	1	300	600	350	127416	158.40	360	127492	165.00
4 P.—D. T.	1	500	600	410	127422	202.40	420	127498	209.00

Hand Operated—With Overload Release—Automatic

With Trip Coils for Connection in Series with Main Circuit

D. P.—S. T.	1	*300	600	180	127481	\$83.60	190	127557	\$90.20
D. P.—S. T.	1	*500	600	190	149771	101.20	200	149777	110.00
T. P.—S. T.	2	*300	600	200	127483	114.40	210	127559	121.00
T. P.—S. T.	2	*500	600	210	149773	140.80	220	149779	147.40
4 P.—S. T.	2	*300	600	260	127484	129.80	270	127560	134.20
4 P.—S. T.	2	*500	600	270	149774	165.00	280	149780	173.80
D. P.—D. T.	1	*300	600	280	127482	143.00	300	127558	149.60
D. P.—D. T.	1	*500	600	320	149772	165.00	330	149778	173.80
T. P.—D. T.	2	*300	600	310	127485	176.00	330	127561	184.80
T. P.—D. T.	2	*500	600	340	149775	213.40	360	149781	222.20
4 P.—D. T.	2	*300	600	380	127486	204.60	400	127562	211.20
4 P.—D. T.	2	*500	600	420	149776	250.80	440	149782	259.60

With ONE Trip Coil and Current Transformers

Poles and Throw	No. Trans-formers	†Amp. Cap.	Voltage	Operating Mechanism for Mounting on 1½ In. or 2 In. Panel					
				FOR PANEL MOUNTING Switch on Panel			FOR PANEL PIPE MOUNTING Switch on Panel Pipe, 5 in. Back of Panel		
				Approx. Shpg. Wt. in Lbs.	List No.	List Price	Approx. Shpg. Wt. in Lbs.	List No.	List Price
D. P.—S. T.	1	300	600	220	127426	\$112.20	300	127502	\$118.80
D. P.—S. T.	1	500	600	240	127436	129.80	320	127512	136.40
D. P.—S. T.	1	800	600	250	127446	178.20	330	127522	182.60
T. P.—S. T.	2	300	600	250	127427	156.20	330	127503	160.60
T. P.—S. T.	2	500	600	270	127437	182.60	350	127513	187.00
T. P.—S. T.	2	800	600	280	127447	255.20	360	127523	259.60
T. P.—S. T.	3	300	600	280	127429	187.00	360	127505	193.60
T. P.—S. T.	3	500	600	300	127439	217.80	380	127515	222.20
T. P.—S. T.	3	800	600	310	127449	292.60	390	127525	297.00
4 P.—S. T.	2	300	600	300	127428	169.40	380	127504	176.00
4 P.—S. T.	2	500	600	320	127438	209.00	400	127514	213.40
4 P.—S. T.	2	800	600	330	127448	303.60	410	127524	310.20
4 P.—S. T.	3	300	600	330	127430	202.40	410	127506	206.80
4 P.—S. T.	3	500	600	350	127440	242.00	430	127516	248.60
4 P.—S. T.	3	800	600	360	127450	341.00	440	127526	345.40

With ONE Trip Coil and Current Transformers

D. P.—D. T.	1	300	600	330	127431	\$169.40	410	127507	\$178.20
D. P.—D. T.	1	500	600	360	127441	193.60	440	127517	200.20
T. P.—D. T.	2	300	600	380	127432	220.00	460	127508	226.80
T. P.—D. T.	2	500	600	410	127442	259.60	490	127518	266.20
T. P.—D. T.	3	300	600	410	127433	253.00	490	127509	259.60
T. P.—D. T.	3	500	600	440	127444	294.80	520	127520	310.40
4 P.—D. T.	2	300	600	440	127433	248.60	520	127509	255.20
4 P.—D. T.	2	500	600	490	127443	297.00	570	127519	303.60
4 P.—D. T.	3	300	600	470	127435	279.40	550	127511	288.20
4 P.—D. T.	3	500	600	520	127445	332.20	600	127521	336.80

*When ordering, specify ampere capacity of series coils required for each switch.

†Load which the switch will carry continuously at 28 degrees C. rise or less.

‡For use only with circuit closing relays and separately energized trip coils.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. OIL BREAK SWITCHES

TYPE F, FORM K5—HAND OPERATED—WITH OVERLOAD RELEASE—AUTOMATIC
With TWO Trip Coils and Current Transformers

Poles and Throw	No. Trans-formers	Amp. Cap.	Voltage	Operating Mechanism for Mounting on 1½ In. or 2 In. Panel					
				FOR PANEL MOUNTING			FOR PANEL PIPE MOUNTING		
				Switch on Panel			Switch on Panel Pipe 5 In. Back of Panel		
				Approx Shpg. Wt. in Lbs.	List No.	List Price	Approx. Shpg. Wt. in Lbs.	List No.	List Price
T.P.—S.T.	2	300	600	260	127451	\$171.60	340	127527	\$178.20
T.P.—S.T.	2	500	600	290	127452	278.00	360	127535	204.60
T.P.—S.T.	2	800	600	290	127467	270.60	370	127543	277.20
4P.—S.T.	2	300	600	310	127452	187.00	390	127528	193.60
4P.—S.T.	2	500	600	330	127460	224.40	410	127536	231.00
4P.—S.T.	2	800	600	340	127468	310.20	420	127544	327.60
T.P.—S.T.	3	300	600	290	127453	204.60	370	127529*	211.20
T.P.—S.T.	3	500	600	310	127461	233.20	390	127537*	239.80
T.P.—S.T.	3	800	600	340	127469	305.80	400	127545*	314.60
4P.—S.T.	3	300	600	340	127454	217.80	420	127530*	224.40
4P.—S.T.	3	500	600	360	127462	259.60	440	127538*	260.20
4P.—S.T.	3	800	600	370	127470	345.40	450	127546*	363.00
T.P.—D.T.	2	300	600	390	127455	233.20	470	127531	242.00
T.P.—D.T.	2	500	600	420	127463	272.80	500	127539	279.40
4P.—D.T.	2	300	600	450	127456	261.80	530	127532	268.40
4P.—D.T.	2	500	600	500	127464	310.20	580	127545	310.80
T.P.—D.T.	3	300	600	420	127467	266.20	500	127533*	272.80
T.P.—D.T.	3	500	600	450	127465	308.00	530	127541*	314.00
4P.—D.T.	3	300	600	480	127458	292.60	560	127534*	301.40
4P.—D.T.	3	500	600	530	127466	345.40	610	127542*	352.00

*For use only with circuit opening relays.

HAND OPERATED—WITHOUT OVERLOAD RELEASE—NON-AUTOMATIC

D.P.—S.T.	..	200	4500	150	126645	\$59.40	160	126741	\$66.00
D.P.—S.T.	..	300	7500	180	126651	74.80	190	126747	79.20
D.P.—S.T.	..	500	7500	190	126657	88.00	200	126753	94.60
T.P.—S.T.	..	200	4500	160	126646	70.40	170	126742	74.80
T.P.—S.T.	..	300	7500	190	126652	90.20	200	126748	96.80
T.P.—S.T.	..	500	7500	200	126658	112.20	210	126754	116.60
4P.—S.T.	..	200	4500	180	126647	85.80	190	126743	90.20
4P.—S.T.	..	300	7500	250	126653	112.20	260	126749	116.60
4P.—S.T.	..	500	7500	260	126659	140.80	270	126755	145.20
D.P.—D.T.	..	200	4500	250	126648	112.20	260	126744	118.80
D.P.—D.T.	..	300	7500	280	126654	134.20	300	126750	140.80
D.P.—D.T.	..	500	7500	300	126660	151.80	310	126756	158.40
T.P.—D.T.	..	200	4500	270	126649	129.80	280	126746	136.40
T.P.—D.T.	..	300	7500	310	126655	165.00	320	126751	171.60
T.P.—D.T.	..	500	7500	320	126661	191.40	330	126757	198.00
4P.—D.T.	..	200	4500	320	126650	156.20	330	126746	162.80
4P.—D.T.	..	300	7500	400	126656	202.40	410	126752	209.00
4P.—D.T.	..	500	7500	420	126662	239.80	430	126758	246.40

†Load which the switch will carry continuously at 30 degrees C. rise or less.
Switches for 2500 volt service only. We do not recommend the installation of apparatus on the panel or switchboard when that apparatus is subjected to a potential in excess of 2500 volts. For such installations remote control apparatus is recommended.

HAND OPERATED—WITH OVERLOAD RELEASE—AUTOMATIC

With Trip Coils for Connection in Series with Main Circuit

Poles and Throw	No. Coils	Amp. Cap.	Voltage	Operating Mechanism for Mounting on 1½ In. or 2 In. Panel					
				FOR PANEL MOUNTING			FOR PANEL PIPE MOUNTING		
				2500 Volts or Less			2500 Volts or Less		
				Switch on Panel			Switch on Panel Pipe, 5 In. Back of Panel		
				Approx. Shpg. Wt. in Lbs.	List No.	List Price	Approx. Shpg. Wt. in Lbs.	List No.	List Price
D.P.—S.T.	1	†1200	4500	170	126729	\$83.60	180	126825	\$90.20
D.P.—S.T.	1	†1300	7500	200	126731	99.00	210	126827	107.80
T.P.—S.T.	1	†1300	7500	210	149783	114.40	220	149789	123.20
T.P.—S.T.	2	†1200	4500	190	126733	114.40	200	126829	118.80
T.P.—S.T.	2	†1300	7500	220	126737	134.20	230	126833	143.00
4P.—S.T.	2	†1500	4500	210	149785	160.60	240	149791	167.20
4P.—S.T.	2	†1200	4500	210	126734	139.80	220	126830	134.20
4P.—S.T.	2	†1300	7500	280	126738	158.20	290	126834	162.80
D.P.—D.T.	2	†1500	7500	290	149786	187.00	300	149792	195.80
D.P.—D.T.	1	†1200	4500	270	126730	140.80	290	126826	149.60
D.P.—D.T.	1	†1300	7500	310	126732	165.00	330	126828	173.80
T.P.—D.T.	1	†1500	7500	320	149784	184.00	340	149790	192.00
T.P.—D.T.	2	†1200	4500	300	126735	173.80	320	126831	182.60
T.P.—D.T.	2	†1300	7500	340	126739	209.00	360	126835	217.80
4P.—D.T.	2	†1500	7500	350	149787	239.80	370	149793	248.60
4P.—D.T.	2	†1200	4500	350	126736	200.20	370	126832	209.00
4P.—D.T.	2	†1300	7500	430	126740	248.60	450	126836	257.40
4P.—D.T.	2	†1500	7500	450	149788	288.20	470	149794	297.00

†When ordering, specify ampere capacity of series coils required for each switch.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. OIL BREAK SWITCHES

TYPE F, FORM K-5—HAND OPERATED—WITH OVERLOAD RELEASE—AUTOMATIC

With ONE Trip Coil and Current Transformers

Operating Mechanism for Mounting on 1½ In. or 2 In. Panel

Poles and Throw	No. Trans- form- ers	Approx. Shpg. Wt. in Lbs.	PANEL MOUNTING 2500 Volts or Less		PANEL PIPE MOUNTING 2500 Volts or Less		†Amp. Cap.	†Voltage	REMOTE CONTROL 2500 Volts or Less		Approx. Shpg. Wt. in Lbs.
			Switch on Panel		Switch on Panel Pipe 5 In. Back of Panel				Switch on Pipe Framework		
			List No.	List Price	List No.	List Price			List No.	List Price	
D. P.—S. T.	1	200	126663.....	\$112.20	126759.....	\$116.60	200	4500	127647.....	\$140.80	230
D. P.—S. T.	1	240	126673.....	128.92	126769.....	132.00	300	7500	127657.....	156.20	320
D. P.—S. T.	1	250	126683.....	145.20	126779.....	149.60	500	7500	127667.....	173.80	330
T. P.—S. T.	2	230	126664.....	151.80	126760.....	158.40	200	4500	127648.....	182.60	310
T. P.—S. T.	2	270	126674.....	176.00	126770.....	180.40	300	7500	127658.....	204.60	350
T. P.—S. T.	2	280	126684.....	202.40	126780.....	206.80	500	7500	127668.....	231.00	360
T. P.—S. T.	3	260	126666.....	182.60	126762.....	189.20	200	4500	127650.....	213.40	340*
T. P.—S. T.	3	300	126676.....	206.80	126772.....	213.40	300	7500	127660.....	237.60	380*
T. P.—S. T.	3	310	126686.....	237.60	126782.....	242.00	500	7500	127670.....	266.20	390*
4 P.—S. T.	2	260	126665.....	167.20	126761.....	173.80	200	4500	127649.....	198.00	340
4 P.—S. T.	2	320	126675.....	195.80	126771.....	202.40	300	7500	127659.....	226.60	400
4 P.—S. T.	2	330	126685.....	231.00	126781.....	235.40	500	7500	127669.....	259.60	410
4 P.—S. T.	3	290	126667.....	198.00	126763.....	204.60	200	4500	127651.....	228.80	370*
4 P.—S. T.	3	350	126677.....	228.80	126773.....	233.20	300	7500	127661.....	257.40	430*
4 P.—S. T.	3	360	126687.....	264.00	126783.....	270.60	500	7500	127671.....	294.80	440*
D. P.—D. T.	1	320	126668.....	167.20	126764.....	176.00	200	4500	127652.....	226.60	400
D. P.—D. T.	1	360	126678.....	191.40	126774.....	202.20	300	7500	127662.....	250.80	440
D. P.—D. T.	1	370	126688.....	213.40	126784.....	220.00	500	7500	127672.....	272.80	450
T. P.—D. T.	2	360	126669.....	215.60	126765.....	224.40	200	4500	127653.....	275.00	440
T. P.—D. T.	2	410	126679.....	253.00	126775.....	261.80	300	7500	127663.....	312.40	490
T. P.—D. T.	2	420	126689.....	286.00	126785.....	294.80	500	7500	127673.....	345.40	500
T. P.—D. T.	3	390	126671.....	246.40	126767.....	255.20	200	4500	127655.....	305.80	470*
T. P.—D. T.	3	440	126681.....	286.00	126777.....	292.60	300	7500	127665.....	345.40	520*
T. P.—D. T.	3	450	126691.....	321.20	126787.....	327.80	500	7500	127675.....	380.60	530*
4 P.—D. T.	2	410	126670.....	242.00	126766.....	250.80	200	4500	127654.....	301.40	490
4 P.—D. T.	2	490	126680.....	292.60	126776.....	299.20	300	7500	127664.....	352.00	570
4 P.—D. T.	2	500	126690.....	334.40	126786.....	343.20	500	7500	127674.....	393.80	580
4 P.—D. T.	3	440	126672.....	272.80	126768.....	281.60	200	4500	127656.....	332.20	520
4 P.—D. T.	3	520	126682.....	323.40	126778.....	332.20	300	7500	127666.....	382.80	600
4 P.—D. T.	3	530	126692.....	369.60	126788.....	376.20	500	7500	127676.....	429.00	610

With TWO Trip Coils and Current Transformers

T. P.—S. T.	2	240	126693.....	\$169.40	126759.....	\$176.00	200	4500	127677.....	\$200.20	320
T. P.—S. T.	2	280	126701.....	191.40	126797.....	198.00	300	7500	127685.....	222.20	360
T. P.—S. T.	2	290	126709.....	217.80	126805.....	224.40	500	7500	127693.....	248.90	370
4 P.—S. T.	2	270	126694.....	184.80	126790.....	191.40	200	4500	127678.....	215.60	350
4 P.—S. T.	2	330	126702.....	213.40	126798.....	220.00	300	7500	127686.....	244.20	410
4 P.—S. T.	2	340	126710.....	246.40	126806.....	253.00	500	7500	127694.....	277.20	420
T. P.—S. T.	3	270	126695.....	200.20	126791.....	206.80	200	4500	127679.....	231.00	350†
T. P.—S. T.	3	310	126703.....	224.40	126799.....	231.00	300	7500	127687.....	255.20	390†
T. P.—S. T.	3	320	126711.....	253.00	126807.....	259.60	500	7500	127695.....	283.80	400†
4 P.—S. T.	3	300	126696.....	215.60	126792.....	222.20	200	4500	127680.....	246.40	380†
4 P.—S. T.	3	360	126704.....	244.20	126800.....	253.00	300	7500	127688.....	275.00	440†
4 P.—S. T.	3	370	126712.....	281.60	126808.....	288.20	500	7500	127696.....	312.40	450†
T. P.—D. T.	2	370	126697.....	228.80	126793.....	237.60	200	4500	127681.....	288.20	450
T. P.—D. T.	2	420	126705.....	266.20	126801.....	275.00	300	7500	127689.....	325.80	500
T. P.—D. T.	2	430	126713.....	299.20	126809.....	308.00	500	7500	127697.....	358.60	510
4 P.—D. T.	2	420	126698.....	253.00	126794.....	264.00	200	4500	127682.....	314.60	500
4 P.—D. T.	2	500	126706.....	305.80	126802.....	312.40	300	7500	127690.....	365.20	580
4 P.—D. T.	2	510	126714.....	347.60	126810.....	356.40	500	7500	127698.....	407.00	590
T. P.—D. T.	3	400	126699.....	259.60	126795.....	268.40	200	4500	127683.....	319.00	480†
T. P.—D. T.	3	450	126707.....	299.20	126803.....	305.80	300	7500	127691.....	358.60	530†
T. P.—D. T.	3	460	126715.....	334.40	126811.....	343.00	500	7500	127699.....	393.80	540†
4 P.—D. T.	3	450	126700.....	256.00	126796.....	294.80	200	4500	127684.....	345.40	530†
4 P.—D. T.	3	530	126708.....	336.60	126804.....	345.40	300	7500	127692.....	393.00	610†
4 P.—D. T.	3	540	126716.....	382.80	126812.....	389.40	500	7500	127700.....	442.20	620†

*For use only with circuit closing relays.

†Load which the switch will carry continuously at 30 degrees C. rise or less.

‡2500 volt current transformers.

††For use only with circuit opening relays.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Protective Apparatus and Switchboard Accessories 44

G. E. OIL BREAK SWITCHES

TYPE F, FORM K-5—HAND OPERATED—WITH OVERLOAD RELEASE—AUTOMATIC
With THREE Trip Coils and Current Transformers
Operating Mechanism for Mounting on 1½ In. or 2 In. Panel

Poles and Throw	No. Trans-formers	Approx. Shpg. Wt. in Lbs.	PANEL MOUNTING 2500 Volts or Less		PANEL PIPE MOUNTING 2500 Volts or Less		Amp. Cap.	Voltage	REMOTE CONTROL 2500 Volts or Less		Approx. Shpg. Wt. in Lbs.
			Switch on Panel		Switch on Panel Pipe 5 in. Back of Panel				Switch on Pipe Framework		
			List No.	List Price	List No.	List Price			List No.	List Price	
T. P.—S. T.	3	290	126717	\$224. 40	126813	\$231. 00	200	4500	127701	\$255. 20	370*
T. P.—S. T.	3	330	126721	248. 60	126817	255. 20	300	7500	127705	279. 40	410*
T. P.—S. T.	3	340	126725	277. 20	126821	283. 80	500	7500	127709	308. 00	420*
4 P.—S. T.	3	320	126718	239. 80	126814	246. 40	200	4500	127702	270. 60	400*
4 P.—S. T.	3	380	126722	268. 40	126818	275. 00	300	7500	127706	299. 20	460*
4 P.—S. T.	3	390	126726	305. 80	126822	312. 40	500	7500	127710	326. 60	470*
T. P.—D. T.	3	420	126719	279. 40	126815	288. 20	200	4500	127703	338. 80	500*
T. P.—D. T.	3	470	126723	319. 00	126819	325. 60	300	7500	127707	378. 40	550*
T. P.—D. T.	3	480	126727	354. 20	126823	360. 80	500	7500	127711	413. 60	560*
4 P.—D. T.	3	470	126720	305. 80	126816	311. 60	200	4500	127704	365. 20	550*
4 P.—D. T.	3	550	126724	356. 40	126820	365. 20	300	7500	127708	415. 80	630*
4 P.—D. T.	3	560	126728	402. 60	126824	409. 20	500	7500	127712	462. 00	640*

*For four-wire three-phase only.

†Load which the switch will carry continuously at 30 degrees C. rise or less.
‡2500 volt current transformers.

HAND OPERATED—WITHOUT OVERLOAD RELEASE—NON-AUTOMATIC

Operating Mechanism for Mounting on 1½ In. or 2 In. Panel

Poles and Throw	No. Transformers	†Ampere Capacity	‡Voltage	REMOTE CONTROL		
				Switch for Mounting on Pipe Framework		
				Approx. Shpg. Wt. in Lbs.	List No.	List Price
D. P.—S. T.	..	200	4500	230	127563	\$90. 20
D. P.—S. T.	..	300	7500	270	127569	103. 40
D. P.—S. T.	..	500	7500	280	127575	118. 80
T. P.—S. T.	..	200	4500	240	127564	99. 00
T. P.—S. T.	..	300	7500	290	127570	121. 00
T. P.—S. T.	..	500	7500	400	127576	140. 80
4 P.—S. T.	..	200	4500	270	127565	114. 40
4 P.—S. T.	..	300	7500	330	127571	149. 80
4 P.—S. T.	..	500	7500	340	127577	169. 40
D. P.—D. T.	..	200	4500	330	127566	169. 40
D. P.—D. T.	..	300	7500	380	127572	193. 60
D. P.—D. T.	..	500	7500	390	127578	211. 20
T. P.—D. T.	..	200	4500	340	127567	187. 00
T. P.—D. T.	..	300	7500	390	127573	222. 20
T. P.—D. T.	..	500	7500	400	127579	250. 80
4 P.—D. T.	..	200	4500	390	127568	212. 40
4 P.—D. T.	..	300	7500	470	127574	261. 80
4 P.—D. T.	..	500	7500	480	127580	299. 20

HAND OPERATED—WITH OVERLOAD RELEASE—AUTOMATIC

With ONE Trip Coil and Current Transformers

D. P.—D. T.	1	200	4500	400	127586	\$250. 80
D. P.—D. T.	1	300	7500	440	127596	275. 00
D. P.—D. T.	1	500	7500	460	127606	297. 00
T. P.—D. T.	2	200	4500	440	127587	321. 20
T. P.—D. T.	2	300	7500	490	127597	360. 80
T. P.—D. T.	2	500	7500	510	127607	396. 00
T. P.—D. T.	3	200	4500	470	127589	376. 20*
T. P.—D. T.	3	300	7500	520	127599	418. 00*
4 P.—D. T.	3	500	7500	530	127609	455. 40*
4 P.—D. T.	2	200	4500	490	127588	347. 60
4 P.—D. T.	2	300	7500	570	127598	400. 40
4 P.—D. T.	2	500	7500	590	127608	444. 40
4 P.—D. T.	3	200	4500	520	127590	402. 60*
4 P.—D. T.	3	300	7500	600	127600	451. 00*
D. P.—S. T.	1	500	7500	620	127610	503. 80*
D. P.—S. T.	1	200	4500	280	127581	165. 00
D. P.—S. T.	1	300	7500	320	127591	180. 40
D. P.—S. T.	1	500	7500	340	127601	198. 00
T. P.—S. T.	2	200	4500	310	127582	228. 80
T. P.—S. T.	2	300	7500	350	127592	253. 00
T. P.—S. T.	2	500	7500	370	127602	281. 60
T. P.—S. T.	3	200	4500	340	127584	281. 60*
T. P.—S. T.	3	300	7500	380	127594	310. 20*
4 P.—S. T.	3	500	7500	480	127604	341. 00*
4 P.—S. T.	2	200	4500	340	127583	244. 20
4 P.—S. T.	2	300	7500	400	127593	275. 00
4 P.—S. T.	2	500	7500	420	127603	310. 20
4 P.—S. T.	3	200	4500	370	127585	297. 00*
4 P.—S. T.	3	300	7500	430	127595	330. 00*
4 P.—S. T.	3	500	7500	450	127605	369. 60*

*For use only with circuit closing relays.

†Load which the switch will carry continuously at 30 degrees C. rise or less.

‡Switches for 2500 volt service only. The Western Electric Company does not recommend the installation of apparatus on the panel or switchboard when that apparatus is subjected to a potential in excess of 2500 volts. For such installations remote control apparatus is recommended.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. OIL BREAK SWITCHES
Type F, Form K-5—Hand Operated—With Overload Release—Automatic
With TWO Trip Coils and Current Transformers

Poles and Throw	No. Transformers	†Ampere Capacity	Voltage	Operating Mechanism for Mounting on 1½ or 2 Inch Panel		
				Remote Control		
				Switch for Mounting on Pipe Framework		
				Approximate Ship. Wt. in Lbs.	List No.	List Price
T. P.—S. T.	2	200	4500	330	127611.....	\$246.40
T. P.—S. T.	2	300	7500	370	127619.....	270.60
T. P.—S. T.	2	500	7500	390	127627.....	299.20
4 P.—S. T.	2	200	4500	360	127612.....	261.80
4 P.—S. T.	2	300	7500	420	127620.....	292.60
4 P.—S. T.	2	500	7500	440	127628.....	327.80
T. P.—S. T.	3	200	4500	370	127613.....	299.20*
T. P.—S. T.	3	300	7500	410	127621.....	327.80*
T. P.—S. T.	3	500	7500	430	127629.....	358.60*
4 P.—S. T.	3	200	4500	400	127614.....	314.60*
4 P.—S. T.	3	300	7500	460	127622.....	347.60*
4 P.—S. T.	3	500	7500	480	127630.....	387.20*
T. P.—D. T.	2	200	4500	460	127615.....	334.40
T. P.—D. T.	2	300	7500	520	127623.....	374.00
T. P.—D. T.	2	500	7500	530	127631.....	409.20
4 P.—D. T.	2	200	4500	510	127616.....	360.80
4 P.—D. T.	2	300	7500	600	127624.....	413.60
4 P.—D. T.	2	500	7500	610	127632.....	457.60
T. P.—D. T.	3	200	4500	490	127617.....	389.40*
T. P.—D. T.	3	300	7500	550	127625.....	431.20*
T. P.—D. T.	3	500	7500	570	127633.....	468.60*
4 P.—D. T.	3	200	4500	540	127618.....	415.80*
4 P.—D. T.	3	300	7500	630	127626.....	408.60*
4 P.—D. T.	3	500	7500	650	127634.....	517.00*
T. P.—S. T.	3	200	4500	380	127635.....	323.40 ^Δ
T. P.—S. T.	3	300	7500	420	127639.....	352.00 ^Δ
T. P.—S. T.	3	500	7500	440	127643.....	382.80 ^Δ
4 P.—S. T.	3	200	4500	410	127636.....	338.80 ^Δ
4 P.—S. T.	3	300	7500	470	127640.....	371.80 ^Δ
4 P.—S. T.	3	500	7500	490	127644.....	411.40 ^Δ
T. P.—D. T.	3	200	4500	510	127637.....	409.20 ^Δ
T. P.—D. T.	3	300	7500	570	127641.....	451.00 ^Δ
T. P.—D. T.	3	500	7500	590	127645.....	488.40 ^Δ
4 P.—D. T.	3	200	4500	560	127638.....	435.60 ^Δ
4 P.—D. T.	3	300	7500	650	127642.....	488.40 ^Δ
4 P.—D. T.	3	500	7500	670	127646.....	536.80 ^Δ

*For use only with circuit opening relays.

†Load which the switch will carry continuously at 30 degrees C. rise or less.

‡We do not recommend the installation of apparatus on the panel or switchboard when that apparatus is subject to a potential in excess of 2500 volts. For such installations remote control apparatus is recommended.

^ΔFor four-wire, three phase only.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.
 Protective Apparatus and Switchboard Accessories 48

**G. E. OIL BREAK SWITCHES
Type F, Form K-5 Oil Break Switches
LOW-VOLTAGE RELEASE ATTACHMENTS**

A complete line of new low-voltage release attachments is listed below for voltages up to and including 550 volts. Above 550 volts, use 110 volt attachment with series resistance in secondary of a voltage or potential transformer.

**Plain Low-voltage Operating Levers
(See Type F, Form K-13 for description.)
For Substituting Plain Low-voltage Operating Lever**

List No.	For Switch Mounted	Add to List Price Non-Automatic Single Throw Switch*
302509	On panel.....	\$8.80
302510	On panel pipe.....	8.80
302511	Remote Control.....	8.80

*Double throw switches are usually automatic and would use standard low-voltage attachments as listed.

Plain low-voltage, double throw switches will require special consideration. Prices on request.

**LOW-VOLTAGE RELEASE ATTACHMENTS
25-60 Cycles**

**For Single Throw Switch—One-coil Operating Lever
Also Plain Low-voltage Operating Lever (Left Hand Only)**

Line Voltage	Approximate Shipping Weight in Lbs.	Left Hand †List No.	Right Hand †List No.	†List Price
1110	10	137581	137585	\$22.00
220	10	137582	137586	22.00
440	15	137583	137587	23.30
550	15	137584	137588	23.30

For Single Throw Switch—Two-coil Operating Lever

1110	10	137589	137593	\$22.00
220	10	137590	137594	22.00
440	15	137591	137595	23.30
550	15	137592	137596	23.30

For Single Throw Switch—Three-coil Operating Lever

1110	10	137597	137601	\$22.00
220	10	137598	137602	22.00
440	15	137599	137603	23.30
550	15	137600	137604	23.30

For Double Throw Switch—One-coil Operating Lever††

1110	10	137605	137609	\$22.00
220	10	137606	137610	22.00
440	15	137607	137611	23.30
550	15	137608	137612	23.30

For Double Throw Switch—Two-coil Operating Lever

1110	10	137613	137617	\$22.00
220	10	137614	137618	22.00
440	15	137615	137619	23.30
550	15	137616	137620	23.30

For Double Throw Switch—Three-coil Operating Lever

1110	10	137621	137625	\$22.00
220	10	137622	137626	22.00
440	15	137623	137627	23.30
550	15	137624	137628	23.30

Low-voltage release operates at approximately one-half rated voltage.

†Includes series resistance for low-voltage coil List No. 115968 for 110 volts, List No. 115967 for 220 volts, List No. 115966 for 440 volts, and List No. 115965 for 550 volts.

††For voltages above 550, use 110 volt low-voltage with series resistance and suitable voltage or potential transformer.

††Plain low-voltage operating lever not made for double-throw. Use automatic switch with one low-voltage release or refer for special quotations.

Shunt Resistance

To be used when low-voltage release is operated by being short circuited (circuit closing relays or auxiliary switches).

List No.	Line Voltage	Ship. Weight in Lbs.	List Price
137580	110, 220, 440 or 550	5	\$4.40

****BELL ALARM SWITCHES**

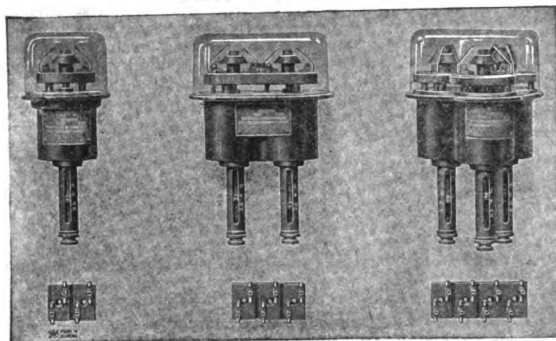
List No.	For Use With	List Price
139337	K-5 oil switches mounted on 1½ or 2 inch panels.....	\$2.20
139336	K-5 oil switches mounted on panel pipes or remote control.....	2.20

**Operate only when the oil switch operates automatically.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. DIRECT AND ALTERNATING CURRENT RELAYS

GENERAL



No. 102720

Type P, Form F, Instantaneous Overload Circuit Closing Relay

No. 102721

with Cover

No. 102722

The connections between the relays and circuit-opening devices are usually electrical. Combinations of this nature are extremely flexible, since they admit of the use of a number of devices, each having a different function, with a single oil switch or circuit breaker as well as with two or more switches to secure the desired operation or protection. Such combinations are positive in operation and may be easily installed to fulfill requirements which would be impracticable with mechanical devices applied directly to the oil switch or circuit breaker.

All relays should be regularly inspected and carefully cleaned and they should be occasionally tested in order to insure the most satisfactory operation.

Relays for both alternating and direct current are similar in their chief characteristics and may be classified

under two main headings, namely: "Circuit-closing" and "Circuit-opening."

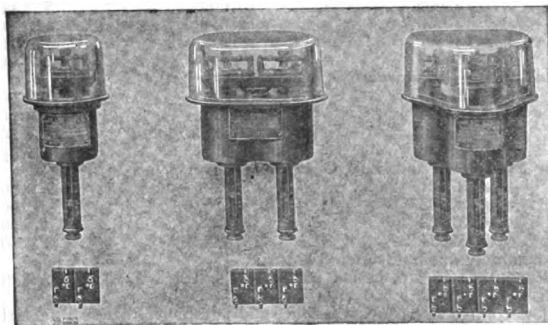
The function of a circuit-closing relay is to close an electrical circuit, usually direct current, through a trip coil on an oil switch or circuit breaker, or it may short-circuit a low voltage release coil, and thereby open the oil switch or circuit breaker on occurrence of the condition upon which the relay is designed to operate.

Circuit-closing (normally open) relays are supplied with carbon contacts. These contacts will open 10 amperes at 125 volts.

The function of a circuit-opening relay is to open an electrical circuit, usually alternating current, and thereby cause the oil switch or circuit breaker to be opened by the use of trip coils in the secondary of current transformers, or by low voltage release coils.

When in the normal position the relay contacts are in multiple with the oil switch or circuit breaker trip coils, or in series with a low voltage release coil. When the relay operates, the current from the energizing circuit flows through the trip coils and trips the switch or break; or, if a low voltage coil is used, the lifting of the contacts opens the energizing circuit and causes the oil switch or circuit breaker to open.

Circuit-closing relays with three contacts are for tripping two switches from one relay where the trip coils cannot be connected together permanently.



No. 102723

Type P, Form F-2, Instantaneous Overload Circuit Opening

No. 102724

Cover Removed

No. 102725

Circuit-opening relays are used chiefly in those cases where direct current for the tripping circuit is not available.

Alternating current trip coils have relatively high impedance and impose a heavy volt-ampere load on the current transformers. To reduce this load during normal operation the circuit-opening relay is frequently used and is usually necessary where instruments and meters are to be operated on the same current transformers as the trip coils if the greatest accuracy is required.

The relay contacts in the normal, closed position short-circuit the trip coil. When the relay operates on overload or other abnormal condition the contacts are opened with a quick break, sending the current through the trip coil current momentarily and tripping the switch. With circuit-opening relays

the trip coils of the oil switch must be set to trip somewhat lower than the setting of the relay.

Double pole circuit-opening relays have the contacts of each pole separate, so that each pole can be operated independently.

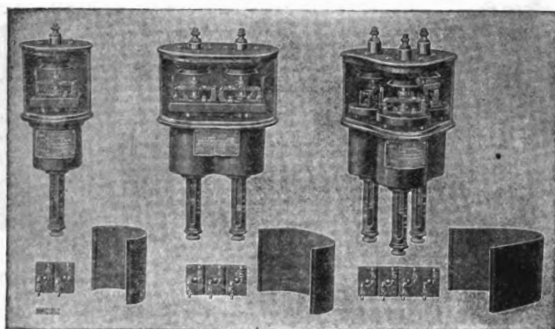
Circuit-opening relays are equipped with quick break contacts, which open independently of the time of travel of the plunger.

Terminal boards are furnished with most of the relays described. These are numbered and lettered to correspond to the terminals of the relay coils, and greatly facilitate proper installation.

Instantaneous relays are equipped with glass covers, time limit relays with metal covers, except when otherwise noted. These covers are supported by the magnet frame, and keep the contacts free from dust and dirt. Relays such as the series overload type do not require covers.

Relays have all exposed current-carrying parts polished and lacquered. Frames and metal covers are finished dull black and compare with other switchboard devices in their neat and attractive appearance.

G. E. RELAYS



No. 102729 No. 102730 No. 102731
Type P, Form G, Inverse Time-Limit Overload Circuit-Closing Relay, with Cover

**A.C. Overload
TIME ELEMENT**

Circuit-closing and circuit-opening relays are further subdivided into instantaneous and time-limit. Instantaneous relays operate almost instantly on the half second to about 30 seconds delay depending on the time setting and the magnitude of the overload current. A setting of from two to six seconds is ordinarily used, depending upon requirements; where selective operation is desired a minimum setting of two seconds is recommended.

Under conditions of overload or short circuit the inverse time-limit relay operates in inverse ratio to the strength of the current. Therefore, the heavier the overload or short circuit the more rapidly the relay will operate.

***For Use with Current Transformers Having 5 Ampere Secondaries
Instantaneous—Overload**

List No.	Type	No. of Contacts per Pole	Form	Descriptive	Poles	Ship. Wt. in Lbs.	List Price Each
102720	P	2	F	Circuit closing—normally open	S.P.	10	\$22.00
102721	P	2	F	Circuit closing—normally open	D.P.	18	33.00
102722	P	2	F	Circuit closing—normally open	T.P.	25	50.60
102726	P	3	F3	Circuit closing—normally open	S.P.	10	24.20
102727	P	3	F3	Circuit closing—normally open	D.P.	18	35.20
102728	P	3	F3	Circuit closing—normally open	T.P.	25	52.80
102723	P	2	F2	Circuit opening—normally closed	S.P.	10	22.00
102724	P	2	F2	Circuit opening—normally closed	D.P.	18	33.00
102725	P	2	F2	Circuit opening—normally closed	T.P.	25	50.60
135662	P	2	F2	Circuit opening—normally closed	D.P.	20	41.80

Inverse Time Limit—Overload

102729	P	2	G	Circuit closing—normally open	S.P.	15	\$33.00
102730	P	2	G	Circuit closing—normally open	D.P.	25	55.00
102731	P	2	G	Circuit closing—normally open	T.P.	35	77.00
102735	P	3	G3	Circuit closing—normally open	S.P.	15	35.20
102736	P	3	G3	Circuit closing—normally open	D.P.	25	59.40
102737	P	3	G3	Circuit closing—normally open	T.P.	35	81.40
102732	P	2	G2	Circuit opening—normally closed	S.P.	15	33.00
102733	P	2	G2	Circuit opening—normally closed	D.P.	25	55.00
102734	P	2	G2	Circuit opening—normally closed	T.P.	35	77.00
135663	P	2	G2	Circuit opening—normally closed	D.P.	27	59.40

Definite Time Limit—Overload

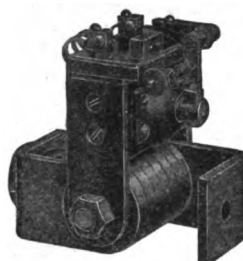
102738	P	2	G10	Circuit closing—normally open	S.P.	15	\$33.00
102739	P	2	G10	Circuit closing—normally open	D.P.	25	55.00
102740	P	2	G10	Circuit closing—normally open	T.P.	35	77.00
102741	P	3	G11	Circuit closing—normally open	S.P.	15	35.20
102742	P	3	G11	Circuit closing—normally open	D.P.	25	59.40
102743	P	3	G11	Circuit closing—normally open	T.P.	35	81.40
102744	P	2	G12	Circuit opening—normally closed	S.P.	15	33.00
102745	P	2	G12	Circuit opening—normally closed	D.P.	25	55.00
102746	P	2	G12	Circuit opening—normally closed	T.P.	35	77.00

*No transformer included.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. RELAYS


Type R, Form B-2



Type R, Form B-3

Direct Current Reverse Current Relays
Type R, Form B-2

The Type R, Form B-2 Reverse Current Relay is designed for mounting on circuit breaker studs. It consists of a horseshoe magnet with a shunt wound armature pivoted between its poles. The magnet is mounted on the current-carrying stud of the circuit breaker between the back of the panel and the first contact or supporting nut, and is placed in a vertical position.

The contacts are insulated from the magnet, permitting the use of an auxiliary circuit for the tripping device, independent of the circuit controlled by the circuit breaker. This is highly desirable on 600 volt systems where a reliable low voltage auxiliary source is available.

Type R, Form B-3

These relays are for the same purpose and perform the same functions as the Type R, Form B-2, Reverse Current Relays, and they are similar in their method of operation.

Being for smaller capacity service, a coil instead of the stud is used to furnish a field for the armature.

**Instantaneous—Single Pole—Circuit Closing (Normally Open)
(No Covers)**
Type R, Form B-2

†List No.	Volts	*Ampere Capacity	Calibration Operates on Reversal Amperes	Size of Circuit Breaker Stud in Ins.	Shipping Weight Lbs.	List Price Each
43462	125	800	200	1½	20	\$88.00
102867	125	1000	200	1¾	20	88.00
43463	125	1200	200	1¾	20	88.00
64813	125	1500	200	1½	20	88.00
43464	125	2000	200	1¾	20	88.00
64814	125	3000	200	2	20	88.00
43465	125	4000	200	2½	20	88.00
102868	125	5000	200	2¾	20	88.00
43466	125	6000	200	3¼	20	88.00
64819	125	8000	200	4	20	88.00
43467	250	800	200	1½	20	88.00
102869	250	1000	200	1¾	20	88.00
43468	250	1200	200	1¾	20	88.00
64815	250	1500	200	1½	20	88.00
43469	250	2000	200	1¾	20	88.00
64816	250	3000	200	2	20	88.00
43470	250	4000	200	2½	20	88.00
102870	250	5000	200	2¾	20	88.00
43471	250	6000	200	3¼	20	88.00
64820	250	8000	200	4	20	88.00
43472	550	800	200	1½	20	88.00
102871	550	1000	200	1¾	20	88.00
43473	550	1200	200	1¾	20	88.00
64817	550	1500	200	1½	20	88.00
43474	550	2000	200	1¾	20	88.00
64818	550	3000	200	2	20	88.00
43475	550	4000	200	2½	20	88.00
102872	550	5000	200	2¾	20	88.00
43476	550	6000	200	3¼	20	88.00
64821	550	8000	200	4	20	88.00

*Load which the relay will carry continuously at 30 degrees C. rise or less.

†Proper series resistance for potential circuit is included.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

G. E. RELAYS

D.C. Reverse Current for Circuit Breakers

Instantaneous—Single Pole—Circuit Closing (Normally Open)

(No Covers)

Type R, Form B-3

List No.	Volts	Ampere Capacity	Calibration Operates on Reversal Amperes	Size of Circuit Breaker Stud in Ins.	Shipping Weight Lbs.	List Price Each
43441	125	15	4	$\frac{3}{8}$	15	\$64.90
43442	125	25	6	$\frac{3}{8}$	15	64.90
102858	125	40	10	$\frac{3}{8}$	15	67.10
43443	125	50	12	$\frac{3}{8}$	15	67.10
102859	125	75	20	$\frac{3}{8}$	15	67.10
43444	125	100	25	$\frac{3}{8}$	15	67.10
43445	125	200	50	$\frac{1}{2}$	15	67.10
43446	125	300	75	$\frac{5}{8}$	15	67.10
43447	125	500	125	$\frac{7}{8}$	15	67.10
102860	125	600	150	1	15	73.70
43448	250	15	4	$\frac{3}{8}$	15	64.90
43449	250	25	6	$\frac{3}{8}$	15	64.90
102861	250	40	10	$\frac{3}{8}$	15	67.10
43450	250	50	12	$\frac{3}{8}$	15	67.10
102862	250	75	20	$\frac{3}{8}$	15	67.10
43451	250	100	25	$\frac{3}{8}$	15	67.10
43452	250	200	50	$\frac{1}{2}$	15	67.10
43453	250	300	75	$\frac{5}{8}$	15	67.10
43454	250	500	125	$\frac{7}{8}$	15	67.10
102863	250	600	150	$\frac{7}{8}$	15	73.70
43455	650	15	4	1	15	64.90
43456	650	25	6	$\frac{3}{8}$	15	64.90
102864	650	40	10	$\frac{3}{8}$	15	67.10
43457	650	50	12	$\frac{3}{8}$	15	67.10
102865	650	75	20	$\frac{3}{8}$	15	67.10
43458	650	100	25	$\frac{3}{8}$	15	67.10
43459	650	200	50	$\frac{1}{2}$	15	67.10
43460	650	300	75	$\frac{5}{8}$	15	67.10
43461	650	500	125	$\frac{7}{8}$	15	67.10
102866	650	600	150	1	15	73.70

Direct Current—Overload—Low Tension

SINGLE POLE CIRCUIT CLOSING TWO CONTACT

600 Volts or Less

Instantaneous

Inverse Time

Type P Form B-25 List No.	Amp. Capacity	Calibration		Shpg. Wgt.	List Price Each	Type P Form C25 List No.	Amp. Capacity	Calibration		Shpg. Wgt.	List Price Each
		Min.	Max.					Min.	Max.		
64802	15	10	25	20	\$22.00	102831	15	10	25	20	\$34.10
64803	25	15	40	20	23.10	102832	25	15	40	20	35.20
64804	40	20	60	20	23.10	102833	40	20	60	20	35.20
64805	50	25	70	20	23.10	102834	50	25	75	20	35.20
64806	75	40	125	20	23.10	102835	75	40	125	20	35.20
64807	100	50	150	20	23.10	102836	100	50	150	20	35.20
120990	150	75	225	20	33.00	120992	150	75	225	20	44.00
64808	200	100	300	20	33.00	102837	200	100	300	20	44.00
64809	300	150	450	20	33.00	102838	300	150	450	20	44.00
120991	400	200	600	30	35.20	120993	400	200	600	30	46.20
64810	500	250	750	30	35.20	102839	500	250	750	30	46.20
102829	600	300	900	30	49.50	102840	600	300	900	30	60.50
64811	800	400	1200	35	49.50	102841	800	400	1200	35	60.50
102830	1000	500	1500	35	55.00	102842	1000	500	1500	35	66.00
64812	1200	800	1800	35	59.40	102843	1200	800	1800	35	70.40

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse delivery write nearest house.

G. E. RELAYS

Type P, Form F10
Circuit ClosingType P, Form B10
Solenoid Control Relay

Alternating Current Relays—Low Voltage

INSTANTANEOUS—TYPE P, FORM F10 CIRCUIT-CLOSING TWO CONTACT 600 VOLTS OR LESS FOR MOUNTING ON FRONT OF PANEL

The contacts of this relay are similar to those of circuit-closing overload relays except that they are inverted. These relays are connected directly across the line with proper resistance in series with the relay coil. As long as the potential is normal the contact cone is held above the contacts. When the potential falls below one-half normal the cone and plunger rod drop and close the contact. This relay does not pick up its own plunger. The plunger rod is pushed up by hand after the potential circuit is established. Low-voltage relays are generally used in connection with a low-voltage release or shunt trip coil on an oil switch or a circuit breaker. They are used in connection with motor-booster sets to prevent a disastrous speed of the booster which might result from the loss of alternating current power. They are also sometimes used for indicating purposes.

SINGLE POLE

List No.	Volts	Approx. Shpg. Wt. in Lbs.	List Price
102819	110 (125)	10	\$22.00
102820	240	10	22.00
102821	370	10	24.20
102822	480	10	24.20
102823	600	10	24.20

DOUBLE POLE

List No.	Volts	Approx. Shpg. Wt. in Lbs.	List Price
102824	110 (125)	15	\$35.20
102825	240	15	35.20
102826	370	15	41.80
102827	480	15	41.80
102828	600	15	41.80

*OVERLOAD—LOW TENSION SERIES

Single Pole—Circuit-closing—Two Contact 600 Volts or Less—Back Connected for Mounting on Front of Panel

List No.	Type P, Form B36	Inverse Type P, Form C36	*Ampere Capacity	Calibration	Approx. Shpg. Wt. in Lbs.	List Price	Inverse Time
102783		102796	15	10	25	\$22.00	\$34.10
102784		102797	25	15	40	23.10	35.20
102785		102798	40	20	60	23.10	35.20
102786		102799	50	25	75	23.10	35.20
102787		102800	75	40	125	23.10	35.20
102788		102801	100	50	150	23.10	35.20
102952		102954	150	75	225	33.00	44.00
102789		102802	200	100	300	33.00	44.00
102790		102803	300	150	450	33.00	44.00
102953		102955	400	200	600	35.20	46.20
102791		102804	500	250	750	35.20	46.20
102792		102805	600	300	900	49.50	60.50
102793		102806	800	400	1200	49.50	60.50
102794		102807	1000	500	1500	55.00	66.00
102795		102808	1200	600	1800	59.40	70.40

*Load which the relay will carry continuously at 30 degrees C. rise or less.

Solenoid Control Relays—Circuit Closing

TYPE P, FORM B10—SINGLE POLE—DIRECT CURRENT—125 to 600 VOLTS

For Use with Solenoid Operated Oil Break Switches (No Covers)

Relays with copper contacts are designed for opening control circuits of 30 amperes and under. They are suitable for use with Type F, Forms K3 and K12 oil break switches and carbon break circuit breakers. Carbon contact relays are designed for opening control circuits of 30 to 100 amperes. They are for use with solenoid operated Type F, Form K10 oil break switches. Copper contact relays with two contacts are used where it is desired to control two solenoid operated switches, each independent of the other, from one relay.

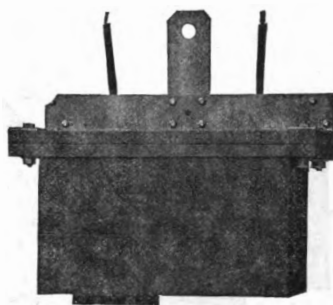
List No.	Voltage	For Mounting	Contacts	Shpg. Wt. Lbs.	List Price Each
64839	125	On	Material	18	\$17.84
64840	250	On	Number	18	19.84
64841	600	On	Copper	18	23.10
64842	125	Panel	One	18	18.70
64843	250	Panel	One	18	20.90
64844	600	Panel	One	18	24.20
102883	125	Panel	One	18	19.84
102884	250	Panel	One	18	22.00
102885	600	Panel	One	18	25.30
102873	125	Panel	Two	18	18.70
102874	250	Panel	Two	18	20.90
102875	600	Panel	Two	18	24.20
102876	125	Panel	One	18	19.84
102877	250	Panel	One	18	22.00
102878	600	Panel	One	18	25.30

Prices on reverse phase, reverse current and series overload relays, low voltage and signal relays sent upon request.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

WESTINGHOUSE LIGHTNING ARRESTER



Type A Electrolytic Arrestor



Type B Arrestor

Type A Electrolytic Lightning Arresters

Up to 1500 Volts Direct Current—For Station Use

Application. Where an extremely low equivalent lightning arrester is required. Experience has shown that lightning discharges or rise of potential of any kind will pass freely through these arresters. The equivalent spark gap as commonly measured is practically zero.

Principle. The arrester depends for its operation on the peculiar properties of a film deposited electrolytically on aluminum trays.

Construction. The arrester consists of a tank of oil in which are placed, on properly insulated supports, a nest of cup-shaped aluminum trays. The spaces between the trays are filled with electrolyte, a sufficient quantity for one charge being furnished with each arrester. The top tray is connected with the line through a 60 ampere fuse, and the bottom tray is connected to the tank which is thoroughly grounded by means of a lug. The fuse is of the enclosed type and mounted on the cover of the arrester.

A small charging current flows through the trays continuously and keeps the films on the trays built up, so that no charging is required. This charging current is not, however, of sufficient value to raise the temperature appreciably.

Type A Lightning Arresters

List No.	Voltage	No. of Trays	No. of Bottles of Electrolyte S. No. 141539	Gallons of Oil	Approximate Wt., Lbs.		List Price
					Net	Boxed	
201555	0-350	2	1	9	92	146	\$57.78
120830A	350-700	3	2	9	92	146	59.40
201556	700-1150	4	3	9	92	146	61.02
201557	1150-1400	5	4	13	96	150	82.62
201558	1400-1750	6	5	13	96	150	84.24
165047	1750-2100	7	6	13	96	150	85.86
201559	2100-2450	8	7	13	96	150	87.48

Accessories

List No.	Description	List Price
125412	Cup for filling trays.....	\$1.62
128540	Aluminum tray (treated).....	1.20
141539	Type D electrolyte (8 oz. bottle).....	.38
.....	Type D electrolyte (per 5 gallon can).....	5.94

Type B Lightning Arrester

Up to 1500 Volts—Direct Current—For Car or Line Use

Application. The type B arrester is for line protection and is arranged particularly for pole mounting. It can be used on potentials up to 1500 volts, being tested before shipment at 6000 volts.

Construction. The arrester is divided into two parts, hinged together. The parts are so arranged that when the lower half is let down the line circuit is opened to the arrester, leaving all active parts dead. The spark gap can then be adjusted if desired and all parts inspected without danger. The spark gap is composed of diverging fingers so that the arc lengthens as it is blown out. The entire apparatus is supported by a galvanized iron bracket. The high insulation test required made it preferable to build this arrester in the form of a larger unit than usual. In this way a very free discharge and powerful blow-out have been obtained.

The ruggedness and discharge characteristics of this lightning arrester make it the equal, for the same service, of at least two other arresters for similar service.

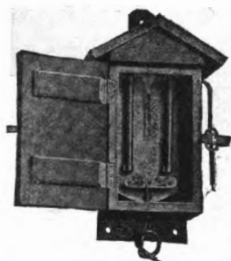
Type B Lightning Arrester

List No.	Use	Voltage	Approximate Weight, Lbs.		List Price
			Net	Boxed	
148904	On Line	0-1500	20	50	\$28.08

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

59 Protective Apparatus and Switchboard Accessories

WESTINGHOUSE LIGHTNING ARRESTERS



Two-Pole Type G



Three-Pole Type G



Indoor Type W



Outdoor Type W

Type G Lightning Arresters

For Alternating Current Light and Power Circuits, not exceeding 2500 Volts

The principle of operation of the Type G arrester is somewhat similar to that of the Type C arrester. A series of gaps between non-arcing metal cylinders arranged in a row, is connected between line and ground in series with a composition stick resistor having a resistance of something between 80 and 120 ohms. If an excessive potential is developed on a line protected with a Type G arrester, electric discharge arcs form between the metal cylinders, and the charge of electricity flows to the ground, relieving the excessive stress. The resistance of the stick resistor limits the flow so that an excessive power current cannot pass through the arrester. The tendency for a destructive power arc to follow the discharge arc is thus counteracted.

The composition resistors and the gap cylinders are mounted in pairs on a porcelain base, and complete units are arranged within weatherproof wooden boxes. For two-pole arresters, one unit is mounted on the back of the box. For three-pole and four-pole arresters, two units are used; one is secured on each side of the box. In the three-pole style, one of the resistor rods and its clips is omitted from one of the units.

Type G arresters may be installed out-of-doors on poles or buildings, or indoors on station walls. The weatherproof wooden case effectively protects the arrester units from rain and snow when they are installed in exposed locations.

Type G arresters are designed for the protection of alternating current circuits, operating at voltages not exceeding 2500. Type G arresters do not offer as great a degree of protection as do Type S arresters, but may be applied to circuits served by sources capable of developing any amount of power.

List No.	Poles	Voltage	Weights		List Price Each
			Net	Gr.	
151225	2 pole	2200 to 2500	13½	45	\$17.28
151224	3 pole	2200 to 2500	25	84	24.84
151223	4 pole	2200 to 2500	25	84	28.08
98062A	Resistance Rod		0.5	2	2.16

Type W Lightning Arresters

6600 AND 13,200 VOLTS

Capacity. Type W arresters are built as 6600 volt units and can be used on lines of any kilowatt capacity. For 13,200 volt circuits, two arresters are used in series.

Application. These arresters are used as single pole arresters on single phase, two-phase and three-phase lines. They are particularly convenient to install on poles as no mounting is required, the arrester being simply hung from the line wire or crossarm. Where two arresters are used, on 13,200 volts, the two are hooked together and the proper electrical connection made.

Construction. The arrester consists of a number of small spark gaps between caps of non-arcing metal, in series with a suitable resistance. The non-arcing metal caps are supported on an insulated rod and separated by porcelain spacers. The lowest metal cap is connected to a resistance rod enclosed in a mica tube. The whole is suspended from a porcelain insulator and provided with a hook at the lower end for making fast or suspending another arrester.

Outdoor Arresters. For outdoor use a metal hood is provided to shed water and snow from the spark caps.

TYPE W ARRESTERS

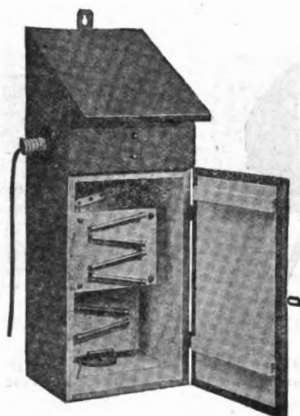
List No.	Type	Circuit Voltage	Approximate Weight, Lbs.		List Price
			Net	Boxed	
179914	Indoor	6600	9½	18	\$21.60
201673	Outdoor	6600	10	20	26.46

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Protective Apparatus and Switchboard Accessories 60

WESTINGHOUSE LIGHTNING ARRESTERS



Indoor, No. 16602



Outdoor, No. 201601

Low-Equivalent Lightning Arresters

For 2500 to 50,000 Volts

Low equivalent lightning arresters may be used on circuits of unlimited capacity, and they afford a degree of protection second only to the electrolytic arresters. They may be used in preference to the electrolytic arresters in stations of small to moderate capacity in localities where lightning conditions are not very severe. They should always be used for the protection of isolated substations where the attention required by an electrolytic arrester cannot be given.

Disconnecting Switches. It is recommended that a switch be supplied with each arrester in order to easily disconnect it from the line when desired.

Construction. The arrester consists of three parts: A number of gap units in series, a number of gap units in shunt with a resistor, and a series resistor. These three parts are connected in series from the line to the ground in the order given. All resistors are non-inductive. The resistors and gap units are mounted on marble.

Operation. When a discharge occurs the series gaps are broken down, and if the discharge is heavy enough, it will meet opposition in the shunt resistance and pass over the shunted gaps, through the series resistance to the ground. The arc that tends to follow the discharge is then withdrawn from the shunted gaps by the shunt resistance and, opposed by both resistances, is suppressed by the series gaps. The potential at which a discharge takes place is determined by the number of series gaps; a sufficient number are used to withstand the normal voltage and yet give a proper factor of safety for the severest service.

These low equivalent arresters are therefore non-arcing under all conditions and at the same time prevent a dangerous rise of potential on the line by offering an easy passage to the ground for lightning or other static discharges. They are single pole, one arrester being required for each line to be protected.

Outdoor Arrester. For outdoor use the low equivalent arresters are listed enclosed in wooden cases with hinged door.

List No. and list price include arrester complete mounted on a marble panel and supplied with series and shunt resistance and insulators when necessary.

LOW EQUIVALENT ARRESTERS

Voltage	Indoor Arresters			Outdoor Arresters		
	List No.	Approximate Shpg. Wt., Lbs.	List Price	List No.	Approximate Shpg. Wt., Lbs.	List Price
2000-3500	16598	150	\$29.16	201597	240	\$38.88
3500-5175	16599	180	39.96	201598	256	51.30
5175-7500	16600	175	51.30	201599	280	62.64
7500-10000	16601	200	83.70	201600	320	98.82
10000-14500	16602	225	113.40	201601	360	135.54
14500-19000	16603	300	135.00	201602	480	157.14
19000-27500	25028	375	151.20	201603	600	175.50
27500-39000	25029	450	277.56
Arrester Unit	9587A	...	1.26	9587A	...	1.26

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61 Protective Apparatus and Switchboard Accessories

WESTINGHOUSE LIGHTNING ARRESTERS



Type No. 47417A
For Car Mounting



Type 154297
For Pole Mounting



No. 138891
For Conduit Wiring

Type MP Arrester

For Street Railway Service—A.C. and D.C. Circuits—Single Pole

By the method of construction employed a lightning arrester has been produced which has an indefinite length of life, and which affords a freedom of discharge many times greater than any of the low voltage lightning arresters now on the market.

The MP Lightning Arrester takes its name from the fact that the static discharge spreads itself over the surface of a block of special composition along a number of minute discharge paths—multipath—hence the name MP. The voltage across each gap is very small, but owing to the large number of gaps the line voltage cannot maintain an arc across them.

This arrester may be used on each car, on the line or in the power house.

It is furnished with a weatherproof galvanized iron case and is neat and compact in design.

Construction. For installation under different conditions, three different styles of Type MP Arrester are furnished. In all three the live parts are mounted in substantial galvanized iron boxes, the covers of which close against felt gaskets, and are held by rugged spring-toggle latches.

No. 47417A for car mounting is constructed with the mounting lug on the top casting and when the bottom casting is removed the working part comes out with it. It is therefore convenient for mounting under car sills and in other inaccessible places. It is weatherproof.

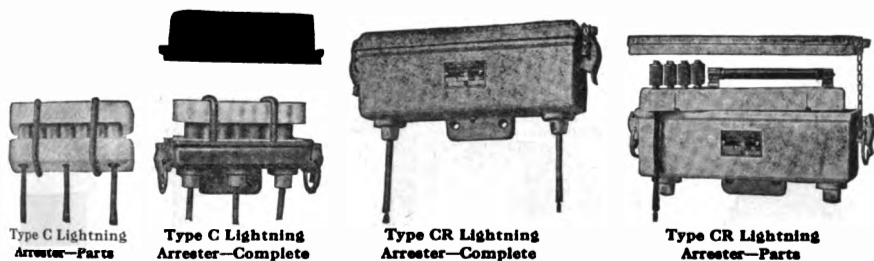
No. 154297 for pole mounting is the same as Style No. 47417A except that the mounting lug is located at the bottom, so that the cover can be removed for inspection without dropping out the live part.

No. 138891 for conduit wiring is mounted in a larger box having a conduit hole tapped with a standard $\frac{3}{8}$ inch pipe thread. The ground lead is connected directly to the box, and the conduit system should be grounded.

List No.	Use	Voltage	Approximate Weight, Lbs.—		List Price
			Net	Boxed	
47417A	On Cars	400-750	7 $\frac{1}{2}$	14	\$6.12
154297	On Poles	400-750	7 $\frac{1}{2}$	14	6.12
138891	Conduit	400-750	12 $\frac{1}{2}$	20	9.18

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WESTINGHOUSE LIGHTNING ARRESTERS



Type C, Double Pole, Alternating Current Arresters

This lightning arrester consists of seven cylinders of non-arcing metal mounted on a porcelain base, which is incased in a weatherproof iron box. Leads are brought out from the first, last and middle cylinders. For circuits with normal potential not exceeding 1250 volts the arrester will afford protection for both sides of a two-wire circuit. For circuits exceeding 1250 volts, but not exceeding 2500, one of the outside leads is grounded, the other is connected to the line and the middle lead is disconnected. In this case it is used as a single pole arrester.

The Type C Lightning Arrester should be used on circuits of a capacity not exceeding 200 kilowatts, within a radius of 2 miles of the source of power. An additional 100 kilowatts of capacity is permissible for each additional mile. About five arresters per mile are recommended for this service. For all capacities beyond the limits given for the Type C Lightning Arrester, the Type S Lightning Arresters should be used.

List No.	Circuit Voltage	List Price Each
62133A	500 to 2500 A.C.	\$5.58
48231	Unit for Type C Arrester.	3.42

Type CR, Alternating Current Arresters

The Type CR Arresters are used on alternating current circuits of any frequency or capacity and of voltages up to 2500. They may be installed out-of-doors on poles or buildings or indoors on station walls. The weatherproof metal case effectively protects the arrester units from rain or snow when installed in exposed locations.

It is recommended that one set of the Type CR Arresters be installed at each distributing transformer, with a maximum of five sets of arresters to the mile of line.

The Type CR is similar to the Type C with a resistor in series with the non-arcing spark gaps. This resistor prevents the power arc that might occur with the Type C Arrester if used on circuits of high capacity. The resistance is low enough to give good protection but high enough to insure reliable operation and to enable the non-arcing metal gaps to quench the arc at the end of the first half-cycle. The discharge voltage is as low as is practical for use on the circuits for which the arrester is rated.

The distinctive features of the Type CR Arrester are: Unlimited capacity, non-arcing metal spark gaps, spark-gap cylinders can be turned in case of burning, "Koppat" resistor of new composition, absolutely unaffected in its resistance by static discharge, resistor and spark gaps self-contained in a weatherproof metal case.

Four cylinders and one resistance rod are mounted on a porcelain base in a metal case supplied with a cover and gasket to make the case weatherproof. The cover is attached to the case proper by a chain so that there is no danger of dropping it to the ground during inspection. The cover can be removed without danger of the inspector's coming in contact with live parts of the arrester.

List No.	Description	Approx. Net	Wgt. Lbs. Boxed	List Price
221415	Type CR Arrester, complete as described	9	10	\$6.48
225246	Complete unit for Type CR Arrester	2	3	5.18
223872	Resistance rod for Type CR Arrester	$\frac{1}{8}$	$\frac{1}{4}$	1.14

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WESTINGHOUSE LIGHTNING ARRESTERS



Mfr. No. 99426



Mfr. No. 99427



Mfr. No. 100728



Mfr. No. 100727

Type S Lightning Arresters

FOR 1200 TO 13,200 VOLTS

Capacities. The Type S Arresters are for use on circuits fed by generators or transformers of capacities up to 2000 kilowatts. For circuits of larger capacities the Type G or the low equivalent arresters are recommended. For stations of large capacity and voltages higher than 2200, however, especially where generators are to be protected, the Type A or AK Electrolytic Arresters are recommended as affording fuller protection.

Application. Type S Arresters are used as single pole arresters where the maximum voltage between lines does not exceed their rated voltage. They can be used on single phase, two-phase, or three-phase circuits.

They may also be used for the protection of circuits of 11,000 volts maximum, by connecting one 7000 volt arrester, mounted on a specially insulated base, to each line wire, connecting the ground leads of these arresters together, and connecting one standard 7000 volt arrester between this common connection and ground. For three-phase lines, four arresters are required, and for protecting both sides of a two-wire circuit three arresters are required.

Type S Arresters may be used on 13,200 volt lines having the neutral grounded by connecting in series two arresters, mounted on specially insulated bases, between each line and ground. For 13,200 volt lines with ungrounded neutral, eight arresters should be used, two on special bases connected in series from each line, and two in series from their common connection to ground. For 13,200 volt service, however, standard low equivalent arresters are to be preferred.

Type S Unenclosed Lightning Arresters Mfr. Nos. 100727 and 100728 designed for indoor service may also be used as safety spark gaps on the same voltages for which they are here listed as lightning arresters and with the same limitations as given above.

Construction. Type S Lightning Arresters are essentially small low equivalent arresters without a series resistance, and are made up of the units Mfr. No. 9587A listed on page 16, in connection with shunting resistance rods mounted on marble bases. For outdoor service they must be enclosed in weatherproof cases. The 3500 volt outdoor arresters are mounted in cast iron cases and the 7000 volt outdoor arresters in wooden cases. Both styles of cases have doors which permit inspection of the arresters.

Type S Arresters

List No.	Type	Circuit Voltage	Approximate Weight, Lbs.		List Price
			Net	Boxed	
99426	Outdoor	1200-3500	45	85	\$20.26
99427	Outdoor	3500-7000	50	143	42.12
100727	Indoor	1200-3500	14½	26	11.08
100728	Indoor	3500-7000	29	76	20.26

Additional list price of special base for 11,000 and 13,200 volt service as referred to under "Application," outdoor, \$14.04, indoor, \$9.72.

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WESTINGHOUSE LIGHTNING ARRESTERS



No. 1811-A



Type I, D. C. Lightning Arrester



No. 46185



No. 4753

Type J, Direct Current, Single Pole Arrester

For Pole or Outdoor Use

Single Pole Line Lightning Arrester for D.C. Arc Lights

This arrester is similar to Mfr. No. 1810, listed below, but being for single arc circuit use is enclosed in an iron box.

List No.	List Price Each
1811A	Arrester, line voltage up to 4000 volts D.C. \$8.64

Type I Lightning Arrester

For Station Use—0 to 4000 Volts—Direct Current for Arc Circuits

The Type I Arrester is a single pole instrument and consists of two metal electrodes mounted upon a lignum vitae block, flush with its surface. Charred or carbonized grooves provide a ready path for the discharge, while a second block, fitting closely upon the first block, prevents gases or vapors from forming, and consequently no arc follows the discharge.

The arrester is mounted upon a marble base.

List No.	List Price Each
1810A	Arrester, single pole, voltage of circuit, up to 4000 volts D.C. \$8.38

Safety Spark Gaps

It is well known that with transformers, operating on high voltage lines with ungrounded neutral, and having large ratios of transformation, there may occur, on the low tension side, momentary voltages to ground, called "static disturbances," greatly in excess of the normal voltage. In general they are the result of a change in the static balance of the high tension side and its connecting circuits. Unless certain precautions are taken, such a static disturbance on the low tension side may cause serious stresses in the secondary insulation of a transformer with ratio of transformation more than 5 to 1, because the insulation of its secondary is less able to withstand them.

A method of relieving this disturbance is to connect a discharge spark gap between some point of the low tension side of the transformer to be protected (a middle or neutral point, if one is available) and the ground. The spark gap opening is such that any voltage very much in excess of the maximum normal will cause a discharge to ground, and thus the low tension side is practically tied to ground during such disturbance, while at other times it is ungrounded. It is the usual practice to ground the secondaries of low tension lines and spark gaps are not required in such cases.

The spark gaps Style Nos. 4753 and 46185 are designed for use on transformer secondary circuits and for protecting individual series arc lamps. These spark gaps are single pole, and consist of two cylinders of non-arcing metal with an air gap between. One of the cylinders is connected to ground, the other to the line.

Type S Unenclosed Lightning Arresters, Style Nos. 100727 and 100728, are used as safety spark gaps on the same voltages for which they are listed as lightning arresters and with the same limitations as given on preceding page for Type S Lightning Arresters.

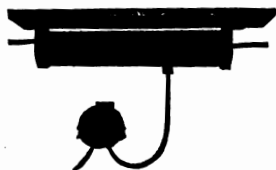
Safety Spark Gaps

List No.	Type	Voltage of Circuit	List Price
46185	Outdoor	0-1100	\$2.16
4753	Indoor	0-1100	7.56
100727	Indoor	1100-3500	11.08
100728	Indoor	3500-7000	20.26

For voltages above 7000 a spark gap is not ordinarily used. Special recommendations will be made for such voltages.

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WESTINGHOUSE LIGHTNING ARRESTERS



No. 2536 with Type MP Arrester



Type K, No. 186875

Type 6 Choke Coils

For Car Use—Direct Current

This choke coil when used should be inserted between the direct current line and the motor that is to be protected.

The choke coil consists of a number of turns of insulated wire or cable wound on a wooden core. One end is connected to the line and the other end to the motor. The trolley end of the coil is connected through a multiple spark gap lightning arrester to ground. Sudden rise of potential is prevented by the coil from entering the motor and escapes across the spark gap to ground.

A wooden core, List No. 167178, with end brackets and without winding is furnished where the customer wishes to make his own choke coil. This is done by simply winding the cable around the core and making the proper ground tap.

List No. and list price do not include lightning arrester. Ratings given are for a temperature rise of 25 degrees Centigrade.

List No.	Continuous Capacity Amperes	Approximate Weight, Lbs.		List Price
		Net	Boxed	
2536.....	65	16	30	\$12.96
3811.....	125	24	38	20.80
5612.....	200	26	40	22.96
3774.....	300	34	50	24.84
167178.....	Without Winding	12	26	1.90

The overall length of the choke coil is $25\frac{1}{4}$ inches, and its greatest diameter 5 inches.

Type K Lightning Arresters

Up to 1500 Volts Direct Current—For Line and Car Use

Application. The Type K arrester is for line and car protection on direct current circuits of 750 and 1500 volts.

Principle. The arrester is of the condenser type with a spark gap to insulate the condenser from the line when no disturbance is passing. The condenser is shunted by a high resistance which serves to keep the condenser discharged, so that its full capacity may be always available. The spark gap can be set very close as it has no power arc to interrupt. This makes the arrester extremely sensitive. The spark gap can even be short circuited without causing any harm, as the shunt resistance is made high enough to stand line voltage without overheating or wasting any appreciable amount of power. This, however, although making the arrester more instantaneous in its protective action, will somewhat reduce its total protective value.

In operation, the static charge bridges the spark gap and passes through the condenser which acts practically as a short circuit to the high frequency static disturbances. The line condenser has a capacity as great as the average 10 miles of trolley wire, so that if used five to the mile, it quickly absorbs any charge that the line can hold. The 750 volt car type has a capacity equivalent to about 40 and the 1500 volt car type to about 80 miles of average line.

Construction. The condenser is of tubular form and the resistor, a composition rod, is enclosed in its center. It is imbedded in insulating gum in a black wooden case. The spark gap is enclosed in a separate compartment of the case having a hinged door for inspection. The base of the case is extended at both ends to provide means for mounting on car or poles.

TYPE K LIGHTNING ARRESTERS

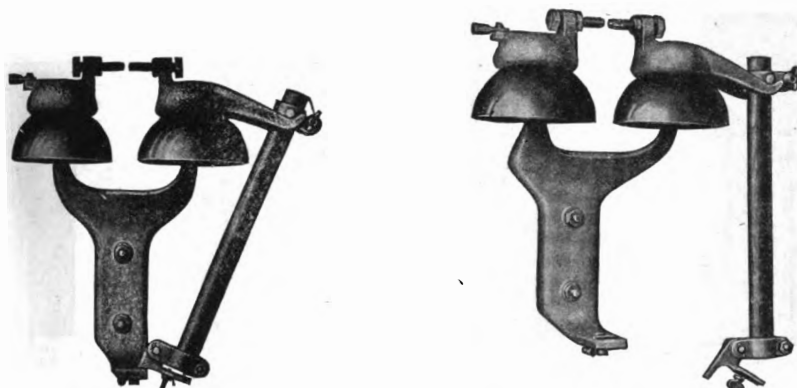
List No. and list price include lightning arrester complete.

List No.	Use	Voltage	Capacity Microfarads	Approximate Weight, Lbs.		List Price
				Net	Boxed	
186874.....	On Line	750	0.1	21½	48	\$19.4
186875.....	On Cars	750	0.4	38	76	22.6
186876.....	On Line	1500	0.1	24	48	21.0
196877.....	On Cars	1500	0.8	108	218	69.1

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Protective Apparatus and Switchboard Accessories

WESTINGHOUSE LIGHTNING ARRESTER AND FUSE BLOCKS



Closed No. 48814. Fuse Type Lightning Arrester Open

Fuse Type Lightning Arresters

For Single Phase Alternating Current Railway Systems—Voltages Up to 11,000

Operation. The simplest and cheapest method of accomplishing the desired results is by a lightning arrester with a simple adjustable spark gap and an expulsion fuse. The spark gap holds the normal voltage, but breaks over completely when the voltage is excessive. This spark gap, as will be seen from the illustration, can be adjusted by the screw terminals for any normal voltage from 0 to 20,000 and fastened by lock nuts. The fuse permits the lightning discharge to go freely to ground, but the short circuit is opened immediately after the discharge passes by the blowing of the fuse which releases the tube. The action of the breaker is positive and direct without chance of failure.

List No.	Description	List Price
48814.....	Fuse Type Lightning Arrester for 6600 volts.....	\$14.58
93590.....	Fuse Type Lightning Arrester for 11000 volts.....	16.20
190159.....	Fuse Type Lightning Arrester for 22000 volts.....	27.54

The voltage of the circuit should always be specified when ordering this arrester.



Fig. 1. 6600 Volt Type

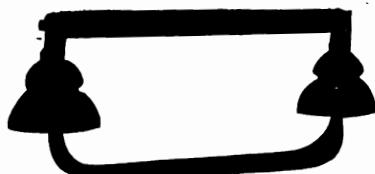


Fig. 2. 22,000 Volt Type

Bomb Type Expulsion Fuse Blocks

FRONT CONNECTED

For Capacities Up to 100 Amperes—Voltages 3300 to 22,000

These fuse blocks are designed especially for opening the circuit in the event of sudden and severe overloads or short circuits, but are also entirely suitable for the protection of circuits in the case of gradually increasing overloads.

FUSE BLOCKS

List No.	Voltage	Mounting	Approximate Net Weight, Lbs.	List Price
124414.....	3300	Switchboard	8	\$15.76
124401.....	6600	Wall	13	18.90
124402.....	13500	Wall	24	22.50
124413.....	22000	Wall	28	25.88

FUSE TUBES

List No.	Voltage	Approximate Net Weight, Lbs.	List Price
185312.....	3300	4	\$7.44
185313.....	6600	6	9.00
185314.....	13500	9	9.46
185315.....	22000	12	11.04

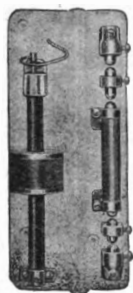
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GARTON-DANIELS LIGHTNING ARRESTERS



No. 50092



No. 50088



No. 50089



No. 50091

Alternating Current Types

Garton-Daniels Alternating Current Arresters are furnished according to practically the same specifications applying to the direct current arresters listed on following page. They combine the well recognized principles of a small air gap, a low series resistance, and a circuit-breaker; these three features in combination giving an arrester unsurpassed in points of efficiency, reliability and durability.

List No.	Type	Voltage	Description	Dimensions Inches	Net Weight	List Price Each
300	T	Up to 350	Iron covered	3½ x 3½	2 lbs. 10 ozs.	\$3.00
50014	DF	Up to 350	Station	8½ x 3 x 3	2¾ lbs.	6.40
50016	DF	Up to 350	Iron covered	12½ x 6 x 4	11½ lbs.	7.80
50015	DF	Up to 350	Wood covered	13½ x 7 x 6	6¾ lbs.	6.40
50017	FH	350 to 1,200	Station	10½ x 3½ x 3	4¾ lbs.	7.00
50018	FH	350 to 1,200	Iron covered	14½ x 6½ x 4½	15½ lbs.	8.20
50019	FH	350 to 1,200	Wood covered	14½ x 7 x 6½	8¾ lbs.	7.00
50020	CE	1,200 to 2,500	Station	14 x 3½ x 3¾	6¾ lbs.	8.80
50021	CE	1,200 to 2,500	Iron covered	16½ x 6 x 5	21½ lbs.	10.00
50022	CE	1,200 to 2,500	Wood covered	19 x 7½ x 7¼	12½ lbs.	8.80
50088	CE-2	1,200 to 2,500	Station type	11 x 4¼ x 3½	8 lbs.	8.80
50089	CE-2	1,200 to 2,500	Wood covered	18 x 8¼ x 6¼	13¼ lbs.	8.80
50329	F-2S	2,500-3ph. Y	Station type	14¾ x 4¼ x 3½	11½ lbs.	10.00
50330	F-2S	2,500-3ph. Y	Wood covered	20½ x 8¼ x 6¼	15½ lbs.	10.00
50091	F-2	2,500 to 3,500	Station type	14¾ x 4¼ x 3½	11½ lbs.	10.00
50092	F-2	2,500 to 3,500	Wood covered	20½ x 8¼ x 6¼	15½ lbs.	10.00
50093	CE-2	3,500 to 5,000	Station	34 x 8 x 6¾	26½ lbs.	22.00
50094	CE-2	3,500 to 5,000	Wood covered	33 x 13 x 15½	49 lbs.	22.00
50095	F-2	5,000 to 6,600	Station	39¾ x 8 x 17½	41 lbs.	23.80
50096	F-2	5,000 to 6,600	Wood covered	38 x 13 x 15½	55 lbs.	23.80
50442	F-2S	*6,600 s. ph.	Station Type	56½ x 8 x 17½	58 lbs.	39.10
50443	F-2S	*6,600 s. ph.	Wood Covered	56½ x 13 x 15½	69 lbs.	39.10
50097	CE-2	6,600 to 7,500	Station	48 x 8 x 17½	46 lbs.	36.40
50098	CE-2	6,600 to 7,500	Wood covered	49 x 13 x 15½	59 lbs.	36.40
50099	F-2	7,500 to 8,500	Station	56½ x 8 x 17½	58 lbs.	39.10
50100	F-2	7,500 to 8,500	Wood covered	56½ x 13 x 15½	69 lbs.	39.10
50101	F-2	8,500 to 10,000	Station	73 x 8 x 18	71 lbs.	48.60
50102	F-2	8,500 to 10,000	Wood covered	71 x 13 x 15½	93 lbs.	48.60
50103	F-2	10,000 to 12,500	Station	89 x 8 x 18	89 lbs.	60.90
50104	F-2	10,000 to 12,500	Wood covered	87½ x 13 x 15½	116 lbs.	60.90
50105	F-2	12,500 to 15,000	Station	106 x 8 x 18	106 lbs.	73.90
50106	F-2	12,500 to 15,000	Wood covered	104 x 13 x 15½	139 lbs.	73.90
50107	F-2	15,000 to 17,500	Station	122 x 8 x 18	123 lbs.	89.00
50108	F-2	17,500 to 20,000	Station	139 x 8 x 18	140 lbs.	100.00

*Railway Circuit.

Alternating Current Arc Arresters

50020	CE	Up to 2,500	Station	6¾ lbs.	\$8.80
50021	CE	Up to 2,500	Iron Covered	21 lbs.	10.00
50022	CE	Up to 2,500	Wood Covered	12¼ lbs.	8.80
50091	F-2	2,500 to 3,500	Station	11½ lbs.	10.00
50092	F-2	2,500 to 3,500	Wood Covered	15½ lbs.	10.00
50093	CE-2	3,500 to 5,000	Station	26½ lbs.	22.00
50094	CE-2	3,500 to 5,000	Wood Covered	49 lbs.	22.00

GARTON-DANIELS LIGHTNING ARRESTERS



No. 50016



No. 50041



No. 50401



No. 50400

Direct Current Types

Direct current arresters, station type, are furnished with highly polished and lacquered metal work. Pole or car arresters have a dipped metal finish, but aside from this, are the same as the station type. Pole and car arresters are furnished in either wooden or iron covers, as required. Iron covers are, however, not furnished on the Types EH, EI and EJ arresters. Both covers are of standard design, fitted with insulated bushings for the leading-in wires and the arrester carefully insulated from the cover.

Description and List Prices

List No.	Type	Voltage	Description	Dimensions Inches	Wt. Lbs.	List Price Each
50014.....	DF	Up to 350	Station type	8½ x 3 x 3	2½	\$6.40
50016.....	DF	Up to 350	Iron covered	12½ x 6 x 4	11½	7.80
50015.....	DF	Up to 350	Wood covered	13½ x 7 x 6	6¾	6.40
50039.....	EG	350 to 750	Station type	9½ x 3½ x 3	4½	7.00
50040.....	EG	350 to 750	Iron covered	13½ x 6½ x 4½	13½	8.00
50041.....	EG	350 to 750	Wood covered	14½ x 7 x 6½	8½	7.00
11779.....	EG	350 to 750	Iron car	13½ x 6½ x 4½	13½	8.00
11780.....	EG	350 to 750	Wood car	14 x 7 x 6½	8½	7.00
50338.....	EH	750 to 1300	Station	19 x 4½ x 3½	11½	14.00
50339.....	EH	750 to 1300	Wood car	25¼ x 8¾ x 7¾	21	14.00
50400.....	EH	750 to 1300	Wood covered	21½ x 10½ x 6¾	21½	14.00
50401.....	EI	1300 to 1500	Station	19 x 4½ x 3½	11½	16.00
50402.....	EI	1300 to 1500	Wood car	25¼ x 8¾ x 7¾	21	16.00
50403.....	EI	1300 to 1500	Wood covered	21½ x 10½ x 6¾	21½	16.00
50404.....	EJ	1500 to 1800	Station	19 x 4½ x 3½	11½	17.00
50405.....	EJ	1500 to 1800	Wood car	25¼ x 8¾ x 7¾	21	17.00
50406.....	EJ	1500 to 1800	Wood covered	21½ x 10½ x 6¾	21½	17.00
50426.....	EK	1800 to 2400	Station	49 x 8 x 17½	45	32.00
50427.....	EK	1800 to 2400	Wood Covered	49 x 13 x 15½	58	32.00

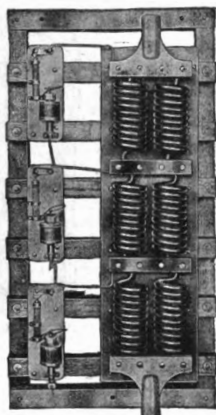
Direct Current Arc Arresters

Standard types of Garton-Daniels Arc Circuit Lightning Arresters are listed below. These will meet practically all standard conditions. Arresters for higher voltages, or for special conditions, can be furnished to order.

Description and List Prices

List No.	Type	Voltage of Circuit	Description	Net Weight Each	List Price Each
50077.....	BD	Up to 4000	Station type	6¾ lbs.	\$8.80
50078.....	BD	Up to 4000	Wood covered	12½ lbs.	8.80
50073.....	BD	4000 to 6000	Station type	20 lbs.	22.00
50074.....	BD	4000 to 6000	Wood covered	26½ lbs.	22.00

GARTON-DANIELS LIGHTNING ARRESTERS



Panel Board for 600 Volt D. C.
 Railway Service. Front View



Panel Board for 2500
 Volt A. C. Service.
 Front View



Side View of 2500 Volt A. C.
 Panel Board Showing
 Supporting Insulators

Panel Board Types

Garton-Daniels Panel Board Arresters are especially designed for the protection of electrical machinery, either A. C. or D. C., where lightning conditions are unusually severe.

The line or feeder runs to the upper choke coil terminal while to the lower choke coil terminal is connected the feeder from the apparatus to be protected.

The upper lightning arrester unit is connected on the line side of the first choke coil; each of the other two being connected ahead of the other coils. These units are supplied with a common ground, the connectors being run in back of the two lower units as can be seen in the illustrations.

As to the operation of this arrester, assume that a charge has been set free on the line. The first choke coil chokes back most of this and discharges it over the first arrester unit. The leakage charge through the first choke coil must, as can be seen, pass two other choke coils before it can get into the apparatus. Almost perfect lightning protection therefore may be expected on apparatus protected with these panel board arresters.

These panel board arresters are designed especially for the protection of apparatus up to 6600 volts A. C., up to 2500 volts D. C., railway, and up to 6000 volts D. C., arc, and are furnished in any ampere capacity for voltages within this range.

They are made in double and triple type, one of either type being necessary for the protection of each wire running into or from the apparatus to be protected. They are furnished regularly for station use only, as operating companies usually desire to build small arrester houses to house them for outside installations.

Station panel boards are mounted on heavy impregnated oak frames and are furnished complete with insulators for their installation. The arrester units are furnished with highly polished and lacquered metal work. Choke coils are of copper, black enameled and baked.

DIRECTIONS FOR ORDERING

In ordering Garton-Daniels Panel Board Lightning Arresters, it is necessary that the following information be given:

Type desired—Double or triple.

Class of circuit—D. C. or A. C. If D. C., whether grounded or ungrounded, single, two or three wire. If A. C., whether single, two or three phase; two, three or four wire, grounded or ungrounded.

Voltage of circuit.

Amperes per wire in D. C. work or per phase in A. C. work.

Size of wire or cable for which terminals are to be provided, and number of terminals for heavy capacity circuits.

List Prices. For estimating purposes only, an approximate list price may be obtained on Garton-Daniels Panel Board Arresters by adding together the list prices of the arrester units suited for the voltage of circuit (two units for double type, three for triple type), the list price of suitable capacity, AF or AMF choke coils, and adding to this sum \$20.00. The list price so obtained will be approximate, and is subject to regular discounts.

GARTON-DANIELS CHOKE COILS



Type S Choke Coil



AMF Choke Coil



Car Choke Coil

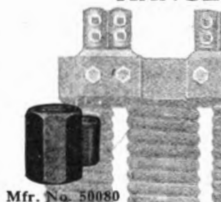
Standard Types

Choke coils regularly carried in stock are listed below. Coils of higher ampere capacity than these will be furnished to order. In ordering choke coils always give the following information: manufacturer's number, capacity in amperes, size of wire or cable for which terminals are to be provided, number and size of terminals on each end when ordering type AMF coils, mounting, standard or special.

Description and List Prices

List No.	Type	Capacity	Dimensions in Inches	Net Weight Each	List Price Each
50042	S	10 Amp.	Diam. $6\frac{5}{8} \times 2\frac{1}{2}$	4 lbs.	\$3.60
50043	S	20 Amp.	Diam. $6\frac{5}{8} \times 2\frac{1}{2}$	4 lbs.	4.80
50044	S	30 Amp.	Diam. $6\frac{5}{8} \times 2\frac{1}{2}$	4 lbs.	5.76
50045	S	40 Amp.	Diam. $6\frac{5}{8} \times 2\frac{1}{2}$	4 lbs.	6.72
50046	S	50 Amp.	Diam. $8\frac{1}{8} \times 3\frac{1}{8}$	9 $\frac{1}{4}$ lbs.	8.00
50047	S	100 Amp.	Diam. $8\frac{1}{8} \times 3\frac{1}{8}$	9 $\frac{1}{4}$ lbs.	8.50
50048	S	125 Amp.	Diam. $8\frac{1}{8} \times 3\frac{1}{8}$	9 $\frac{1}{4}$ lbs.	9.00
50049	S	175 Amp.	Diam. $9\frac{5}{8} \times 3\frac{1}{8}$	16 $\frac{1}{4}$ lbs.	10.00
50050	S	225 Amp.	Diam. $9\frac{5}{8} \times 3\frac{1}{8}$	16 $\frac{1}{4}$ lbs.	10.50
50051	S	260 Amp.	Diam. $9\frac{5}{8} \times 3\frac{1}{8}$	16 $\frac{1}{4}$ lbs.	11.00
11781	Car	75 Amp.	$10\frac{1}{2} \times 4\frac{3}{8} \times 4\frac{3}{4}$	8 $\frac{3}{4}$ lbs.	7.00
11782	Car	125 Amp.	$10\frac{1}{2} \times 4\frac{3}{8} \times 4\frac{3}{4}$	10 lbs.	7.76
11783	Car	150 Amp.	$10\frac{1}{2} \times 4\frac{3}{8} \times 5$	10 $\frac{1}{4}$ lbs.	8.50
11784	Car	175 Amp.	$10\frac{1}{2} \times 4\frac{3}{8} \times 5$	11 $\frac{1}{2}$ lbs.	9.26
11785	Car	200 Amp.	$10\frac{1}{2} \times 4\frac{3}{8} \times 5$	12 $\frac{1}{4}$ lbs.	10.00
50052	AF	50 Amp.	$10\frac{1}{2} \times 4\frac{3}{8} \times 5$	8 $\frac{1}{2}$ lbs.	9.90
50053	AF	125 Amp.	$10\frac{1}{2} \times 4\frac{3}{8} \times 5$	8 $\frac{1}{2}$ lbs.	11.00
50054	AF	160 Amp.	12 x 5 x 5	11 lbs.	11.50
50055	AF	200 Amp.	12 x 5 x 5	11 $\frac{1}{2}$ lbs.	11.90
50056	AF	250 Amp.	12 x 5 x 5	12 $\frac{1}{4}$ lbs.	12.10
50057	AF	325 Amp.	5 x $15\frac{1}{2} \times 4\frac{3}{8}$	15 $\frac{1}{2}$ lbs.	13.20
50058	AF	400 Amp.	5 x $16 \times 4\frac{1}{4}$	18 $\frac{3}{4}$ lbs.	18.70
50059	AF	500 Amp.	5 x $16\frac{3}{4} \times 4\frac{1}{4}$	21 $\frac{1}{4}$ lbs.	27.50
50060	AMF	600 Amp.	10 x $17 \times 4\frac{3}{8}$	33 $\frac{3}{4}$ lbs.	29.70
50061	AMF	800 Amp.	10 x $18\frac{1}{2} \times 4\frac{1}{4}$	37 $\frac{3}{4}$ lbs.	35.20
50062	AMF	1,000 Amp.	10 x $20\frac{3}{8} \times 4\frac{1}{4}$	48 $\frac{3}{4}$ lbs.	49.50
50063	AMF	1,200 Amp.	12 x 22 x $4\frac{3}{8}$	65 $\frac{1}{2}$ lbs.	55.00
50064	AMF	1,500 Amp.	12 x 22 x $4\frac{1}{4}$	72 lbs.	67.10
50065	AMF	1,600 Amp.	14 x 23 x $4\frac{1}{4}$	89 $\frac{3}{4}$ lbs.	74.80
50066	AMF	2,000 Amp.	14 x 23 x $4\frac{1}{4}$	102 lbs.	105.60

**GARTON-DANIELS GROUND FITTINGS AND ARRESTER
HANGERS**



Garton-Daniels Ground Fittings

List No.	Description	Drilled for Wire	Dimensions in Inches	Net Wt. Each	List Price
For Three-Quarter Inch (¾ in.) Pipe					
50079	Brass Cap	No. 4 or 6 solid	1 x 1 ¾ x 1 ½	5 oz.	\$0.46
50428	Brass Cap	No. 0 cable or solid	1 x 2 x 1 ½	6 oz.	.46
50429	Brass Cap	¾ in. cable	1 x 2 x 1 ½	6 oz.	.46
50080	Brass Coupling	No. 4 or 6 solid	1 ½ x 1 ¾ x 1 ½	5 oz.	.40
50430	Brass Coupling	No. 0 cable or solid	1 ½ x 2 x 1 ½	6 oz.	.40
50081	Malleable Point (external type)		3 ½ x 1 ½ x 1 ½	8 oz.	.46
50431	Malleable Point (internal type)		2 ¾ x 1 x 1	7 oz.	.40
42292	Galvanized Pipe Tee		Standard ¾ in.	10 oz.	.16
50440	Galvanized Pipe Coupling		Standard ¾ in.		.16
50082	Gray Iron Plate		12 x 12 x ¾	9 lbs.	1.20

For One Inch (1 in.) Pipe					
50432	Brass Cap	No. 4 or 6 solid	1 1/2 x 2 1/2 x 1 1/4	6 oz.	\$0.56
50433	Brass Cap	No. 0 cable or solid	1 1/2 x 2 1/2 x 1 1/4	7.87 oz.	.56
50434	Brass Cap	1/4 in. cable	1 1/2 x 2 1/2 x 1 1/4	7 oz.	.56
50435	Brass Coupling	No. 4 or 6 solid	1 1/8 x 2 1/8 x 1 3/8	8 oz.	.50
50436	Brass Coupling	No. 0 cable or solid	1 1/8 x 2 1/8 x 1 3/8	8 oz.	.50
50437	Malleable Point (external type)		3/4 x 1 1/8 x 1 1/8	13 oz.	.56
50438	Malleable Point (internal type)		3/4 x 1 1/8 x 1 1/8	11 oz.	.50
50439	Galvanized Pipe Tee		Standard 1 in.		.20
50441	Galvanized Pipe Coupling		Standard 1 in.		.20

BONDS, CONNECTORS, *POLE BANDS, GROUND WIRE DISCONNECTORS

QTY	DESCRIPTION	UNIT	PRICE	TOTAL
35	Type P4A Bond, No. 0 B & S Cable, 3/4 in. terminal	per 100	\$66.00	\$2,310.00
35	Type O5A Bond, No. 0 B & S Solid, 3/4 in. terminal	per 100	50.00	1,750.00
12346	Cylindrical Wire Connector for No. 4 or 6 B & S Solid	each	1.00	12,346.00
12346	Cylindrical Wire Connector for No. 0 B & S Solid	each	1.00	12,346.00
12342	Cylindrical Wire Connector for No. 0 B & S Cable	each	1.00	12,342.00
50331	Iron Pole Band for 6 1/2 in. pole	per doz.	13.00	6,516.50
50332	Iron Pole Band for 7 in. pole	per doz.	13.00	6,516.50
50333	Iron Pole Band for 8 in. pole	per doz.	13.00	6,516.50
50444	Ground Wire Disconnector for No. 4 or 6 B & S Solid	each	1.00	5,044.00

*Pole Bands include pole band brackets for attaching to the regular wood or iron covers.

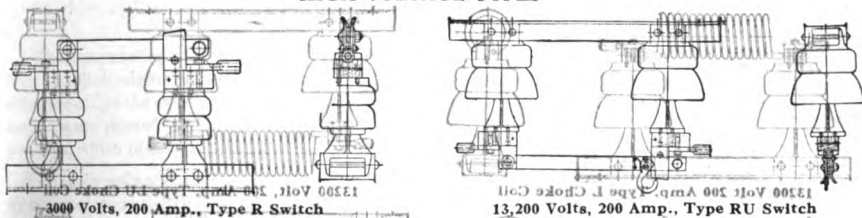


Garton-Daniels Lightning Arrester Hangers

List No.	Description	List Price Each
50421	Style A Hanger, 3/4 or 3 1/2 in., single arm, made from iron strap 1 1/2 x 3/8 in.	\$9.45
50422	Style B Hanger, 3/4 or 3 1/2 in., single arm, made from iron strap 1 1/2 x 3/8 in.	\$9.45
50423	Style C Hanger, 3/4 or 3 1/2 in., double arm, made from iron strap 1 1/2 x 3/8 in.	\$10.75
50424	Style D Hanger, double arm, made from iron strap 1 1/2 x 3/8 in.	\$10.75
50425	Style E Hanger, double arm, made from iron strap 1 1/2 x 3/8 in.	\$10.75

GARTON DANIELS DISCONNECTING SWITCHES

HIGH VOLTAGE TYPES



Garton-Daniels Disconnecting Switches

All Type R disconnecting switches listed hereafter with the exception of Type RM are constructed with a base of standard channel iron. Iron pins are riveted to this base, and insulators cemented to these pins support iron caps, which in turn support the terminal blocks, terminals and switch proper. Each channel is provided with $\frac{1}{8}$ inch holes at each end.

Switches are not furnished with switch locks, switch stops, etc., as are listed on following pages excepting Type RU which includes a switch lock as standard equipment.

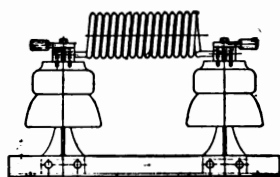
Type R is for indoor service while the Type RU of the underhung type is particularly for outdoor service.

Type RM, illustrated on following page, has same switch structure as Type R, but is mounted on blue Vermont marble base and is for indoor service.

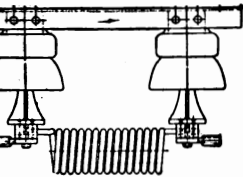
Directions for ordering are the same as for choke coils on preceding page.

Description and Price List

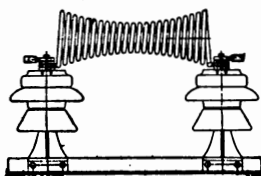
No.	Capacity (Amps.)	Type	Voltage	Capacity (Amps.)	Amperes	List Price Each
50540	100	R	Up to 8000	100	100	\$11.50
50541	200	R	Up to 8000	200	200	12.00
50542	300	R	Up to 8000	300	300	14.00
50543	400	R	Up to 8000	400	400	16.50
50544	500	R	Up to 8000	500	500	20.00
50545	600	R	Up to 8000	600	600	24.00
50546	800	R	Up to 8000	800	800	30.00
50547	1000	R	Up to 8000	1000	1000	36.00
50548	1200	R	Up to 8000	1200	1200	45.00
50549	1500	R	Up to 8000	1500	1500	55.00
50550	2000	R	Up to 8000	2000	2000	70.00
50551	2500	R	Up to 8000	2500	2500	85.00
50552	3000	R	Up to 8000	3000	3000	100.00
50553	4000	R	Up to 8000	4000	4000	120.00
50554	5000	R	Up to 8000	5000	5000	140.00
50555	6000	R	Up to 8000	6000	6000	160.00
50556	8000	R	Up to 8000	8000	8000	180.00
50557	10000	R	Up to 8000	10000	10000	200.00
50558	12000	R	Up to 8000	12000	12000	220.00
50559	15000	R	Up to 8000	15000	15000	240.00
50560	20000	R	Up to 8000	20000	20000	260.00
50561	25000	R	Up to 8000	25000	25000	280.00
50562	30000	R	Up to 8000	30000	30000	300.00
50563	40000	R	Up to 8000	40000	40000	320.00
50564	50000	R	Up to 8000	50000	50000	340.00
50565	60000	R	Up to 8000	60000	60000	360.00
50566	80000	R	Up to 8000	80000	80000	380.00
50567	100000	R	Up to 8000	100000	100000	400.00
50568	120000	R	Up to 8000	120000	120000	420.00
50569	150000	R	Up to 8000	150000	150000	440.00
50570	200000	R	Up to 8000	200000	200000	460.00
50571	250000	R	Up to 8000	250000	250000	480.00
50572	300000	R	Up to 8000	300000	300000	500.00
50573	400000	R	Up to 8000	400000	400000	520.00
50574	500000	R	Up to 8000	500000	500000	540.00
50575	600000	R	Up to 8000	600000	600000	560.00
50576	800000	R	Up to 8000	800000	800000	580.00
50577	1000000	R	Up to 8000	1000000	1000000	600.00
50578	1200000	R	Up to 8000	1200000	1200000	620.00
50579	1500000	R	Up to 8000	1500000	1500000	640.00
50580	2000000	R	Up to 8000	2000000	2000000	660.00
50581	2500000	R	Up to 8000	2500000	2500000	680.00
50582	3000000	R	Up to 8000	3000000	3000000	700.00
50583	4000000	R	Up to 8000	4000000	4000000	720.00
50584	5000000	R	Up to 8000	5000000	5000000	740.00
50585	6000000	R	Up to 8000	6000000	6000000	760.00
50586	8000000	R	Up to 8000	8000000	8000000	780.00
50587	10000000	R	Up to 8000	10000000	10000000	800.00
50588	12000000	R	Up to 8000	12000000	12000000	820.00
50589	15000000	R	Up to 8000	15000000	15000000	840.00
50590	20000000	R	Up to 8000	20000000	20000000	860.00
50591	25000000	R	Up to 8000	25000000	25000000	880.00
50592	30000000	R	Up to 8000	30000000	30000000	900.00
50593	40000000	R	Up to 8000	40000000	40000000	920.00
50594	50000000	R	Up to 8000	50000000	50000000	940.00
50595	60000000	R	Up to 8000	60000000	60000000	960.00
50596	80000000	R	Up to 8000	80000000	80000000	980.00
50597	100000000	R	Up to 8000	100000000	100000000	1000.00
50598	120000000	R	Up to 8000	120000000	120000000	1020.00
50599	150000000	R	Up to 8000	150000000	150000000	1040.00
50600	200000000	R	Up to 8000	200000000	200000000	1060.00
50601	250000000	R	Up to 8000	250000000	250000000	1080.00
50602	300000000	R	Up to 8000	300000000	300000000	1100.00
50603	400000000	R	Up to 8000	400000000	400000000	1120.00
50604	500000000	R	Up to 8000	500000000	500000000	1140.00
50605	600000000	R	Up to 8000	600000000	600000000	1160.00
50606	800000000	R	Up to 8000	800000000	800000000	1180.00
50607	1000000000	R	Up to 8000	1000000000	1000000000	1200.00
50608	1200000000	R	Up to 8000	1200000000	1200000000	1220.00
50609	1500000000	R	Up to 8000	1500000000	1500000000	1240.00
50610	2000000000	R	Up to 8000	2000000000	2000000000	1260.00
50611	2500000000	R	Up to 8000	2500000000	2500000000	1280.00
50612	3000000000	R	Up to 8000	3000000000	3000000000	1300.00
50613	4000000000	R	Up to 8000	4000000000	4000000000	1320.00
50614	5000000000	R	Up to 8000	5000000000	5000000000	1340.00
50615	6000000000	R	Up to 8000	6000000000	6000000000	1360.00
50616	8000000000	R	Up to 8000	8000000000	8000000000	1380.00
50617	10000000000	R	Up to 8000	10000000000	10000000000	1400.00
50618	12000000000	R	Up to 8000	12000000000	12000000000	1420.00
50619	15000000000	R	Up to 8000	15000000000	15000000000	1440.00
50620	20000000000	R	Up to 8000	20000000000	20000000000	1460.00
50621	25000000000	R	Up to 8000	25000000000	25000000000	1480.00
50622	30000000000	R	Up to 8000	30000000000	30000000000	1500.00
50623	40000000000	R	Up to 8000	40000000000	40000000000	1520.00
50624	50000000000	R	Up to 8000	50000000000	50000000000	1540.00
50625	60000000000	R	Up to 8000	60000000000	60000000000	1560.00
50626	80000000000	R	Up to 8000	80000000000	80000000000	1580.00
50627	100000000000	R	Up to 8000	100000000000	100000000000	1600.00
50628	120000000000	R	Up to 8000	120000000000	120000000000	1620.00
50629	150000000000	R	Up to 8000	150000000000	150000000000	1640.00
50630	200000000000	R	Up to 8000	200000000000	200000000000	1660.00
50631	250000000000	R	Up to 8000	250000000000	250000000000	1680.00
50632	300000000000	R	Up to 8000	300000000000	300000000000	1700.00
50633	400000000000	R	Up to 8000	400000000000	400000000000	1720.00
50634	500000000000	R	Up to 8000	500000000000	500000000000	1740.00
50635	600000000000	R	Up to 8000	600000000000	600000000000	1760.00
50636	800000000000	R	Up to 8000	800000000000	800000000000	1780.00
50637	1000000000000	R	Up to 8000	1000000000000	1000000000000	1800.00
50638	1200000000000	R	Up to 8000	1200000000000	1200000000000	1820.00
50639	1500000000000	R	Up to 8000	1500000000000	1500000000000	1840.00
50640	2000000000000	R	Up to 8000	2000000000000	2000000000000	1860.00
50641	2500000000000	R	Up to 8000	2500000000000	2500000000000	1880.00
50642	3000000000000	R	Up to 8000	3000000000000	3000000000000	1900.00
50643	4000000000000	R	Up to 8000	4000000000000	4000000000000	1920.00
50644	5000000000000	R	Up to 8000	5000000000000	5000000000000	1940.00
50645	6000000000000	R	Up to 8000	6000000000000	6000000000000	1960.00
50646	8000000000000	R	Up to 8000	8000000000000	8000000000000	1980.00
50647	10000000000000	R	Up to 8000	10000000000000	10000000000000	2000.00
50648	12000000000000	R	Up to 8000	12000000000000	12000000000000	2020.00
50649	15000000000000	R	Up to 8000	15000000000000	15000000000000	2040.00
50650	20000000000000	R	Up to 8000	20000000000000	20000000000000	2060.00
50651	25000000000000	R	Up to 8000	25000000000000	25000000000000	2080.00
50652	30000000000000	R	Up to 8000	30000000000000	30000000000000	2100.00
50653	40000000000000	R	Up to 8000	40000000000000	40000000000000	2120.00
50654	50000000000000	R	Up to 8000	50000000000000	50000000000000	2140.00
50655	60000000000000	R	Up to 8000	60000000000000	60000000000000	2160.00
50656	80000000000000	R	Up to 8000	80000000000000	80000000000000	2180.00
50657	100000000000000	R	Up to 8000	100000000000000	100000000000000	2200.00
50658	120000000000000	R	Up to 8000	120000000000000	120000000000000	2220.00
50659	150000000000000	R	Up to 8000	150000000000000	150000000000000	2240.00
50660	200000000000000	R	Up to 8000	200000000000000	200000000000000	2260.00
50661	250000000000000	R	Up to 8000	250000000000000	250000000000000	2280.00
50662	300000000000000	R	Up to 8000	300000000000000	300000000000000	2300.00
50663	400000000000000	R	Up to 8000	400000000000000	400000000000000	2320.00
50664	500000000000000	R	Up to 8000	500000000000000	500000000000000	2340.00
50665	600000000000000	R	Up to 8000	600000000000000	600000000000000	2360.00
50666	800000000000000	R	Up to 8000	800000000000000	800000000000000	2380.00
50667	1000000000000000	R	Up to 8000	1000000000000000	1000000000000000	2400.00
50668	1200000000000000	R	Up to 8000	1200000000000000	1200000000000000	2420.00
50669	1500000000000000	R	Up to 8000	1500000000000000	1500000000000000	2440.00
50670	2000000000000000	R	Up to 8000	2000000000000000	2000000000000000	2460.00
50671	2500000000000000	R	Up to 8000	2500000000000000	2500000000000000	2480.00
50672	3000000000000000	R	Up to 8000	3000000000000000	3000000000000000	2500.00
50673	4000000000000000	R	Up to 8000	4000000000000000	4000000000000000	2520.00
50674	5000000000000000	R	Up to 8000	5000000000000000	5000000000000000	2540.00
50675	6000000000000000	R	Up to 8000	6000000000000000	6000000000000000	2560.00
50676	8000000000000000	R	Up to 8000	8000000000000000	8000000000000000	2580.00
50677	10000000000000000	R	Up to 8000	10000000000000000	10000000000000000	2600.00
50678	12000000000000000	R	Up to 8000	12000000000000000	12000000000000000	2620.00
50679	15000000000000000	R	Up to 8000	15000000000000000	15000000000000000	2640.00
5068						

GARTON-DANIELS CHOKE COILS
HIGH VOLTAGE TYPES

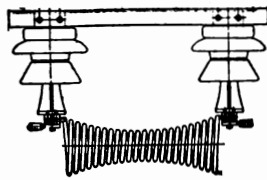
13200 Volt, 200 Amp. Type L Choke Coil



13200 Volt, 200 Amp. Type LU Choke Coil



23000 Volt, 200 Amp. Type H Choke Coil



23000 Volt, 200 Amp. Type HU Choke Coil



Garton-Daniels Choke Coils

Type L choke coils, as illustrated above, are designed for indoor service. The Type LU choke coils are of the underhung type and are designed particularly for outdoor service. The Type H choke coils are of the well-known "hour glass" type and are for indoor service. Type HU choke coils are of the underhung type and are designed particularly for outdoor service. All types of choke coils listed in the following pages are made with a base of channel iron, into which iron pins are riveted and insulators cemented to these pins support iron caps, which in turn support the terminal blocks and coil proper. Channel bases in all types are drilled with $\frac{1}{2}$ inch holes in each end; the coil may so be mounted on any flat supporting member by bolts or lags; or by the use of pipe clamps described and listed in following pages they may be readily supported by piping.

List No.	Type	Voltage	Capacity Amperes	List Price Each	Mfr's. No.	Type	Voltage	Capacity Amperes	List Price Each
50445	L	Up to 3000	50	\$17.00	50483	LU	3000 to 6600	400	30.00
50446	L	Up to 3000	100	18.00	50484	LU	3000 to 6600	500	33.00
50447	L	Up to 3000	150	19.00	50485	LU	3000 to 6600	600	36.00
50448	L	Up to 3000	200	20.00	50486	LU	3000 to 6600	800	40.00
50449	L	Up to 3000	250	21.00	50491	LU	6600 to 13200	100	30.00
50450	L	Up to 3000	300	23.00	50492	LU	6600 to 13200	200	33.00
50451	L	Up to 3000	400	25.00	50493	LU	6600 to 13200	300	36.00
50452	L	Up to 3000	500	28.00	50494	LU	6600 to 13200	400	39.00
50453	L	Up to 3000	600	31.00	50498	LU	13200 to 23000	100	35.00
50454	L	Up to 3000	800	36.00	50499	LU	13200 to 23000	200	38.00
50455	L	Up to 3000	1000	46.00	50500	LU	13200 to 23000	300	41.00
50456	L	Up to 3000	1200	57.00	50503	LU	23000 to 35000	100	40.00
50469	L	3000 to 6600	50	22.00	50504	LU	23000 to 35000	200	45.00
50470	L	3000 to 6600	100	24.00	50505	H	Up to 6600	50	24.00
50471	L	3000 to 6600	150	25.00	50506	H	Up to 6600	100	26.00
50472	L	3000 to 6600	200	26.00	50507	H	Up to 6600	150	27.00
50473	L	3000 to 6600	300	28.00	50508	H	Up to 6600	200	28.00
50474	L	3000 to 6600	400	30.00	50509	H	Up to 6600	300	30.00
50475	L	3000 to 6600	500	33.00	50510	H	Up to 6600	400	33.00
50476	L	3000 to 6600	600	36.00	50511	H	Up to 6600	500	36.00
50477	L	3000 to 6600	800	40.00	50519	H	6600 to 13200	50	32.00
50487	L	6600 to 13200	100	30.00	50520	H	6600 to 13200	100	35.00
50488	L	6600 to 13200	200	33.00	50521	H	6600 to 13200	200	38.00
50489	L	6600 to 13200	300	36.00	50522	H	6600 to 13200	300	39.00
50490	L	6600 to 13200	400	39.00	50523	H	6600 to 13200	400	42.00
50495	L	13200 to 23000	100	35.00	50529	H	13200 to 23000	100	37.00
50496	L	13200 to 23000	200	38.00	50530	H	13200 to 23000	200	41.00
50497	L	13200 to 23000	300	41.00	50531	H	13200 to 23000	300	44.00
50501	L	23000 to 35000	100	40.00	50535	H	23000 to 35000	100	43.00
50502	L	23000 to 35000	200	45.00	50536	H	23000 to 35000	200	48.00
50457	LU	Up to 3000	50	17.00	50512	HU	Up to 6600	50	24.00
50458	LU	Up to 3000	100	18.00	50513	HU	Up to 6600	100	26.00
50459	LU	Up to 3000	150	19.00	50514	HU	Up to 6600	150	27.00
50460	LU	Up to 3000	200	20.00	50515	HU	Up to 6600	200	28.00
50461	LU	Up to 3000	250	21.00	50516	HU	Up to 6600	300	30.00
50462	LU	Up to 3000	300	23.00	50517	HU	Up to 6600	400	33.00
50463	LU	Up to 3000	400	25.00	50518	HU	Up to 6600	500	36.00
50464	LU	Up to 3000	500	28.00	50524	HU	6600 to 13200	50	32.00
50465	LU	Up to 3000	600	31.00	50525	HU	6600 to 13200	100	35.00
50466	LU	Up to 3000	800	36.00	50526	HU	6600 to 13200	200	38.00
50467	LU	Up to 3000	1000	46.00	50527	HU	6600 to 13200	300	39.00
50468	LU	Up to 3000	1200	57.00	50528	HU	6600 to 13200	400	42.00
50478	LU	3000 to 6600	50	22.00	50529	HU	13200 to 23000	100	37.00
50479	LU	3000 to 6600	100	24.00	50533	HU	13200 to 23000	200	41.00
50480	LU	3000 to 6600	150	25.00	50534	HU	13200 to 23000	300	44.00
50481	LU	3000 to 6600	200	26.00	50537	HU	23000 to 35000	100	43.00
50482	LU	3000 to 6600	300	28.00	50538	HU	23000 to 35000	200	48.00

Directions for Ordering

In ordering choke coils and disconnecting switches it is necessary to give the following information in order that the may exactly meet requirements.

List number; voltage; capacity in amperes; size of wire or cable for which terminals are to be provided; number and of terminals on each end when ordering Type AMF and High Voltage Coils, mounting—standard or special, and drilling base, if other than standard drillings are required.

Protective Apparatus and Switchboard Accessories 72-2 & 72-3

GARTON-DANIELS CHOKE COILS

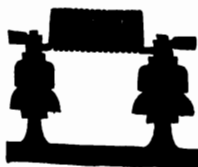
High Voltage Types

The construction of both the high voltage choke coils and disconnecting switches will be apparent from the illustrations below. A standard 3 inch channel iron is used for the base. This permits either the coil or the switch to be installed inside or out, attached to pipe or other suitable supporting means. Iron pins are riveted to this channel, and insulators cemented to these pins support cemented galvanized iron tops, which in turn support terminal blocks for either the coil or switch blades.

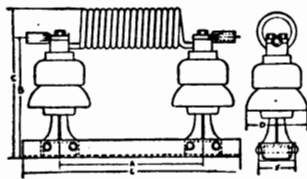
All choke coils and disconnecting switches are provided with separable terminals. Switches are operated by means of wood switch hooks listed. For use as a lightning arrester disconnecting switch the 200 ampere size should be specified. For other work the size specified should, of course, be governed by the ampere capacity of the circuit on which they are to be used.

In ordering choke coils and disconnecting switches always give the following information:

Mr. Nos., voltage, capacity in amperes, number of terminals and size of wire or cable for which terminals are to be provided, mounting, standard or special, and drillings in base.



Choke Coil



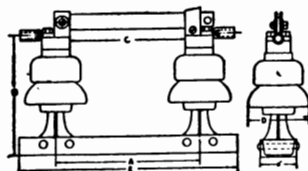
Choke Coil Showing Construction

Choke Coils

List No.	Voltage	Capacity Amperes	Dimensions, Inches					List Price Each
			A	B	C	D	E	
50407	2500-6600	50	8½	9	11¼	3¾	14½	\$22.00
50408	2500-6600	100	8½	9	11¼	3¾	14½	26.50
50409	2500-6600	200	8½	9	11¼	3¾	14½	30.00
50410	2500-6600	400	10	9	11¼	3¾	16	36.00
50411	6600-13200	200	11½	9¾	12¼	5	17½	42.00
50412	13200-23000	200	13	8¾	11½	6	19	46.00



Disconnecting Switch



Disconnecting Switch Showing Construction

Disconnecting Switches

List No.	Voltage	Capacity Amperes	Dimensions, Inches					List Price Each
			A	B	C	D	E	
50413	0-6600	200	8½	9	6¼	3¾	14½	\$18.00
50414	0-6600	400	8½	9	6¼	3¾	14½	22.00
50415	0-6600	600	8½	9	6¼	3¾	14½	25.00
50416	6600-13200	200	11½	9¾	9¼	5	17½	20.00
50417	13200-23000	200	13	8¾	10¼	6	19	28.00
50418	Any voltage							3.00
50419	Any voltage							4.00
50420	Any voltage							5.00

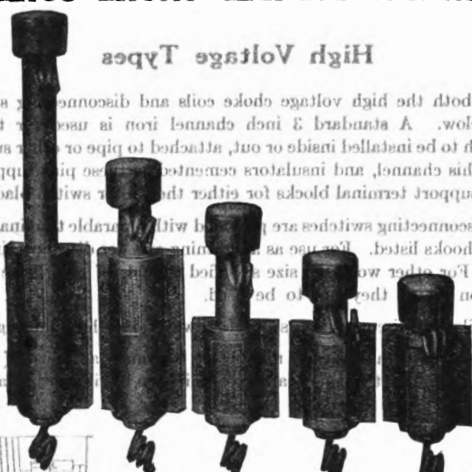
CARBON PILE LIGHTNING ARRESTERS

High Voltage Types

The construction of both the high voltage choke coils and disconnecting switches will be apparent from the illustrations below. A standard 3 inch channel iron is used for the base. This permits either the coil or the switch to be installed inside or out, attached to pipe or other suitable supporting means. Iron pins are riveted to this channel, and insulators cemented on pins support cemented galvanized iron tops, which in turn support terminal blocks for either the line or switch.

All choke coils and disconnecting switches are made with 1/2 inch wide terminals. Switches are operated by means of wood switch hooks listed. The use of a disconnecting switch is recommended for the 300 ampere size should be specified. For other sizes and capacities of the circuit, the disconnecting switch should be specified.

In ordering choke coils, specify: Mr. No., voltage, terminals are to be provided. In ordering disconnecting switches, specify: Mr. No., voltage, terminals are to be provided.



Mr. No. 79220

Mr. No. 79219

Mr. No. 79218

Mr. No. 79217

Mr. No. 79216

Compression Chamber Multigap Arresters

FOR POLE USE ON CONSTANT POTENTIAL ALTERNATING CURRENT CIRCUITS

The compression chamber multigap arrester is designed to meet the demand for an arrester which will give good protection, at such a price that the device can be placed at terminals of even the smallest transformers. This arrester consists of a series of multigaps and a resistance rod slipped into a porcelain tube. It will be noticed from the illustrations that the brass alloy electrodes with the small porcelain separators make a small closed chamber. During a discharge, the gases formed by the arc and held within these chambers become slightly compressed and assist in extinguishing the arc by partially smothering it. This feature gives the arrester its name. The antennae are connected to the ground lead and consist of two narrow strips of metal on each side of the multigaps. The effect of the antennae is to lower the break-down or spark voltage of the gaps. Thus the arrester has the advantage of a large number of gaps as regards cutting off the generator current, and at the same time has the advantage of a small number as regards the spark over voltage. This feature accounts for the remarkable degree of protection and reliability afforded by this arrester.

The 2200-volt arrester, List No. 79218, shown in the illustration, has eight gaps and a 30-45 ohm cerium rod. The arresters for higher and lower voltages are a modification of the design illustrated, differing in the number of gaps and the amount of resistance. The porcelain tube is sealed in a porcelain base, a metal cap is clamped over the top of the tube, a porcelain cap is then compounded over the metal cap, making a weatherproof top for the arrester.

THREE-PHASE AND SINGLE-PHASE NON-GROUNDED, AND QUARTER-PHASE FOUR-WIRE SYSTEMS

List No.	Minimum and Maximum Voltage of Circuits on which Arresters may be Installed	Approx. Shpg. Wt. in Lbs.	Price
146187	0-1300	1	\$1.65
79216	300-600	9	6.00
79217	600-1300	10	6.25
79218	1800-2800	15	8.50
79220	2800-5700	23	12.00
1156218	3300-5700	55	24.00
1156219	3300-5700	70	32.00

FOR THREE-PHASE AND SINGLE-PHASE GROUNDED NEUTRAL SYSTEMS

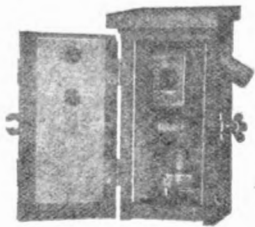
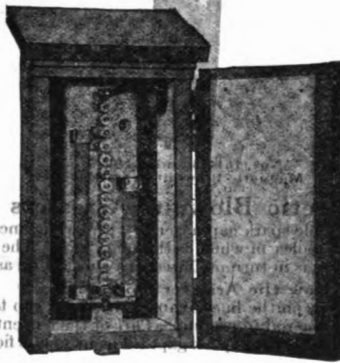
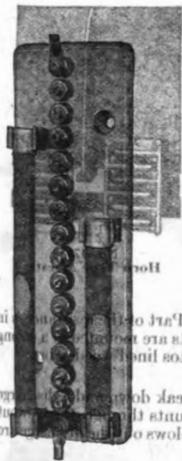
List No.	Minimum and Maximum Voltage of Circuits on which Arresters may be Installed	Approx. Shpg. Wt. in Lbs.	Price
146187	0-1300	1	\$1.65
79216	300-600	9	6.00
79217	600-1300	10	6.25
79218	1800-2800	15	8.50
79219	3000-4800	17	9.00
1156218	4300-5700	55	24.00
1156219	4300-5700	70	32.00

FOR QUARTER-PHASE THREE-WIRE SYSTEMS

List No.	Minimum and Maximum Voltage of Circuits on which Arresters may be Installed	Approx. Shpg. Wt. in Lbs.	Price
79219	2000-3000	17	9.00

For use on single-phase circuits (double-pole) For use on three-phase circuits (triple-pole) Delivery F. O. B. Factory, Schenectady, N.Y. For warehouse deliveries write nearest house.

2200-VOLT STATION ARRESTERS



List No. 149752
2200-Volt Station Arrester
Approx. 100 lbs.
Net 11
Gross 11
For 00 11
00 11
00 11

List No. 149757
2200-Volt Line Arrester
Approx. 100 lbs.
Net 11
Gross 11
For 00 11
00 11
00 11

List No. 3413
Magnetic Blowout Arrester
Approx. 100 lbs.
Net 11
Gross 11
For 00 11
00 11
00 11

Graded Shunt Resistance Multipap Lightning Arresters
FOR CONSTANT POTENTIAL ALTERNATING CURRENT CIRCUITS

The graded shunt resistance multipap arrester consists of a series of gaps shunted in part by two resistance rods. The lightning discharge may take place through the gaps or through a series of the gaps and either resistance rod, depending upon the strength and quality of the lightning. The arrester thus provides three paths for the discharge of lightning, making it a very efficient protector. The generator current which follows the discharge shunts to one of the resistance rods and is thus limited to a safe value. The time vapor which forms in the gaps during the discharge prevents the reversal of the generator current which is there shut off at the end of the half cycle following the discharge. For line use the arresters are enclosed in substantial, weatherproof cast-iron lined wooden boxes.

FOR THREE-PHASE AND SINGLE-PHASE NON-GROUNDED, AND QUARTER-PHASE FOUR-WIRE SYSTEMS

Approx. Weight in Lbs.	For Station Service	List Price	Approx. Weight in Lbs.	For Line Service	List Price
300	\$2.50		300	\$6.50	
1200	10.00		1200	21.00	
2000	10.00		2000	21.00	
4000	10.00		4000	133.00	
8000	19.00		8000	150.00	
12000	100.00		12000	260.00	

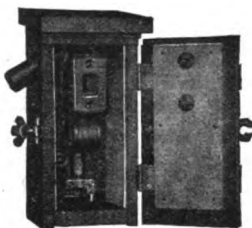
FOR THREE-PHASE AND SINGLE-PHASE GROUNDED NEUTRAL SYSTEMS

Approx. Weight in Lbs.	For Station Service	List Price	Approx. Weight in Lbs.	For Line Service	List Price
300	\$2.50		300	\$6.50	
1200	10.00		1200	21.00	
2000	10.00		2000	21.00	
4000	10.00		4000	133.00	
8000	19.00		8000	150.00	
12000	100.00		12000	260.00	

Not of graded shunt resistance type.
Double-pole for single-phase circuits.
Triple-pole for three-phase circuits.
Note.—All arresters listed above are single-pole unless otherwise indicated.

Delivery FOB Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.
76 Protective Apparatus and Accessories

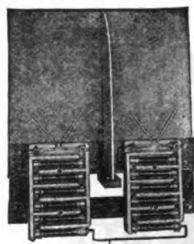
G. E. LIGHTNING ARRESTERS



Nos. 164404 and 164406
Magnetic Blowout Arrester



Nos. 164403 and 164405
Magnetic Blowout Arrester



No. 47558
Horn Type Arrester

Magnetic Blowout Arresters

This arrester consists of an adjustable spark gap in series with a resistance. Part of the resistance is shunt with a blowout coil, between the poles of which is the spark gap. The parts are mounted in a strong porcelain box which for car and pole use is in turn mounted in a substantial asbestos lined wooden box.

How the Arrester Operates

When the lightning potential comes on the line it causes the spark gap to break down and a discharge occurs through the gap and the resistance rod to ground. Part of the current shunts through the blowout coil, producing a strong magnetic field across the spark gap. The magnetic field blows out the discharge arc and restores normal.

List No.	Min. and Max. Voltage of Circuit On Which Arrester May be Installed	Description	Approx. Net	Shpg. Wgt.	List Price Each
164403	0-350	For station use	11	20	\$6.50
164404	0-350	In wooden box for line use	20	30	10.00
164405	350-750	For station use	11	20	6.50
164406	350-750	In wooden box for line use	20	30	10.00

Horn Type Arresters

FOR USE ON SECONDARIES OF CONSTANT CURRENT TRANSFORMERS FOR SERIES ARC AND INCANDESCENT LIGHTING SYSTEMS

Kw. Rating of Transformers	Secondary Amperes	For Station (Indoor) Use			For Pole (Outdoor) Use		
		Double-Pole List No.	Approx. Shpg. Wgt. Lbs.	List Price Each	Single-Pole *List No.	Approx. Shpg. Wgt. Lbs.	List Price Each
3	4.0 to 7.5	47563	30	\$9.50	144117	45	\$18.50
5	4.0 to 7.5	47563	30	9.50	144117	45	18.50
10	4.0 and 5.5	47558	40	13.50	144117	45	18.50
10	6.6 and 7.5	47563	30	9.50	144117	45	18.50
15	4.0	47560	150	40.00	144119	45	21.00
15	5.5	47559	100	30.00	144119	45	21.00
15	6.6 and 7.5	47558	40	13.50	144117	45	18.50
20	4.0 and 5.5	47560	150	40.00	144121	50	25.00
20	6.6 and 7.5	47559	100	30.00	144119	45	21.00
25	4.0	47561	130	40.00	144123	60	34.00
25	5.5, 6.6 and 7.5	47560	150	40.00	144121	50	25.00
32	6.6	47560	150	40.00	144121	50	25.00
36	7.5	47560	150	40.00	144121	50	25.00
48	6.6	47561	130	40.00	144123	60	34.00
54	7.5	47561	130	40.00	144123	60	34.00
64	6.6	78744	180	50.00	144123	60	34.00
72	7.5	78744	180	50.00	144123	60	34.00

With double-circuit panels two double-pole or four single-pole arresters should be used.

FOR SERIES RECTIFIER ARC CIRCUITS

For Station (Indoor) Use Double Pole List No.	Lights Rating of Rectifier Set	Approx. Shpg. Wgt. in Lbs.	List Price Each	For Pole (Outdoor) Use		
				Single Pole List No.	Approx. Shpg. Wgt. in Lbs.	List Price Each
58959	12	30	\$9.50	144116	40	\$15.50
79120	25	50	15.00	144118	45	19.50
78766	50	135	35.00	144122	50	25.00
78730	75	180	45.00	144124	60	34.00
58960	*75	100	30.00	144120	45	21.00
78730	100	180	45.00	144124	60	34.00
78766	*100	135	35.00	144122	50	25.00
78767		170	40.00			

* For use with single circuit panels.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.
 Protective Apparatus and Switchboard Accessories

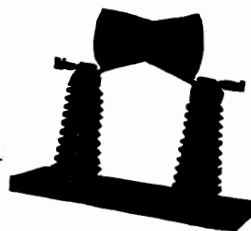
G. E. LIGHTNING ARRESTER CHOKE COILS



4600 Volts



6600 Volts



Above 6600 Volts

For Use with Alternating Current Lightning Arresters for Indoor Use

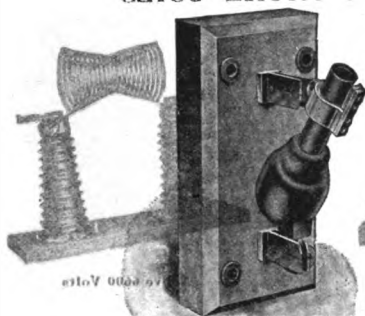
List No.	Volts	Amperes	Base	Approximate Shipping Weight in Lbs.	List Price Each
76339	4600	25	Steel Brackets	15	\$9.00
76340	4600	50	Steel Brackets	25	12.00
25401	6600	25	Marble	30	23.00
3416	6600	100	Marble	50	35.00
36882	6600	200	Marble	40	35.00
78802	7500	200	Steel	100	35.00
78803	7500	400	Steel	145	88.00
78804	7500	650	Steel	210	140.00
78805	7500	1000	Steel	270	180.00
78806	15000	200	Steel	105	55.00
78807	15000	400	Steel	150	88.00
78808	15000	650	Steel	215	140.00
78809	15000	1000	Steel	280	180.00
78810	25000	200	Steel	145	55.00
78814	25000	400	Steel	190	88.00
78815	35000	200	Steel	160	60.00
78819	35000	400	Steel	210	88.00
78820	45000	200	Steel	190	70.00
78824	45000	400	Steel	235	100.00
78825	60000	200	Steel	220	87.00
78829	60000	400	Steel	270	120.00
78830	70000	200	Steel	380	156.00
78831	90000	200	Steel	460	176.00
78832	110000	200	Steel	600	232.00

For Out-of-Door Use—On Steel Base

List No.	Volts	Amperes	Approx. Ship. Wt. Lbs.	List Price	List No.	Volts	Amperes	Approx. Ship. Wt. Lbs.	List Price
78911	10000	200	90	\$55.00	78914	35000	200	150	\$60.00
153437	10000	400	135	90.00	153440	35000	400	200	100.00
78912	15000	200	90	55.00	78915	45000	200	180	70.00
153438	15000	400	135	93.00	153441	45000	400	225	112.00
78913	25000	200	125	55.00	78916	70000	200	225	87.00
153439	25000	400	170	96.00	153442	70000	400	270	120.00

The above consists of the hour glass type of coil mounted on petticoat insulators.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

C. E. LITCHFIELD & SONS
CHIEF EXPULSION FUSES

Single Pole Fuse Block for 2500 Volts



Single Pole Fuse Block for 7500 Volts

Expulsion Fuse Holders and Fuses

Type T, Form D-3

The TD-3 expulsion fuse is a simple and effective device for operating on overload and short circuit conditions.

Capacities 100 and 200 amperes 2500 and 7500 volts.

This fuse holder consists of a heavy insulated metal bulb or explosion chamber into which is screwed a fiber tube. At each end are contact blades and accessible binding screws for the fuse, the lower binding screw being carried on the screw plug in the "breach" of the explosion chamber.

The fuse proper which passes through the tube and bulb is made of comparatively small cross section at the lower end, to insure rupturing inside the bulb. The explosion and sudden expansion of gases expels the arc and fused metal, and effectively opens the circuit.

These fuses are assembled in the form of complete fuse blocks, single, double and triple-pole, both 2500 and 7500 volts, and four-pole for 2500 volts.

The clips for the 2500 volt fuse holders are mounted directly on marble base of panel, while those for the 7500 volt holders are mounted on one piece porcelain insulators, which in turn are mounted on plate base or panel.

Barriers are provided for the double, triple and four-pole fuse blocks on bases.

Single pole elements complete with contact clips, but without bases, are listed separately for panel mounting. The necessary barriers are also listed in the same way.

100 Amperes, 2500 Volt Fuse Blocks

No. of Poles	Mounted	Barriers	Front Connected		Back Connected	
			List No.	List Price Each	List No.	List Price Each
1	On Base	Without	59443	\$14.00	59447	\$15.00
1	On Base	With	59444	36.00	59448	38.00
1	On Base	With	59445	58.00	59449	61.00
1	On Base	With	59446	80.00	59450	84.00
1	For Panel	Without	59447	102.00	59451	9.00

200 Amperes, 2500 Volt Fuse Blocks

1	On Base	Without	59452	\$18.00	59456	\$19.00
2	On Base	With	59453	46.00	59457	48.00
3	On Base	With	59454	76.00	59458	77.00
4	On Base	With	59455	102.00	59459	106.00
1	For Panel	Without	59456		59460	13.00

100 Amperes, 7500 Volt Fuse Blocks

1	On Base	Without	59461	\$18.00	59465	\$21.00
1	On Base	With	59462	45.00	59466	51.00
1	On Base	With	59463	72.00	59467	81.00
1	For Panel	Without	59464		59468	16.00

200 Amperes, 7500 Volt Fuse Blocks

1	On Base	Without	59468	\$24.00	59472	\$27.00
1	On Base	With	59469	57.00	59473	63.00
3	On Base	With	59470	90.00	59474	99.00
1	For Panel	Without	59471		59475	22.00

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries, write nearest house.

Patented in America and Switzerland. Accessories 79

G. E. EXPULSION FUSE HOLDERS

Separate Holders—Without Fuses Single Barriers for Fuse Blocks

Type T, Form D-3				Rating of Fuse Block			
List No.	Volts	Ampere	Each	List No.	Volts	Ampere	Each
59475	2500	100	\$6.00	75935	2500	100	Marble \$8.00
59476	2500	200	9.00	75936	2500	200	Marble 10.00
59477	7500	100	7.00	75937	7500	100	Slate 9.00
59478	7500	200	10.00	75938	7500	200	Slate 9.00

Prices on fuse holders 22,000 to 110,000 volts on application.

Operating Hooks for Expulsion Fuses

The fuse holder may be easily removed from the clip by means of a suitable operating hook, which should always be used, thus eliminating danger to the operator.

Rating of Fuse Holder				List Price Each
List No.	Volts	Ampere		
45229	2500 or 7500	100		\$2.50
45230	2500 or 7500	200		2.50

Fuses for 2500 and 7500 Volt Expulsion Fuse Holders

500 Volts				7500 Volts			
Amp. Carrying	List No.	List Price		Amp. Carrying	List No.	List Price	
5	118572	\$0.20		80	118583	\$0.20	118605 \$0.30
8	118573	.20		90	118584	.20	118606 .30
10	118574	.20		100	118585	.20	118607 .30
15	118575	.20		110	118586	.20	118608 .30
20	118576	.20		125	118587	.20	118609 .30
25	118577	.20		140	118588	.20	118610 .30
30	118578	.20		155	118589	.20	118611 .30
40	118579	.20		170	118590	.20	118612 .30
50	118580	.20		180	118591	.20	118613 .30
60	118581	.20		200	118592	.20	118614 .30
70	118582	.20					

Fuses are of special metal and have tubular asbestos coverings.

The ampere rating given is the normal carrying capacity of the fuse, and is about 60 per cent. of the load at which it will rupture.

Fuse Holders, Complete with Fuses

Type T, Form D-2

For Use with Potential Transformer Fuse Blocks

Fuse Holders				Distance Between Centers in Approx. Ship. Price			
List No.	Includes Fuse	Volts	On transformer	Inches	Wt. in lb.		
121100	121101	6600	On transformer	5	3	\$2.50	
121074	121076	6600	Separate mounting	8 3/4	5	3.00	
121075	121076	15000	Separate mounting	8 3/4	5	3.00	
121077	121077	15000	On transformer	11 1/2	5	3.50	
121078	121077	22000	Transformer or separate	11 1/2	5	3.50	
121079	121077	35000	Transformer or separate	11 1/2	10	3.50	
60519	121078	45000	Transformer or separate	24	10	7.00	
60519	121078	70000	Transformer or separate	24	15	7.00	

Notes: Fuse holders with fuse are included in List No. and List Price of fuse blocks.

FUSES—WITH ASBESTOS COVERING

T-D-2 fuses 3300 to 15000 volts are recommended on systems of 2000 K.W. capacity and below. Above 15000 volts the T-D-2 is suitable for 10,000 K.W. capacity and below.

Length in Inches				For Use in Fuseholder			
List No.	Volts			List No.			Price
121101	6600	9		121100			\$0.10
121076	16000	13 1/4		121074			.10
121077	15000	13 1/4		121075			.10
121078	22000	16		121076			.10
121079	35000	16		121077			.10
121078	45000	30		60519			.15
121078	70000	30		60519			.15

Clips

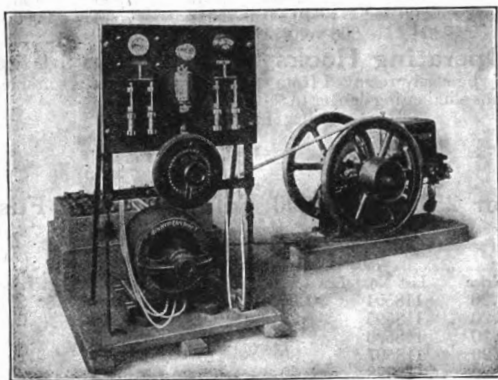
List No.	Back connected fuse block or on potential transformers	List Price
121074	Back connected fuse blocks	\$0.10
121075	Back connected fuse blocks	.15

Operating Hook for Handling Fuse Holders

List No.	6600-15000 volts	List Price
112426	6600-15000 volts	\$16.00
106522	22000-35000 volts	20.00
112427	45000-75000 volts	25.00

Operating hooks should always be used in removing or replacing fuse holders to avoid danger to operator.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Western Electric
SMALL ELECTRIC PLANT EQUIPMENTS


Equipment Complete
 Belted to an Engine

DESCRIPTION

The time and money saving advantages of these powerful, built-for-business electric plant equipments will appeal to every practical man. They consist of a 16 cell storage battery, a switchboard and a generator, all mounted on a single skid properly connected and ready for use.

The switchboard is so arranged that it can be folded down without disturbing any of the electrical connections, making a compact unit which can be crated and shipped to the place of installation in the box shown in the illustration on following page.

The boxed outfit is small enough and light enough to be handled on an ordinary farm wagon and the complete equipment can be unpacked and put in operation with much less labor than is required to install an engine or a pump.

Every electric plant must include a storage battery, switchboard and generator. When these come to the place of installation separately, experience has shown that there is considerable uncertainty as to the amount of time required to install them. Frequently, some one part of the shipment is delayed in transit, resulting in loss of time not anticipated or provided for in the estimate, and which constitutes an unpleasant and unforeseen addition to the cost of installation.

The use of these Western Electric plant equipments makes it possible to cut out of the estimate practically all of the work of installing the electrical equipment. That is to say, laying out the plant, assembling the switchboard and battery, placing the generator, wiring between the switchboard, battery and generator, testing the connections and polarity, giving the battery the usual initial charge and many other time-consuming and costly details.

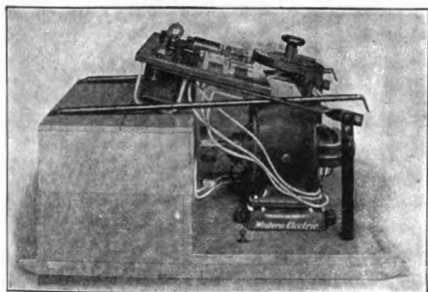
This convenience of installation is accomplished without the least sacrifice of quality or operating value. On the contrary, the storage battery, the generator and the switchboard are each the best of their kind and the arrangement is such as to make every portion of the plant completely and easily accessible when in operation.

These equipments are built to give real service and to win the enthusiastic praise of the owner, not only for a few days but after years of use. They are built by engineers to win the approval of engineers, and the more critically and intelligently they are examined the more apparent is their value.

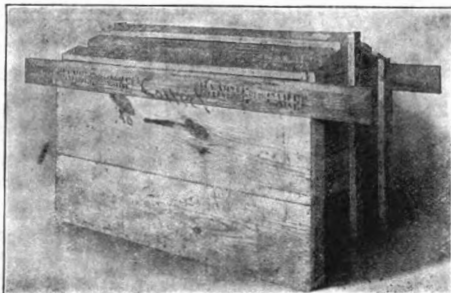
However much a man, living beyond the reach of the wires of a public electric lighting company, may wish to enjoy the benefits of electric light and power service, the amount that he can afford to spend is usually limited. When a considerable portion of his investment must go to cover the installation expense he is frequently obliged to select a plant of insufficient power to really meet his need

Western Electric

SMALL ELECTRIC PLANT EQUIPMENTS



Showing Equipment Unpacked



Showing Equipment Packed

DESCRIPTION—Cont'd

The purchaser of a Western Electric Plant saves installation expense and obtains for his money a larger and a better plant.

This results in greater satisfaction all around; to the purchaser because he gets the most for his money; to the man who makes the installation because the job is clean-cut and simple and his profit a fair one; to the manufacturer because an enthusiastic owner is his best advertisement.

The Western Electric Plant Equipment is made in four sizes, of which the smallest will be found just right for the average small farm or other private residence, while the largest is big enough for practically any service for which a low voltage plant is suitable.

The storage battery is the heart of the electric plant.

The "**Hyrap-Exide**" Battery is the strongest and sturdiest battery of the Faure or pasted plated type known to the trade. It is specially designed for small plant service; in fact is simply a miniature of the immense "**Exide**" Standby Batteries used in large numbers by the Central Lighting and power stations in New York, Chicago, Boston, Brooklyn and other large cities.

The "**Exide**" Battery, in the numerous forms in which it has been developed and of which the "**Hyrap-Exide**" is one, is the most widely used storage battery in the world.

Each battery consists of 16 cells assembled in 4 trays containing 4 cells each and joined by bolted connections. The cells are equipped with rubber covers and are shipped assembled, sealed and charged.

The battery trays are securely fixed on the skid and carefully cushioned. A box cover is provided for the battery, which completely encloses and protects it from dirt, dust, etc. When the battery is in use, this cover may be removed or left in place, as desired.

The Western Electric Type B Generator which is used with the plant embodies in its design and construction the most advanced ideas in electrical and mechanical construction.

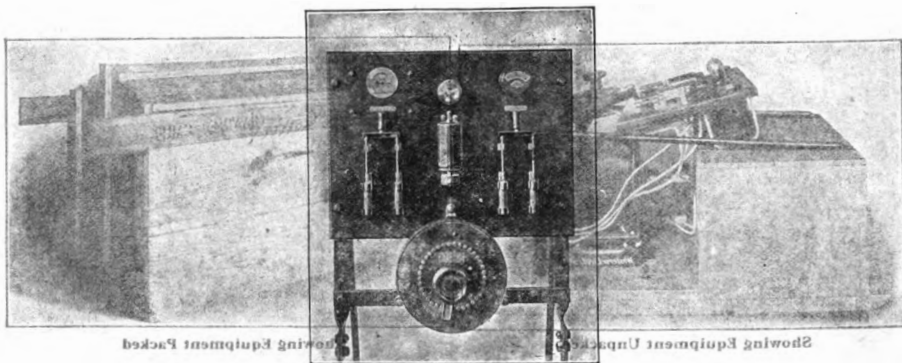
The simplicity and ruggedness of its construction adapt it particularly for this class of work. The generator consists of a cast steel field frame upon which are fastened the end bearing brackets for supporting the armature. The armature is built up on a steel shaft of liberal dimensions. These brackets are interchangeable and can readily be removed for inspection.

The generator is self-lubricating, the oil circulation being maintained by the revolving shaft, and a steady flow of oil is insured while the generator is working. Occasional inspection should be made of the oil-wells to see that they contain clean oil in sufficient quantity.

The generators are shunt wound, generate current at 32 to 42 volts, and operate at 2000 revolutions per minute. A sliding base is furnished so that the proper belt tension may be readily maintained. A pulley and spare set of brushes are included with each plant.

In ordering these plants the speed of the engine that will drive the generator and also the diameter of the flywheel in inches, must be given in order that a generator pulley of suitable diameter may be supplied.

Western Electric

SMALL ELECTRIC PLANT EQUIPMENTS
SMALL ELECTRIC PLANT EQUIPMENTS

Switchboard

DESCRIPTION CONT'D
Type E Switchboard

The Type E Switchboard is simple, yet complete. The design, workmanship and materials are of the best, special care being used in selecting only such materials as conform to a very high standard. The instruments, switches, etc., are high grade and such as are usually found only on much more expensive switchboards. The general arrangement has been worked out with great care by competent engineers who are thoroughly conversant with small plant switchboard requirements as the result of experience gained in the installation and operation of great numbers of such plants.

The arrangement permits of the following operation:
1. Lights to be run from battery only, or
2. Lights to be run from generator and battery in parallel, the battery assisting the generator or
3. Lights to run from generator only.

In the ordinary operation of the plant, no hand manipulation of switches or any part of the switchboard apparatus is at any time necessary except adjustment of the generator current by means of the generator field rheostat.

The National Board of Fire Insurance Underwriters issue rules covering switchboard construction which are designed to secure safety and minimum insurance rates. In small plants, switchboard construction safety is often sacrificed to cheapness.

The Type E Switchboard meets in every detail the most exacting requirements of the National Board of Fire Insurance Underwriters.

Hand manipulation of switches is superseded by the automatic operation of the automatic cut-out and cut-off switch. This switch is simple, durable and reliable. It has no adjustments because it needs none.

The ampere hour meter, which is a feature of these switchboards, is of great practical value. It is connected to the battery and indicates at all times the current in amperes hours taken out of the battery. The hand moves from "Full" toward "Empty" when the battery is discharging and from "Empty" toward "Full" when the battery is charging. It is arranged to run somewhat slow on charge, and thus automatically provides for the necessary reserve of ampere hours of charge to cover ampere hours of discharge. It is provided with a contact at the full point, at which a lamp may be made to light a lamp or ring a bell when the meter hand reaches that point, or to actuate a circuit opening device in the engine ignition circuit, shutting the engine down when the charging operation is completed.

The ampere hour meter is used for the following purposes:
1. To show when the battery needs to be charged.
2. While charging to show at what rate the charging may be done, permitting the use of relatively high charging rates and thus shortening very materially the hours of engine operation for battery charging.

3. To show when the battery has been fully charged and charging may be discontinued.

4. As a positive safeguard (if the simple instructions are followed) against "useless, wasteful and injurious overcharging or overdischarging of the battery."

5. As a continual and valuable check on the battery performance, and therefore on battery condition. To measure the daily or weekly current consumption, or the current used by various motors or other devices, using current meter contacts in the performance of some specific task, and to obtain other data of like character, which is helpful in operating the plant with economy, in preventing the waste of current, etc.

6. To show, when such is desired, a signal by light or bell, that the battery charge has been completed and should be discontinued, or to actuate a stop charge device.

The ampere hour meter is a rather expensive instrument, and it has not hitherto been thought possible to furnish it as regular equipment on the switchboard of a small and necessarily low priced light and power equipment. Its inclusion without extra cost in the structure of these switchboards indicates the "maximum possible value for the money." Policy of the company has governed the design, execution and price of the "Type E" Switchboard Plant Equipments.

Rectifiers, Storage Batteries and Lighting Plants

W. O. B. FACTORY **SMALL ELECTRIC PLANT EQUIPMENTS** **DESCRIPTION—Cont'd**

Type E Switchboard **Other Details**

RATED CAPACITY, 30 amperes, 32-42 volts.

PANEL of black oil finished slate, 1 x 24 x 18 inches, on heavy strap iron frame.

GENERATOR AND BATTERY SWITCHES are double pole, single throw, 60 ampere, with 50 ampere enclosed fuses.

AMPERE HOUR METER is of differential type, scale 0-150, connected in battery discharge and charge circuit.

AMPERE METER, connected in battery discharge and charge circuit, scale 50-0-50.

PILOT LIGHT connected across generator leads.

AUTOMATIC SWITCH connected in generator circuit. Automatically closes generator circuit to line when the generator voltage rises to proper value and opens on small reverse current.

GENERATOR FIELD RHEOSTAT. For controlling generator current.

GROUND DETECTOR LAMP SOCKETS for testing for grounds.

The skid is substantial and of neat appearance.

When set on a solid floor there is practically no vibration of the switchboard when the generator is running.

The over-all dimensions of the skid are 29 inches wide by 50 inches long. The belt may run to the generator from either side.

Generator Battery

Plant Equipments

Switchboard

Plant Equipment No. 1 is a 12-light plant. One battery charge will light 12-12 c.p. (15 watt) Mazda lamps for about 8 hours or 12-12 c.p. lamps for about 6 hours continuously or give an equal amount of light in lamps of other sizes.

The generator will carry continuously about 750 candle power in Mazda lamps or two large flatirons or a one horse power motor, or other equivalent load.

The battery can be given a complete normal charge in less than six hours.

Plant Equipment No. 2 is a 12-light plant. One battery charge will light 20-12 c.p. (15 watt) Mazda lamps for about 8 hours or 30-12 c.p. lamps for about 6 hours continuously or give an equal amount of light in lamps of other sizes.

The generator will carry continuously about 750 candle power in Mazda lamps or two large flatirons or a one horse power motor, or other equivalent load.

The battery can be given a complete normal charge in less than six hours.

Plant Equipment No. 3 is a 20-light plant. One battery charge will light 20-12 c.p. (15 watt) Mazda lamps for about 8 hours or 30-12 c.p. lamps for about 6 hours continuously or give an equal amount of light in lamps of other sizes.

The generator will carry continuously about 750 candle power in Mazda lamps or two large flatirons or a one horse power motor, or other equivalent load.

The battery can be given a complete normal charge in less than six hours.

Plant Equipment No. 4 is a 30-light plant. One battery charge will light 30-12 c.p. (15 watt) Mazda lamps for about 8 hours or 45-12 c.p. lamps for about 6 hours continuously or give an equal amount of light in lamps of other sizes.

The generator will carry continuously about 750 candle power in Mazda lamps or two large flatirons or a one horse power motor, or other equivalent load.

The battery can be given a complete normal charge in less than six hours.

Plant Equipment No. 5 is a 40-light plant. One battery charge will light 40-12 c.p. (15 watt) Mazda lamps for about 8 hours or 60-12 c.p. lamps for about 6 hours continuously or give an equal amount of light in lamps of other sizes.

The generator will carry continuously about 750 candle power in Mazda lamps or two large flatirons or a one horse power motor, or other equivalent load.

The battery can be given a complete normal charge in less than six hours.

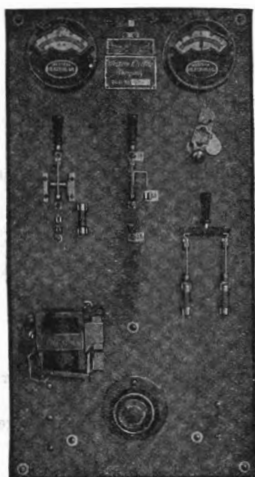
List No.	Battery Cells	Exide Type	Hours	Type B Amperes	Volts	Approx. Shpg. Wt.	List Price
30612	2 16	BDR-5	44	20	32-42	500 lbs.	\$428.00
306	2 16	EER-5	78	20	32-42	700 lbs.	\$476.00
307	2 16	EER-5	78	30	32-42	700 lbs.	\$498.00
3078	2 16	EER-7	117	30	32-42	800 lbs.	\$544.00

Above mounted on skids, connected and crated.

Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

Western Electric

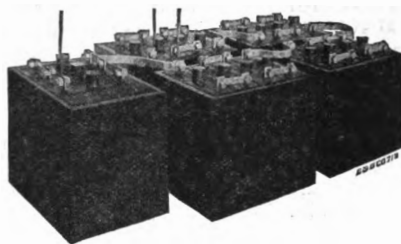
SMALL ELECTRIC PLANTS



Switchboard



20 Amp., 32-42 Volt Generator



Storage Battery

Plant Equipments

The two equipments listed below for lighting of residences are known as plant No. 9 and No. 10. Plant No. 9 is large enough to light the average farm residence having 25 to 30 connected lights. Plant No. 10 will light a residence having 40 to 50 connected lights. An electric iron, a toaster stove, electric fan or similar small electrical devices can be operated from either plant.

Storage Battery. The storage battery consists of 16 cells of the Electric Storage Battery Co. Hy-ray Battery with three counter cells. All parts necessary to install the battery and place in operating condition, including five trays, bolt connectors, lead tape, hydrometer syringe, etc., are furnished.

Generator. The generator is a Western Electric bipolar machine complete with pulley, sliding base for adjusting the belt tension and rheostat for controlling the voltage.

Switchboard. The switchboard is arranged so that if desired the generator can supply power to the lights at the same time it is charging the storage batteries, or it will operate the lights independent of the battery, or charge the battery independent of the lights. It is equipped with a contactor which opens the generator circuit when the engine slows down momentarily and thus prevents the battery current from feeding back to the generator. A switch is also provided which converts the generator into a motor for cranking the engine. The voltmeter is provided with a voltmeter switch so that it is possible to read the voltage of the lights or the voltage of the battery or the voltage of the dynamo. An ammeter switch is furnished, which makes it possible to read either the current being supplied by the dynamo or the current in the battery circuit.

List
No.

EQUIPMENT PLANT NO. 9

List
Price

9	1 20-ampere, 32 to 42 volt, 2000 R.P.M. shunt wound generator, with pulley, base and rheostat.....	
	1 30-ampere switchboard.....	
	1 Electric Storage Battery Co.'s Hy-ray, Type DDR-5 Battery.....	
	Complete plant price.....	\$352.00

EQUIPMENT PLANT NO. 10

This plant is the same as the Plant No. 9, with the exception that a larger size battery, Type EER-5, is furnished.

10	1 20-ampere generator, same as in Plant No. 9.....	
	1 switchboard, same as in Plant No. 9.....	
	1 Electric Storage Battery Co.'s Hy-ray, Type EER-5 battery.....	
	Complete plant price.....	\$392.00

NOTE: The above prices do not include engine.

The capacity of the batteries used in the above plants are given in the following table:

	Type of Battery	BATTERY DATA			Capacity in 16 Candle Power Tungsten Lamps		
		Capacity in Amperes			3 Hours	5 Hours	8 Hours
Plant No. 9.....	DDR-5	12	8	5½	19	13	9
Plant No. 10.....	EER-5	20¾	14	9¾	33	22	15

Delivery Switchboard F. O. B. Factory, Milwaukee, Wis.

Delivery Battery F. O. B. Philadelphia, Pa.

Delivery Generator F. O. B. Madison, Wis.

For warehouse deliveries write nearest house.

Western Electric

LIGHTING PLANT COUNTER CELL EQUIPMENT

In a large majority of cases the engine and generator are run and the battery charged only in the daytime, and current for the lights during the evening hours is taken exclusively from the battery. This method of operation is by far the most convenient, and is the one for which the Standard Type E Switchboard is designed. In some few plants it may be desired to do a considerable amount of lighting while the battery is being charged. It may not be convenient to run the generator except during the evening hours, or it may be necessary to run a considerable number of lights during daylight hours.

To charge the battery requires a pressure higher than the normal lamp voltage, and if the lamps are burned habitually under this pressure they will be abnormally bright and their life reduced. When, therefore, it is necessary to burn many lamps and to charge the battery at the same time, it is customary to provide some means to reduce the charging voltage to the proper value for the lamps, which is approximately 32 volts.

To accomplish this counter cells (resistance cells) may be connected in the lighting circuit while charging is being done, or a switch may be provided by means of which the lighting circuit may be temporarily connected to 13 cells of the battery instead of to the full battery of 16 cells.

Either of these arrangements requires the use of a single pole, double throw switch in addition to the switches provided on the Standard Type E Switchboard. Such a switch is omitted from the Standard Switchboard because it is not ordinarily required. When, however, either the counter cell or end cell regulation feature is desired it can be easily obtained by adding to the Standard Type E Switchboard the counter cell or end cell switch and panel, which is furnished complete with mountings and connections.

List No.		†List Price Each
3069	Counter Cell Switch and Panel, complete.....	\$16 00
2965	3-DDD—5 C. E. M. F. Cells.....	20 20
2972	3-EER—5 C. E. M. F. Cells.....	24 20
2973	3-EER—7 C. E. M. F. Cells.....	28 40

Low Voltage Isolated Plant Apparatus FOR USE WITH 32 VOLT PLANTS

List No.	Fan Motors with Cord and Plug	Watts Used	†List Price
W-180177	12 in. 4 blade, desk and bracket.....	25	\$26.88
W-180118	12 in. 4 blade, mechanically operated.....	27	33.82
W-180181	12 in. 6 blade, desk and bracket.....	30	27.88
W-180182	12 in. 6 blade, mechanically operated.....	32	34.90
W-134184	8 in. 4 blade, desk and bracket.....	24	19.92
W-134194A	8 in. telephone booth.....	10	22.22

Heating Devices

3B	Flatiron.....	350	\$8.00
6R-H	Flatiron.....	525	4.24
614B	Flatiron.....	525	8.00
5825	Toaster.....	440	6.40
3210	Disc Heater.....	450	6.40
3231	Disc Heater.....	600	8.80
5415	Tea Kettle.....	500	16.00
5206	Water Heater.....	300	8.80
5215	Water Heater.....	500	10.40
111	Curling Iron Heater.....	90	4.80
150	Curling Iron Heater.....	90	5.60
113	Curling Iron Heater.....	90	5.60
117	Curling Iron Heater.....	90	4.40
3108	Soldering Iron.....	90	8.00
3130	Soldering Iron.....	300	10.40

Vacuum Cleaners

No. 11	Western Electric-Sturtevant, with tools 122, 135 and 137.....	115	\$65.00
No. 1	Western Electric-Sturtevant.....	115	95.00
No. 2	Western Electric-Sturtevant.....	250	195.00

Washing Machine

Type A	Washing Machine, capacity 6 sheets, 14 shirts.....	275	\$170.00
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Motors

List No.	H. P.	Speed	Winding	Type	†List Price
280298	1/30	1700	Shunt Wound	SD-224	\$21.60
280299	1/15	1700	Shunt Wound	SD-224	25.60
280300	1/10	1700	Shunt Wound	SD-236	27.20
280301	1/8	1700	Shunt Wound	SD-244	28.80
280302	1/6	1700	Compound Wound	SD-246	32.00
280303	1/4	1700	Compound Wound	SD-254	*42.40
280304	1/2	1700	Compound Wound	SD-264	*72.80

*Starter is necessary. Use price of standard 110 volt starter plus 10 per cent.

†Delivery F. O. B. Factory, Schenectady, N. Y. †Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

HYDROLYZABLE POLYURETHANES IN GLASS JARS

LIGHTING PLANT COUNTER CELL EQUIPMENT

[illegible]

the lamps are
When there
to pro-
approximately

10	11	12	13	14	15	16	17	18	19	20
10	11	12	13	14	15	16	17	18	19	20

Either of these two methods can be used to determine the concentration of a solution. The first method is to measure the volume of the solution and the mass of the solute. The second method is to measure the volume of the solution and the mass of the solvent.

Unit Price	Each	Count	Unit Price
\$10.00	9	3050	3-ER
20.00	8	3055	3-ER
30.00	7	3060	3-ER
40.00	6	3065	3-ER
50.00	5	3070	3-ER
60.00	4	3075	3-ER
70.00	3	3080	3-ER
80.00	2	3085	3-ER
90.00	1	3090	3-ER

16 Cells, Type EEG-7 Battery. In Glass Jars Mounted on Rack

For 32 Volt Isolated Electric Plants for Lighting and Power

Hydrazine oxide batteries are particularly adapted for use in small electric lighting plants and central stations where the consideration of initial investment does not allow the use of the more expensive Chloride Accumulators.

88. **Types.** The Hyrax-xide batteries are assembled in glass jars, and are shipped, unassembled. But be assembled and charged by the purchaser, and also in rubber jars, in which case they are charged before shipment and are ready for use upon arrival at destination.

Construction. The batteries are of the "pasted-plate" type, and are made of the same materials and have the same general design as the powerful excite standby batteries used by the Central Lighting and Power Stations in New York, Chicago, Boston, Brooklyn, and other large cities.

Capacity: The Hyrax oxide batteries listed will operate at from about 32 volts at the beginning of the discharge to about 23 volts at the end of discharge.

64 and 110 Volt Service. For 64 volt and 110 volt service the average discharge voltage per cell may be figured at 2 volt on the basis of which 32 cells would be suitable for 64 volt plants and 55 for 110 volts. It is customary, however, to provide 33 cells for 110 volt service.

01. The Type DDG plates are 5 7/8 inches wide and 6 inches high and the elements consist of 5, 7, 11, 13, 15 and 17 plates. 01
EEG plates are 7 3/4 inches wide and 7 3/4 inches high and the elements consist of 5, 7, 9, 11, 13, 15 or 17 plates. Overall height
of Type DDG cells, trays and insulators is 17 1/2 inches and of EEG cells, trays and insulators, 19 1/4 inches. 01

[illegible]

*Balance Material: 16 glass jars, 16 covers and 16 sand trays together with two extra each of the glass jars, covers and sand trays. The necessary number of wood separators, lead tape, bolt connectors, 2 socket wrenches, sand, electrolyte, carbon plugs, hydrometers and packing.

00.00-00.01 Balance Material: 8 glass jars, 3 covers and 3 sand trays. The necessary electrolyte, jug, bolt connectors and

BATTERY RACKS—COMPLETE WITH ALL NUMBERS AND VITRIFIED BRICKS

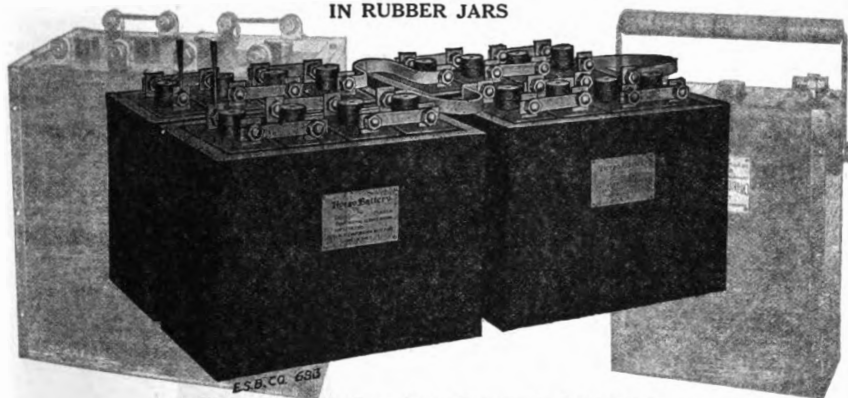
In Ordering State for What Type and Size of Battery the Rack is Desired

For 16 cell battery..... 1.00
For 16 cell battery and 3 C.E. M..... 1.00

For remarks on Complete Counter Cell Equipment see page in this bulletin headed "Lighting Plant Counter Cell Equipment."

****Delivery F. O. B. Philadelphia, Pa.** For warehouse deliveries write nearest house,

IN RUBBER JARS



16 Cell Type DDR-7, Hyrax Exide Batteries in Rubber Jars 185.90

"Hyvay" Exide Batteries

Hy-Tray X-Ray Batteries

OPERATING DATA AND SIZES

Capacity in	No. of Trays	Approximate Dimensions of

[illegible]

LIST PRICES

16 Cell Battery	C.E.M.F. Cells	16 Cell and 3 C.E.M. Cells Complete	
Part No.	List Price	Part No.	List Price
00 3350	130.00	2 32980	\$150.00
02 3351	120.00	2 32981	193.00
02 3352	204.00	2 32982	232.00
02 3353	248.00	2 32983	272.00
02 3354	288.00	2 32984	312.00
02 3355	318.00	2 32985	349.00
02 3357	170.00	2 32986	203.00
02 3358	228.00	2 32987	253.00
02 3359	272.00	2 32988	305.00
02 3360	324.00	2 32989	359.00
02 3361	368.00	2 32990	409.00
02 3362	412.00	2 32991	460.00
2000	456.00	2 32992	513.00

*Delivery F. and B. Factors: 15¢/lb. for 100 lbs. or less; 10¢/lb. for 101 lbs. or more. *Facking charges on portable batteries: 50¢/100 lbs. or less; 20¢/lb. for 101 lbs. or more. over 100 lbs. 50¢ each net.

PORTABLE STORAGE BATTERIES



No. 501



No. 504

"Chloride Accumulator"

For portable use in connection with phonograph, kinetoscope, other small motor work and small electric lamps, the "Chloride Accumulator" is put up in sealed rubber jars enclosed in hardwood case provided with handles and suitable connection terminals. Unless otherwise ordered, portable batteries will be shipped filled with electrolyte and charged ready for service.

Each cell, when discharging, gives approximately two volts, and as all the cells in a case are connected together in series, the number of cells multiplied by two will give the approximate voltage between the outside connectors of each case.

The normal rate is the highest rate in amperes at which the battery should be charged. At this rate the battery will be fully charged in nine hours and discharged in eight hours.

List Prices and Data

List No.	No. of Cells in Case	Type No. of Plates	Normal Ch. and Dis. Rate, Amps.	Outside Dimensions of Case, Inches			Height over Lugs Inches	Weight Lbs. Complete	*List Price Charged
				Length	Width	Height			
301	1	C 3	1 1/4	3 1/4	5 7/8	8 7/8	10 1/8	8	\$7.20
302	2	C 3	1 1/4	5 1/8	5 7/8	8 7/8	10 1/8	14	12.96
303	3	C 3	1 1/4	7	5 7/8	8 7/8	10 1/8	20	18.00
304	4	C 3	1 1/4	8 7/8	5 7/8	8 7/8	10 1/8	26	23.04
305	5	C 3	1 1/4	10 7/8	5 7/8	8 7/8	10 1/8	32	27.36
401	1	D 3	2 1/2	3 1/4	7 7/8	10 1/4	11 1/2	15	9.36
402	2	D 3	2 1/2	5 1/4	7 7/8	10 1/4	11 1/2	26	17.28
403	3	D 3	2 1/2	7	7 7/8	10 1/4	11 1/2	37	23.76
404	4	D 3	2 1/2	8 5/8	7 7/8	10 1/4	11 1/2	48	30.24
405	5	D 3	2 1/2	10 1/2	7 7/8	10 1/4	11 1/2	59	36.00
406	1	D 5	5	4 1/4	7 7/8	10 1/4	11 1/2	24	14.40
407	2	D 5	5	7	7 7/8	10 1/4	11 1/2	43	25.92
408	3	D 5	5	9 7/8	7 7/8	10 1/4	11 1/2	62	37.44
409	4	D 5	5	13	7 7/8	10 1/4	11 1/2	81	46.08
410	5	D 5	5	15 1/2	7 7/8	10 1/4	11 1/2	100	54.72
411	1	D 7	7 1/2	5 1/4	7 7/8	10 1/4	11 1/2	33	17.28
412	2	D 7	7 1/2	9 5/8	7 7/8	10 1/4	11 1/2	58	31.68
413	3	D 7	7 1/2	13	7 7/8	10 1/4	11 1/2	83	43.20
414	4	D 7	7 1/2	16 1/4	7 7/8	10 1/4	11 1/2	108	57.60
415	5	D 7	7 1/2	20 3/4	7 7/8	10 1/4	11 1/2	133	72.00
501	1	E 5	10	4 1/4	9 7/8	12 1/4	13 1/2	33 1/2	20.88
502	2	E 5	10	7 7/8	9 7/8	12 1/4	13 1/2	60	40.32
503	3	E 5	10	10	9 7/8	12 1/4	13 1/2	86 3/4	57.60
504	4	E 5	10	13 1/4	9 7/8	12 1/4	13 1/2	113 1/4	72.00
505	5	E 5	10	15 3/4	9 7/8	12 1/4	13 1/2	140	86.40
506	1	E 7	15	5 3/8	9 7/8	12 1/4	13 1/2	42 1/4	25.92
507	2	E 7	15	9 1/4	9 7/8	12 1/4	13 1/2	82 1/2	50.40
508	3	E 7	15	13 3/4	9 7/8	12 1/4	13 1/2	122 3/4	72.00
509	4	E 7	15	17 3/8	9 7/8	12 1/4	13 1/2	163	86.40
510	1	E 9	20	6 1/2	9 7/8	12 1/4	13 1/2	44 7/8	30.24
511	1	E 11	25	7 5/8	9 7/8	12 1/4	13 1/2	53 1/2	36.00

Packing charges on portable batteries to 100 lbs., \$.25 each; over 100 lbs., \$.50 each net.

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

Rectifiers, Storage Batteries and Lighting Plants

PORTABLE STORAGE BATTERIES



Four SS 9 Signal Cells Assembled in Case. Mfr. No. 8484
(Side of case and jar cut away to show construction)

The "Exide" Battery

Batteries of the "Exide" type have been exclusively used in railway signal and interlocking service to replace primary cells for operating the semaphores. As each cell of storage battery replaces 8 or more primary cells for this service, and the attention required is also reduced to a minimum, their superiority is apparent.

They are also largely used for small motor work where a large capacity for a minimum weight is desirable.

Unless otherwise ordered, these batteries are shipped filled with electrolyte and charged ready for service. Each cell, when discharged, gives approximately two volts, and as all the cells in a case are connected together in series, the number of cells multiplied by two will give the approximate voltage between the outside terminals of each case.

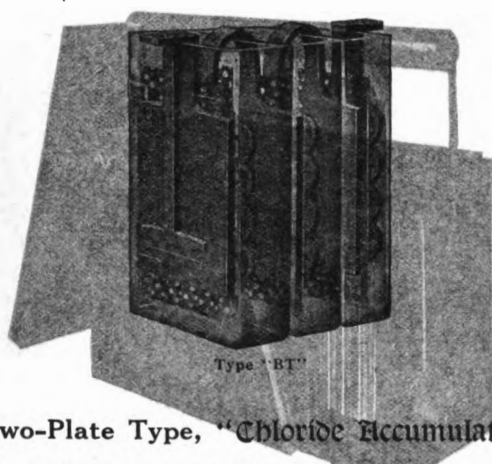
List Prices and Data

List No.	No. of Cells in Case	Type and No. of Plates	Ampere Hour Capacity at Service Rate	Charging Rate in Amperes	Outside Dimensions of Case, in Inches			Weight Complete, in Pounds	†Price Complete, Charged
					*Length	Width	Height		
8462.....	2	SS 5	40	4	5 $\frac{3}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	21	\$20.16
8463.....	3	SS 5	40	4	7 $\frac{7}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	30	29.16
8464.....	4	SS 5	40	4	9 $\frac{1}{2}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	39 $\frac{1}{4}$	38.16
8465.....	5	SS 5	40	4	11 $\frac{1}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	48 $\frac{1}{2}$	47.16
8466.....	6	SS 5	40	4	13 $\frac{3}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	57	56.16
8472.....	2	SS 7	60	6	6 $\frac{7}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	22 $\frac{3}{4}$	24.84
8473.....	3	SS 7	60	6	9 $\frac{1}{2}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	34 $\frac{1}{4}$	36.36
8474.....	4	SS 7	60	6	12 $\frac{1}{2}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	45 $\frac{1}{2}$	47.88
8475.....	5	SS 7	60	6	15 $\frac{1}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	56 $\frac{1}{2}$	59.40
8476.....	6	SS 7	60	6	19 $\frac{1}{2}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	67	70.92
8482.....	2	SS 9	80	8	8 $\frac{1}{4}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	35 $\frac{1}{4}$	29.88
8483.....	3	SS 9	80	8	11 $\frac{1}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	44	43.20
8484.....	4	SS 9	80	8	15 $\frac{1}{8}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	58 $\frac{3}{4}$	56.52
8485.....	5	SS 9	80	8	19 $\frac{1}{4}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	72 $\frac{1}{2}$	69.84
8486.....	6	SS 9	80	8	22 $\frac{3}{4}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	86	83.16
8492.....	2	SS11	100	10	10 $\frac{1}{4}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	42 $\frac{3}{4}$	35.64
8493.....	3	SS11	100	10	14 $\frac{3}{4}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	63	51.48
8494.....	4	SS11	100	10	19 $\frac{1}{2}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	83 $\frac{1}{4}$	67.32
8495.....	5	SS11	100	10	24 $\frac{1}{4}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	103 $\frac{3}{4}$	83.16
8496.....	6	SS11	100	10	28 $\frac{3}{4}$	6 $\frac{1}{2}$	11 $\frac{1}{4}$	123	99.00

*For length over handles and terminals, add 3 inches.

Packing charges on Portable Batteries to 100 lbs., 25 cents each; over 100 lbs., 50 cents each net.

†Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

STORAGE BATTERIES
PORTABLE STORAGE BATTERIES

Two-Plate Type, "Chloride Accumulator"

This type of the "Chloride Accumulator" is especially suitable for service where only a small capacity is required. The positive plate of one cell and the negative plate of the adjacent cell are fused to one connecting strap and the pair are supported on the edges of the two adjacent glass jars.

By this method no connecting bolts or burning are required to install any number of cells in a group, and there are no contacts to corrode or become loose.

These cells have demonstrated their superiority for police and fire alarm signaling, telegraph, laboratory and experimental service.

The resistance between cells is practically eliminated—this feature being an item of importance in cells of small capacity.

Unless otherwise ordered, these batteries are shipped filled with electrolyte and closed ready for service. Each cell, when discharged, gives approximately two volts, and as all the cells in a case are connected together in series, the number of cells multiplied by two will give the approximate voltage between the outside terminals of each case.

List Prices and Data

Type	LT	BT	CT	PT	ET
List No.	08460	08461	08462	08463	08464
Number of plates	2	2	2	2	2
Size, plate, inches	1 1/2 x 3	1 1/2 x 3	5 x 5	8 1/4 x 5	7 1/4 x 7 1/4
*Price, element only	\$0.88	\$1.80	\$2.52	\$3.76	\$5.04
*Price, glass jar, each	.29	.36	.72	1.08	1.38
*Price, glass cover, each	.00	.18	.20	.20	.20
*Price, rubber jar and cover	.00	.94	1.60	2.52	2.96
Discharge in amperes					
For 8 hours	.00	.00	1 1/2	3	4 1/4
For 5 hours	.00	.00	2	4 1/4	6 1/4
For 3 hours	.00	.00	3	6	8 1/2
Normal charge rate	.00	.00	1 1/2	3	4 1/4
Outside dimensions of glass jar, inches					
Length	1 1/2	1 1/2	2 1/4	2 1/2	2 1/2
Width	1 1/2	1 1/2	6 1/4	6	6 3/4
Height	4 1/2	6 1/4	8	12	11 1/2
Outside dimensions of rubber jar, inches					
Length	.00	1 1/2	2	2	2 1/2
Width	.00	3 1/4	5 1/2	5 1/2	5 1/2
Height	.00	6 1/2	8	12 1/2	11 1/2
Weight of electrolyte in glass jar, pounds	.00	1	2 1/4	4 1/2	6 1/4
Weight of electrolyte in rubber jar, pounds	.00	1 1/2	2	2 1/2	2 1/2
Weight of cell complete, with electrolyte in glass jars	.00	.00	.00	.00	.00
Weight of cell complete, with electrolyte in rubber jar	.00	.00	.00	.00	.00
Weight, pounds	.00	.00	.00	.00	.00
Height, inches, to top of lug, glass jar	.00	.00	.00	.00	.00

Packing charges on BT elements, 2 cents each; CT, 4 cents each; PT, 10 cents each net.

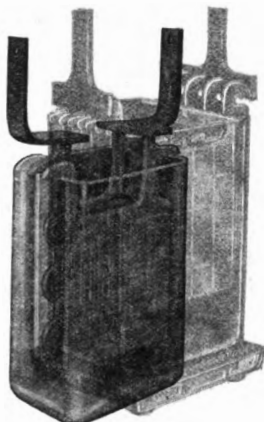
*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

Rectifiers, Storage Batteries and Lighting Plants

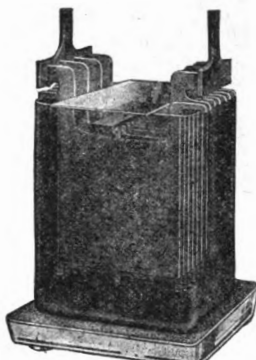
STORAGE BATTERIES



Type B, 3 Plates



Type C, 5 Plates



Type D, 7 Plates

Types B, C and D "Chloride Accumulator"

The three types illustrated comprise cells ranging in capacity from five ampere hours to one hundred and twenty ampere hours at the normal eight-hour discharge rate.

They are supplied in either glass or hard rubber jars and are applicable to a variety of services where small current capacity is required.

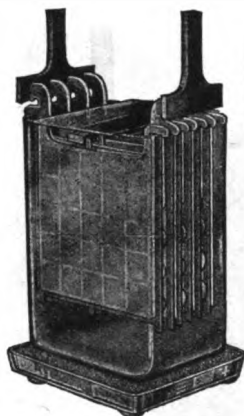
The table gives capacities, dimensions, weights and prices of the various sizes of each of these types.

List Prices and Data												
No. and type of plates	B3	C3	C5	C7	D3	D5	D7	D9	D11	D13		
List No.	08418	08419	08420	08421	08422	08423	08424	08425	08426	08427		
Price, element only, for glass jar	\$2.10	\$3.24	\$5.04	\$7.20	\$4.68	\$9.72	\$12.24	\$14.76	\$17.28	\$19.80		
Price, element only, for rubber jar	2.16	3.24	5.04	7.20	5.12	8.08	11.02	13.98	16.92	19.88		
Price, each, glass jar	.25	.44	.52	.66	1.24	1.44	1.66	2.46	2.96	3.68		
Price, rubber jar and cover	.94	1.38	1.66	2.02	2.10	2.46	2.74	3.90	4.48	5.70		
Size of plate, inches: Type B, 3 x 3; Type C, 4 1/2 x 4; Type D, 6 x 6 1/2												
Delivery: F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house.												
No. and type of plates	B3	C3	C5	C7	D3	D5	D7	D9	D11	D13		
Discharge in amperes	For 8 hours	1 1/4	2 1/2	3 3/4	5 1/2	7 1/2	10	12 1/2	15	17 1/2		
	For 5 hours	1 3/4	3 1/2	5 1/4	7 3/4	10 1/2	14	17 1/2	21	25		
	For 3 hours	1 1/2	2 1/2	3 1/2	5 1/4	7 1/2	10	12 1/2	15	17 1/2		
Normal charge rate		1 1/4	2 1/2	3 3/4	5 1/2	7 1/2	10	12 1/2	15	17 1/2		
Outside dimensions of glass jar, inches	Length	4	5 1/4	5 1/4	7 3/4	7 3/4	10 1/2	10 1/2	10 1/2	10 1/2		
	Width	3 1/4	4 1/4	4 1/4	6 1/4	6 1/4	8 1/4	8 1/4	8 1/4	8 1/4		
	Height	5 1/2	7 1/2	7 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2		
Outside dimensions of rubber jar, inches	Length	4 1/2	5 1/2	5 1/2	7 3/4	7 3/4	10 1/2	10 1/2	10 1/2	10 1/2		
	Width	3 1/2	4 1/2	4 1/2	6 1/2	6 1/2	8 1/2	8 1/2	8 1/2	8 1/2		
	Height	5 1/2	7 1/2	7 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2		
Weight, electrolyte in glass jar, pounds		1	3 1/2	4 1/4	5 1/4	7 3/4	11 1/2	14 3/4	17 3/4	20 3/4		
Weight, electrolyte in rubber jar, pounds		1 1/2	3 1/2	4 1/4	5 1/4	7 3/4	11 1/2	14 3/4	17 3/4	20 3/4		
Weight of cell complete with electrolyte in glass jar, pounds		1 1/2	4 1/2	5 1/2	6 1/2	8 1/2	11 1/2	14 3/4	17 3/4	20 3/4		
Weight, complete with electrolyte in rubber jar, pounds		2 1/2	5 1/2	6 1/2	7 1/2	9 1/2	12 1/2	15 1/2	18 1/2	21 1/2		
Height, from top of lug, glass jar		9 1/2	12	12	12	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2		

Packing charges: B elements, 2 cents each net. C elements, 4 cents each net. D elements, 10 cents each net.

In ordering elements, or parts thereof, specify whether intended for glass or rubber jars.

STORAGE BATTERIES



Type "E" 7

Type E "Chloride Accumulator"

The type E "Chloride Accumulator" is made in six sizes ranging in capacity from 8 ampere hours to 135 ampere hours at the normal 8 hour discharge rate. They are supplied in either glass or rubber jars and are applicable to a variety of uses.

List Prices and Data Size of Plates, 7 $\frac{3}{4}$ Inches by 7 $\frac{3}{4}$ Inches

Number of plates	5	7	9	11	13	15
Discharge in amperes	10	15	20	25	30	35
8 hours	14	21	28	35	42	49
5 hours	20	30	40	50	60	70
3 hours	40	60	80	100	120	140
1 hour	10	15	20	25	30	35
Normal charge rate	5 $\frac{3}{8}$	6 $\frac{3}{8}$	8 $\frac{3}{8}$	9 $\frac{1}{2}$	11	12 $\frac{1}{4}$
Outside dimensions of glass jar, inches	9 $\frac{1}{8}$	9 $\frac{1}{8}$	9 $\frac{1}{8}$	9 $\frac{1}{8}$	9 $\frac{1}{8}$	9 $\frac{1}{8}$
Height	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$
Length	2 $\frac{1}{4}$	3 $\frac{1}{8}$	5	6 $\frac{1}{8}$	8 $\frac{1}{8}$	8 $\frac{1}{8}$
Width	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$
Outside dimensions of rubber jar, inches	11	11	11	11	11	11
Height	14	14	14	14	14	14
Height of cell from bottom of jar to top of strap, inches	17 $\frac{7}{8}$	17 $\frac{7}{8}$	17 $\frac{7}{8}$	17 $\frac{7}{8}$	17 $\frac{7}{8}$	17 $\frac{7}{8}$
In glass jar	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$
In Standard rubber jar	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{1}{2}$
In Yacht type rubber jar	19 $\frac{1}{2}$	19 $\frac{1}{2}$	19 $\frac{1}{2}$	19 $\frac{1}{2}$	19 $\frac{1}{2}$	19 $\frac{1}{2}$
Height of cell, in glass jars, from bottom of glass sand tray to top of strap, inches	18 $\frac{3}{4}$	22	26 $\frac{1}{2}$	27 $\frac{3}{4}$	35 $\frac{3}{4}$	40 $\frac{1}{4}$
Weight of electrolyte, pounds	5 $\frac{1}{2}$	8	10 $\frac{1}{2}$	12	17	18 $\frac{1}{2}$
Weight of cell complete with electrolyte, pounds	57 $\frac{3}{4}$	72	88 $\frac{1}{2}$	101 $\frac{1}{2}$	124 $\frac{1}{4}$	143 $\frac{3}{4}$
In glass jar	29 $\frac{1}{2}$	40 $\frac{1}{2}$	52	63	77	87
In rubber jar	\$11.88	\$16.92	\$21.96	\$27.00	\$32.04	\$37.08
*Price, element only, for glass jar	345	347	349	351	353	355
List No.	\$13.40	\$19.16	\$25.00	\$30.76	\$36.52	\$42.34
*Price, element only, for Standard rubber jar	345S	347S	349S	351S	353S	355S
List No.	\$13.40	\$19.16	\$25.00	\$30.76	\$36.52	\$42.34
*Price, element only, for Yacht type rubber jar	345H	347H	349H	351H	353H	355H
List No.	\$2.16	\$2.46	\$2.68	\$2.96	\$4.18	\$4.90
*Price, glass jar, extra	378	379	380	381	382	383
List No.	\$4.18	\$4.68	\$5.40	\$7.28	\$8.28	\$8.80
*Price, Standard rubber jar and cover, extra	345B	347B	349B	351B	353B	355B
List No.	\$4.90	\$5.70	\$6.56	\$8.28	\$9.94	\$10.44
*Price, Yacht type rubber jar and cover, extra	345Y	347Y	349Y	351Y	353Y	355Y
List No.						

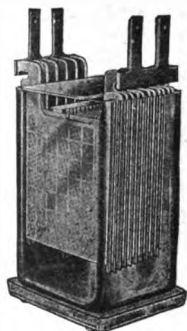
Packing charges, E elements, 15 cents each net.

In ordering elements or parts, specify whether intended for glass or rubber jars.

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

Western Electric COMPANY STORAGE BATTERIES

249



Type "F" 11 in Style A
Glass Jar



Type "F" 15 in Style B
Glass Jar



Type "F" 15 in Wood
Tank

Type F "Chloride Accumulator"

The type F "Chloride Accumulator" is made in ten sizes ranging in capacity from 40 ampere hours to 130 ampere hours at the normal 8 hour discharge rate. They are supplied in styles A and B glass jars, the former elements being fitted with connecting straps and the latter with bus bars. The type F is also furnished in wood tanks.

Size of Plates, 11 inches by 10½ inches

Number of plates	9	11	13	15	17	19	21	23	25	27
Discharge in ampere hours	40	50	60	70	80	90	100	110	120	130
Normal charge rate	5 hours	5 hours	5 hours	5 hours	5 hours	5 hours	5 hours	5 hours	5 hours	5 hours
Outside dimensions of style A glass jar, inches	Length 8½	9¾	11	12¾	12¾	12¾	12¾	12¾	12¾	12¾
Outside dimensions of style B glass jar, inches	Length 12¾	12¾	12¾	12¾	12¾	12¾	12¾	12¾	12¾	12¾
Outside dimensions of lead-lined wood tanks, inches	Length 17	17	17	17	17	17	17	17	17	17
Height of cell in style A glass jar, from bottom of sand tray to top of strap, inches	13¾	15½	16¾	18¾	20	21¾	23¾	25	26¾	28¾
Height of cell in style B glass jar, from bottom of sand tray to top of bus bar, inches	15	15	15	15	15	15	15	15	15	15
Approximate height of cell in wood tank, from floor to top of bus bar, inches	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼
Weight of electrolyte, pounds	23¾	23¾	23¾	23¾	23¾	23¾	23¾	23¾	23¾	23¾
Weight of cell complete with electrolyte, pounds	21¾	21¾	21¾	21¾	21¾	21¾	21¾	21¾	21¾	21¾
Price, element only	32½	32½	32½	32½	32½	32½	32½	32½	32½	32½
List No.	55	59	56½	76	121	143	168	180	191	191
Price, style A glass jar, extra	86	99	111	123	133	145	156	168	180	191
List No.	609A	611A	613A	615A	617A	619A	621A	623A	625A	627A
Price, style B glass jar, extra	174¾	201¾	222½	266½	352	423	532	573	615	615
List No.	250	292	332	372	411	452	492	532	573	615
Price, lead-lined wood tank, extra	\$43.20	\$54.00	\$64.80	\$75.60	\$86.40	\$97.20	\$108.00	\$118.80	\$129.60	\$140.40
List No.	609D	611D	613D	615D	617D	619D	621D	623D	625D	627D

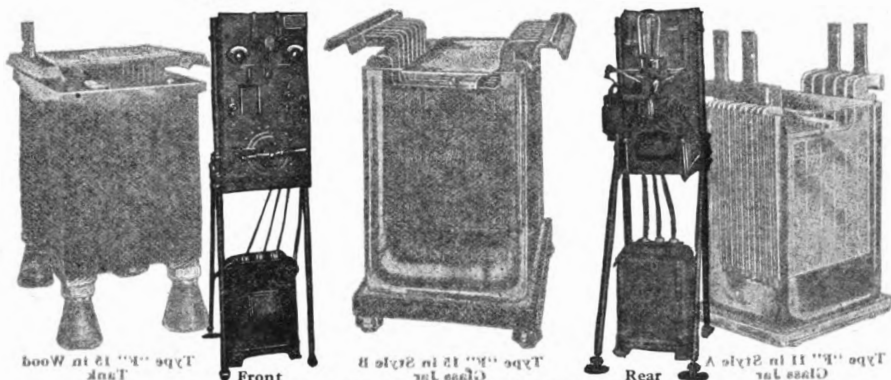
N.B.: In ordering elements, or parts thereof, specify whether intended for glass jars, style A or B, or wood tanks.

Packing charges: F elements, 25 cents each, net. F plates (knocked down), 3 cents per plate, net.

Lead-lined wood tanks, type F, all sizes, 50 cents each, net.

Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

MULTIPLE MERCURY RECTIFIERS



Standard Battery-Charging Rectifier, 60 to 140 Cycles

Standard Battery-Charging Set, 60-140 Cycles

The mercury arc rectifier is used for changing alternating to direct current, efficiently and economically. In the new design rectifier listed below the compensating balance is used in a modified form having no taps except the neutral point and consequently no dial switch, and simply serves the purpose of furnishing a neutral point for the negative side of the direct current and also gives the relative effect necessary to keep the rectifier tube operating during the time which the alternating current takes to cross the zero line.

With Instruments

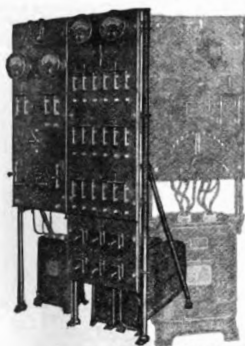
List No.	D.C. Amp.	Range Volts	A.C. Volts	List No. Rectifier Tube	Volt-meter Scale	Ammeter Scale	Cells Lead Battery	Cells Edison Battery	Approx. Ship. Wt.	List Price One Tube Only
148216	10	10-75	110	40949	75	15	5-30	7-40	530	\$315.00
148217	20	10-75	110	40952	75	30	5-30	7-40	540	351.00
148218	30	10-75	110	40953	75	40	5-30	7-40	590	436.00
148219	40	10-75	110	40958	75	60	5-30	7-40	635	468.00
148220	50	10-75	110	47409	75	60	5-30	7-40	660	513.00
148221	10	10-100	110	40940	120	15	5-38	7-54	530	315.00
148222	20	10-100	110	40952	120	30	5-38	7-54	540	351.00
148223	30	10-100	110	40955	120	40	5-38	7-54	590	390.00
148224	40	10-100	110	40958	120	60	5-38	7-54	635	468.00
148225	50	10-100	110	47409	120	60	5-38	7-54	660	513.00
148226	10	75-175	220	40950	175	15	32-68	54-95	530	315.00
148227	20	75-175	220	40953	175	30	32-68	54-95	540	351.00
148228	30	75-175	220	40956	175	40	32-68	54-95	590	405.00
148229	40	75-175	220	40959	175	60	32-68	54-95	635	468.00
148230	50	75-175	220	119431	175	60	32-68	54-95	660	513.00

Without Instruments

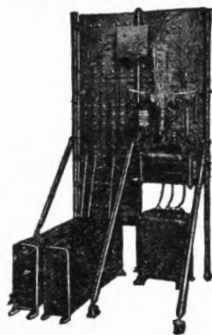
148231	10	10-100	110	40949	120	15	5-38	7-54	530	315.00
148232	20	10-100	110	40952	120	30	5-38	7-54	540	351.00
148233	30	10-100	110	40955	120	40	5-38	7-54	590	390.00
148234	40	10-100	110	40958	120	60	5-38	7-54	635	468.00
148235	50	10-100	110	47409	120	60	5-38	7-54	660	513.00
148236	10	75-175	220	40950	175	15	32-68	54-95	530	315.00
148237	20	75-175	220	40953	175	30	32-68	54-95	540	351.00
148238	30	75-175	220	40956	175	40	32-68	54-95	590	405.00
148239	40	75-175	220	40959	175	60	32-68	54-95	635	468.00
148240	50	75-175	220	119431	175	60	32-68	54-95	660	513.00

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.
 Rectifiers, Storage Batteries and Lighting Plants

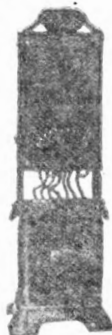
MULTIPLE MERCURY RECTIFIERS



Public Garage Type Rectifier



Commercial Vehicle Type Rectifier



Ignition Type Rectifier

Mercury Rectifiers

COMMERCIAL VEHICLE TYPE

List No.	D.C. Amps	D.C. Volts	A.C. Volts	Rectifier Tube	Ammeter Scale	Volts	Cells Lead Battery	Cells Edison Battery	Approx. Ship. Wt.	List Price
104997	30	80-120	220	40955	40	150	44	60	575	\$306.00
104998	30	80-120	220	40955	No Inst.	No Inst.	44	60	565	351.00
40955	50	80-120	220	47409	60	150	44	60	640	540.00
40956	50	80-120	220	47409	No Inst.	No Inst.	44	60	630	495.00

IGNITION BATTERY CHARGING SETS

List No.	Frequency	A.C. Volts	D.C. Amp.	D.C. Volts	Rectifier Tube	Ammeter Scale	Volts	Approx. Ship. Wt.	List Price
153010	60	110	5	15	40949	10	30	400	\$153.00
153011	60	110	5	15	40949	10	30	400	131.40
153012	60	110	5	15	40949	10	30	400	108.00
153013	60	110	5	30	40949	10	30	400	171.00
153014	60	110	5	30	40949	10	30	400	149.40
153015	60	110	5	30	40949	10	30	400	126.00
153016	60	110	5	45	40949	10	30	400	189.00
153017	60	110	5	45	40949	10	30	400	167.40
153018	60	110	5	45	40949	10	30	400	144.00
153019	60	110	10	15	40948	15	25	400	180.00
153020	60	110	10	15	40949	15	25	400	158.40
153021	60	110	10	15	40949	15	25	400	135.00
153022	60	110	10	30	40949	15	25	400	198.00
153023	60	110	10	30	40949	15	25	400	176.40
153024	60	110	10	45	40949	15	25	400	253.00
153025	60	110	10	45	40949	15	25	400	225.00
153026	60	110	10	45	40949	15	25	400	203.40
153027	60	110	10	45	40949	15	25	400	180.00

MULTIPLE MERCURY RECTIFIER TUBES

List No.	D.C. Amps	D.C. Volts	Voltage Range	List Price	List No.	D.C. Amps	D.C. Volts	Voltage Range	List Price
40949	10	100	1-150	\$18.00	40956	30	200	75-350	\$15.00
40950	20	200	75-350	21.60	40958	40	200	100-150	54.00
40952	20	200	1-150	28.80	40959	40	200	75-350	63.00
40953	20	200	75-350	36.00	47409	50	200	100-150	82.00
40955	30	100	1-150	36.00	119431	50	200	75-350	72.00
119431	60	100	1-150	171.00	171010	60	100	11-15	33.50

List Nos. include only one tube.
 Rectifier tubes will not be sold except with complete rectifier sets or for renewal purposes on C. E. rectifier sets already installed. The above prices include boxing.
 Delivery P. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

MULTIPLE MERCURY RECTIFIERS



With Instruments



Without Instruments

Runabout Type Rectifier

Runabout Type—Normal Frequency, 60 Cycles

This outfit consists of panel, rectifier tube, regulating reactance and compensating reactance. The rectifier panel is 16 inches by 28 inches, and on it is mounted a double pole switch, single pole circuit breaker, a starting switch with auxiliary starting anode switch and an eleven-point regulating switch.

WITH DK-5 INSTRUMENTS

List No.	D-C. Amp.	Range D-C. Volts	A-C. Volts	Mfr. No. Rectifier Tube	Ammeter Scale	Voltmeter Scale	Cells Lead Battery	Cells Edison Battery	Approx. Ship. Wt.	List Price Each
124672.....	30	{ 30-82 30-118	{ 110 220	{ 40955	40	120	{ 20-32 20-46	{ 25-44 25-60	{ 570	\$378.00
124673.....	40	{ 30-82 30-118	{ 110 220	{ 40958	60	120	{ 20-32 20-46	{ 25-44 25-60	{ 610	450.00
124674.....	50	{ 30-82 30-118	{ 110 220	{ 47409	60	120	{ 20-32 20-46	{ 25-44 25-60	{ 670	495.00

WITHOUT INSTRUMENTS

124675.....	30	{ 30-82 30-118	{ 110 220	{ 40955	..	...	{ 20-32 20-46	{ 25-44 25-60	{ 550	\$333.00
124676.....	40	{ 30-82 30-118	{ 110 220	{ 40958	..	...	{ 20-32 20-46	{ 25-44 25-60	{ 600	405.00
124677.....	50	{ 30-82 30-118	{ 110 220	{ 47409	..	...	{ 20-32 20-46	{ 25-44 25-60	{ 650	450.00

MODIFIED TYPE

171690.....	30	30-118	220	40958	*	*	38-46	54-60	540	\$234.00
171691.....	30	30-118	220	40955	*	*	38-46	54-60	540	234.00
171692.....	30	30-118	220	40958	120	60	38-46	54-60	560	279.00
171693.....	30	30-118	220	40955	120	60	38-46	54-60	560	279.00

List Nos. include only one tube.

Battery-Charging Sets—25-60 Cycles

This outfit consists of 1 rectifier tube, 1 compensating reactance, 1 regulating reactance, 1 rectifier panel. The panel is 31 x 16 x 1½ inches. The power factor of these outfits will be about 80 to 85 per cent.

SPECIAL RECTIFIERS—BATTERY-CHARGING TYPE

NORMAL FREQUENCY, 25 CYCLES—FREQUENCY LIMITS, 25-60 CYCLES

115683.....	8-30	{ 15-45 45-75	{ 110 220	{ 40955	40	75	{ 8-17 22-28	{ 9-25 38-40	{ 640	\$495.00
115685.....	8-30	{ 15-45 45-120	{ 110 220	{ 40955	40	120	{ 8-17 22-46	{ 9-25 38-64	{ 640	495.00
115687.....	10-40	{ 15-45 45-75	{ 110 220	{ 40958	60	75	{ 8-17 22-28	{ 9-25 38-40	{ 690	585.00
115689.....	10-40	{ 15-45 45-120	{ 110 220	{ 40958	60	120	{ 8-17 22-46	{ 9-25 38-64	{ 690	585.00
115691.....	15-50	{ 15-45 45-75	{ 110 220	{ 47409	60	75	{ 8-17 22-28	{ 9-25 38-40	{ 720	640.80
115693.....	15-50	{ 15-45 45-120	{ 110 220	{ 47409	60	120	{ 8-17 22-46	{ 9-25 38-64	{ 720	640.80

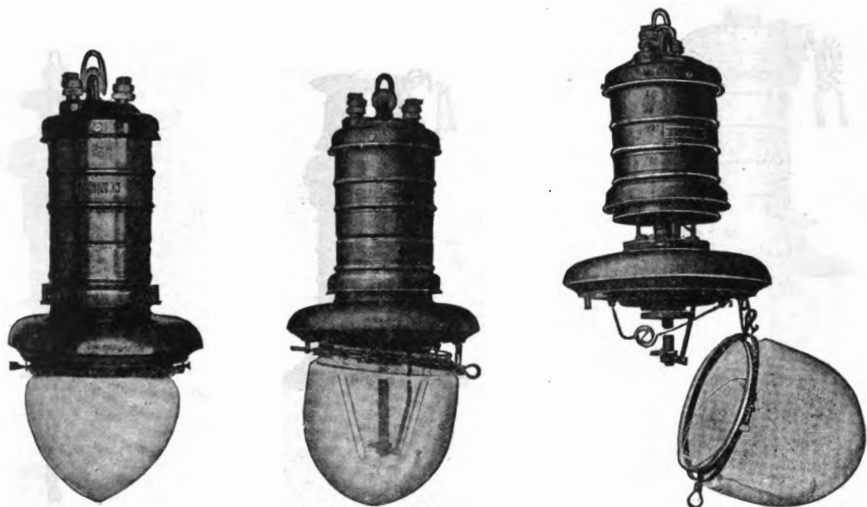
List Nos. include only one tube.

When operated on 125 cycles the voltages given on this page will be about 15 per cent. lower.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries, write nearest house.

Rectifiers, Storage Batteries and Lighting Plants

Western Electric



D. C. Multiple and Power Circuit Form 2, 5 and 6 A. C. Series Form 2, 5 and 6 Series or Multiple
or Multiple Flame Lamp Flame Lamp showing lamp ready for trimming

Long Life Enclosed Flaming Arc Lamps—Type W

The Western Electric Type W Long Life Flaming Arc Lamp is an economical and highly efficient lamp and produces a powerful, penetrating light so that it is especially adapted for illuminating large areas and for general street lighting. It is easily installed in locations where it is impossible to hang any other arc lamp.

Due to a careful choice of the carbons used, as well as an improved and simplified feeding mechanism which not only maintains the proper arc length constantly, but keeps the arc in one fixed position, the maximum quantity, best quality and most efficient distribution of the light are the characteristics which place this lamp far ahead of all others.

The advantages of the Type W Lamp over other types of flaming arc lamps are:

The maximum illumination is 10 degrees below the horizontal. The brilliancy of the illumination remains unimpaired throughout the trim. Either a white or yellow light can be obtained, depending on the carbons used. The arc is steady, burns without any apparent flicker and is always maintained in the same position from the start to end of trim. The carbons have a life of from 120 to 140 hours and only one has to be renewed as the stub at the upper carbon can be used for the lower carbon at the end of each trim. The mechanism is simple and reliable and follows closely the design of the standard enclosed arc lamp, which is familiar to all arc lamp men. The clutch is sensitive but very positive in operation and acts on a machined surface instead of upon the carbons. The focusing rod is suspended from the center of gravity, thereby eliminating friction. The upper carbon holder carries a weight of approximately 12 ounces which crushes any slag that might form on the carbon points. The arc chamber is absolutely air tight, and the protection afforded the inner globe by the outer globe in cold weather prevents the condensation of fumes on the inner globe. All parts of the lamp are accessible. The casing is telescopic, weatherproof and insectproof. The lamp is very easily trimmed. The compensator is highly efficient and noiseless in operation. Ten thousand of the series lamps have been purchased for street lighting by the city of Chicago and additional purchases are contemplated, while thousands of the multiple lamps are in use in the leading industrial plants of the country.

	Lowered Arc Type					Form 4 D.C. Mult. 6.5 Amp. 100-125 Volts	Form 1 A.C. Mult. Compensator 7.5- 10 Amp. 100-125 Volts 60 Cycles
	Form 6 D.C. Mult. 6.5 Amp. 100-125 Volts	Form 5 D.C. P.C. 6.5 Amp. 2 or 5 in Series	Form 2 A.C. Mult. Compensator, 7.5-10 Amp. 100-125 Volts				
			60 Cycle	40 Cycle	25 Cycle		
List Price	\$66.60	\$75.60	\$68.40	\$72.00	\$77.40	\$66.60	\$68.40
List No. of Lamp	26586	26575	26583	26584	26585	26562	26560
List No. of Casing	26547	26547	26587	26587	26587	26547	26457
Length of Lamp, Inches	32	32	34½	34½	34½	32	32
Net Weight of Lamp, Pounds	51	52	62	66	*72	48	57
Ship. Weight of Lamp, Pounds	115	115	125	125	150	115	125
Inner Globe Number	75	75	73	73	73	53	53
Outer Globe Number	16	16	42	42	42	16	16
Size Lower Carbon, Inches	¾ x 5½	¾ x 5½	¾ x 7¼	¾ x 7¼	¾ x 7¼	¾ x 5½	¾ x 6¼
Size of Upper Carbon, Inches	¾ x 14	¾ x 14	¾ x 14	¾ x 14	¾ x 14	¾ x 14	¾ x 12
Life of Carbons, Hours per Trim	100-120	100-120	120-140	120-140	120-140	100-120	100-120
Ship. Weight Carbons, per 100	85	85	85	85	85	85	73
Current at Terminals	6.5	6.5	7.5	7.5	7.5	6.5	7.5
Volts at Terminals	100-125	72-77	100-125	100-125	100-125	100-125	100-125
Watts at Terminals	715	488	540	540	500	715	540
Current at Arc	6.5	6.5	10.5	10.5	10.5	6.5	10.5
Volts at Arc	65-70	65-70	45-50	45-50	45-50	65-70	45-50

* Includes external compensator, 30 pounds.
Delivery F. O. B. Factory, Schenectady, N. Y.

For warehouse deliveries write nearest house.

WATSON

COMPENSARCS FOR MOVING PICTURE ARC LAMPS

Form A, Type A, Form A

COMPENSARCS (CONTINUED)

List Prices and Data									
Model	Volts	Watts	Price	Price	Price	Price	Price	Price	Price
30	110	3	110	110	110	110	110	110	110
40	110	3	110	110	110	110	110	110	110
50	110	3	110	110	110	110	110	110	110
60	110	3	110	110	110	110	110	110	110
70	110	3	110	110	110	110	110	110	110
80	110	3	110	110	110	110	110	110	110
90	110	3	110	110	110	110	110	110	110
100	110	3	110	110	110	110	110	110	110
110	110	3	110	110	110	110	110	110	110
120	110	3	110	110	110	110	110	110	110
130	110	3	110	110	110	110	110	110	110
140	110	3	110	110	110	110	110	110	110
150	110	3	110	110	110	110	110	110	110
160	110	3	110	110	110	110	110	110	110
170	110	3	110	110	110	110	110	110	110
180	110	3	110	110	110	110	110	110	110
190	110	3	110	110	110	110	110	110	110
200	110	3	110	110	110	110	110	110	110
210	110	3	110	110	110	110	110	110	110
220	110	3	110	110	110	110	110	110	110
230	110	3	110	110	110	110	110	110	110
240	110	3	110	110	110	110	110	110	110
250	110	3	110	110	110	110	110	110	110
260	110	3	110	110	110	110	110	110	110
270	110	3	110	110	110	110	110	110	110
280	110	3	110	110	110	110	110	110	110
290	110	3	110	110	110	110	110	110	110
300	110	3	110	110	110	110	110	110	110
310	110	3	110	110	110	110	110	110	110
320	110	3	110	110	110	110	110	110	110
330	110	3	110	110	110	110	110	110	110
340	110	3	110	110	110	110	110	110	110
350	110	3	110	110	110	110	110	110	110
360	110	3	110	110	110	110	110	110	110
370	110	3	110	110	110	110	110	110	110
380	110	3	110	110	110	110	110	110	110
390	110	3	110	110	110	110	110	110	110
400	110	3	110	110	110	110	110	110	110
410	110	3	110	110	110	110	110	110	110
420	110	3	110	110	110	110	110	110	110
430	110	3	110	110	110	110	110	110	110
440	110	3	110	110	110	110	110	110	110
450	110	3	110	110	110	110	110	110	110
460	110	3	110	110	110	110	110	110	110
470	110	3	110	110	110	110	110	110	110
480	110	3	110	110	110	110	110	110	110
490	110	3	110	110	110	110	110	110	110
500	110	3	110	110	110	110	110	110	110
510	110	3	110	110	110	110	110	110	110
520	110	3	110	110	110	110	110	110	110
530	110	3	110	110	110	110	110	110	110
540	110	3	110	110	110	110	110	110	110
550	110	3	110	110	110	110	110	110	110
560	110	3	110	110	110	110	110	110	110
570	110	3	110	110	110	110	110	110	110
580	110	3	110	110	110	110	110	110	110
590	110	3	110	110	110	110	110	110	110
600	110	3	110	110	110	110	110	110	110
610	110	3	110	110	110	110	110	110	110
620	110	3	110	110	110	110	110	110	110
630	110	3	110	110	110	110	110	110	110
640	110	3	110	110	110	110	110	110	110
650	110	3	110	110	110	110	110	110	110
660	110	3	110	110	110	110	110	110	110
670	110	3	110	110	110	110	110	110	110
680	110	3	110	110	110	110	110	110	110
690	110	3	110	110	110	110	110	110	110
700	110	3	110	110	110	110	110	110	110
710	110	3	110	110	110	110	110	110	110
720	110	3	110	110	110	110	110	110	110
730	110	3	110	110	110	110	110	110	110
740	110	3	110	110	110	110	110	110	110
750	110	3	110	110	110	110	110	110	110
760	110	3	110	110	110	110	110	110	110
770	110	3	110	110	110	110	110	110	110
780	110	3	110	110	110	110	110	110	110
790	110	3	110	110	110	110	110	110	110
800	110	3	110	110	110	110	110	110	110
810	110	3	110	110	110	110	110	110	110
820	110	3	110	110	110	110	110	110	110
830	110	3	110	110	110	110	110	110	110
840	110	3	110	110	110	110	110	110	110
850	110	3	110	110	110	110	110	110	110
860	110	3	110	110	110	110	110	110	110
870	110	3	110	110	110	110	110	110	110
880	110	3	110	110	110	110	110	110	110
890	110	3	110	110	110	110	110	110	110
900	110	3	110	110	110	110	110	110	110
910	110	3	110	110	110	110	110	110	110
920	110	3	110	110	110	110	110	110	110
930	110	3	110	110	110	110	110	110	110
940	110	3	110	110	110	110	110	110	110
950	110	3	110	110	110	110	110	110	110
960	110	3	110	110	110	110	110	110	110
970	110	3	110	110	110	110	110	110	110
980	110	3	110	110	110	110	110	110	110
990	110	3	110	110	110	110	110	110	110
1000	110	3	110	110	110	110	110	110	110

Alternating and Direct Current Compensarcs

25, 30 and 35 AMP. OUTLET

General Mechanical Construction

The compensarc is a transforming device built with special reference to operating an alternating hand feed arc lamp with used with picture machines, requiring approximately 35 volts across the arc and a steady current of from 30 to 60 amperes.

The construction of this device is very substantial and embodies all the careful features of design and finish that is carried out in our standard lines of transformers.

Electrical Characteristics

The following embodies some of the principal characteristics of the alternating current compensarc:

- 1. The device has an electrical characteristic which enables it to hold the arc steady at predetermined current values through a considerable range in the height of the arc.
- 2. The current value at short circuit is such that it will not blow the fuse, providing the fuse has a capacity slightly in excess of the normal operating current.
- 3. It is highly efficient, having low core loss and copper loss, resulting in a low operating temperature.
- 4. It has the feature of adjustment of the switch so as to operate at an short circuiting from step to step the circuit is at no time open.
- 5. The compensarc is designed to operate at the same time as the lamp is being operated, and at the same time maintain the stability of the arc.

Connections

The compensarc is a self-contained device and requires no auxiliary rheostats or other controlling mechanisms. Through the top of the cover of the compensarc four leads are brought through porcelain bushings, two of which are marked "Lamp," and these should be connected to the lamp terminals. The other two should be connected to the operating circuit or line. No other connections are necessary.

As this is an alternating current device, there is no positive or negative lead.

DIRECT CURRENT COMPENSARCS

In communities where direct current is supplied to moving picture houses, hand feeds are generally used to cut down the line voltage to the required voltage at the arc. This is, of course, a very inefficient method and in such cases the direct current compensarc should be used. This device consists of a direct current motor built to operate on direct current currents of 115, 230 or 450 volts, directly connected to a direct current generator which runs down the voltage to the voltage required at the arc, approximately 35 volts.

This device shows a very good efficiency and is a very economical device as compared with the hand feed.

General Mechanical Construction

The direct current compensarc is constructed by using two frames connected together by means of a special casting. The sets have two bearings, two field frames and two armatures. The armatures are mounted on one shaft. The sets are constructed with two leads.

Electrical Characteristics

The electrical characteristics of the direct current compensarc are similar to those of the alternating compensarc. However, each frame is equipped with special windings, so as to give a volt ampere characteristic curve, such that when the current at the arc reduces, the voltage increases, thus insuring a stable arc. The compensarc is constructed without using any lamp steadying resistance. On account of the characteristics of the set, if carbons are held in contact, the mains are not short circuited.

The field rheostat can be adjusted to deliver steady arc current from 20 to 45 amperes, approximately.

The sets are designed on the basis of an arc consumption of 25 amperes, 50 volts.

Connections

At the motor end of each set will have three terminals, and the same procedure will be followed in connecting up the set about wound motor, the middle lead being the main line lead. The generator end will be equipped with two terminals connected to the 250 lamp line.

In addition to this, two small leads from the field rheostat are connected direct to a closed circuit rheostat, which rheostat is to be used for adjusting the current of the arc.

Note: See following page for details of construction and wiring.

Western Electric

COMPENSARC (CONTINUED)

Alternating Current Type A, Form 4

List Prices and Data

List No.	K.W.	Volts	Cycles	Shpg. Wt.	List Price
94312	2	110	60	160	\$80.00
94314	2	110	133	155	80.00
94316	2	110	50	160	80.00
97295	2	110	40	170	80.00
94313	2 1/4	220	60	180	96.00
94315	2 1/4	220	133	175	96.00
94317	2 1/4	220	50	180	96.00
97297	2 1/4	220	40	190	96.00

For compensars equipped with ammeter, add \$30.00 list to above prices.

NOTE: Compensars can be built for any three specified ratings of current at 35 volts at the arc. Standard rating of 30-40-60 amp. 35 volts should be furnished wherever it is possible.

D-C to D-C Compensars

35, 50 AND 75 AMP. OUTFIT FOR ONE ARC LAMP ONLY, 50 AND 75 AMP. OUTFIT FOR TWO LAMPS ALTERNATELY

35 Amp. for One Lamp Only			50 Amp. for One Lamp Only			75 Amp. for One Lamp Only			50 Amp. for Two 35 Amp. Lamps Alternately			75 Amp. for Two 50 Amp. Lamps Alternately		
List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price
94511	520	\$289.00	191249	625	\$331.50	191364	700	\$433.50	191291	600	\$425.00	191293	700	\$527.00
94512	640	323.00	191250	985	408.00	191365	1000	518.50	191292	900	527.00	191294	1000	612.00
94513	1000	433.50	191251	1000	476.00	191366	1460	637.50	191252	1050	561.00	191253	1460	731.00

A-C to D-C Compensars

35, 50 AND 75 AMP. OUTFIT FOR ONE ARC LAMP ONLY, 50 AND 75 AMP. OUTFIT FOR TWO LAMPS ALTERNATELY
60 Cycles—1800 R.P.M.

Voltage	Phase	35 Amp. for One Arc Lamp Only			50 Amp. for One Arc Lamp Only			75 Amp. for One Arc Lamp Only			50 Amp. for Two 35 Amp. Arc Lamps Alternately			75 Amp. for Two 50 Amp. Arc Lamps Alternately		
		List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price	List No.	Aprx. Shpg. Wt. in Lb.	List Price
110	3	190411	580	\$314.50	190421	910	\$399.50	191344	1100	\$501.50	190431	1000	\$484.50	191239	1100	\$565.00
220	3	190412	580	314.50	190422	910	399.50	191345	1100	501.50	190432	1000	484.50	191240	1100	595.00
440	3	190413	580	314.50	190423	910	399.50	191346	1100	501.50	190433	1000	484.50	191241	1100	595.00
550	3	190414	580	314.50	190424	910	399.50	191347	1100	501.50	190434	1000	484.50	191242	1100	595.00
110	2	190415	580	314.50	190425	910	399.50	191348	1100	501.50	190435	1000	484.50	191243	1100	595.00
220	2	190416	580	314.50	190426	910	399.50	191349	1100	501.50	190436	1000	484.50	191244	1100	595.00
440	2	190417	580	314.50	190427	910	399.50	191350	1100	501.50	190437	1000	484.50	191245	1100	595.00
550	2	190418	580	314.50	190428	910	399.50	191351	1100	501.50	190438	1000	484.50	191246	1100	595.00
110	1	190419	650	391.00	190429	980	476.00	191352	1100	637.50	190532	1065	561.00	191247	1100	731.00
220	1	190420	650	391.00	190430	980	476.00	191353	1100	637.50	190533	1065	561.00	191248	1100	731.00

A-C to D-C Compensars

35, 50 AND 75 AMP. OUTFIT FOR ONE ARC LAMP ONLY, 50 AND 75 AMP. OUTFIT FOR TWO LAMPS ALTERNATELY
25 Cycles

110	3	191295	600	\$365.50	191305	1000	\$467.50	191354	1300	\$620.50	191315	1050	\$578.00	191325	1300	\$714.00
220	3	191296	600	365.50	191306	1000	467.50	191355	1300	620.50	191316	1050	578.00	191326	1300	714.00
440	3	191297	600	365.50	191307	1000	467.50	191356	1300	620.50	191317	1050	578.00	191327	1300	714.00
550	3	191298	600	365.50	191308	1000	467.50	191357	1300	620.50	191318	1050	578.00	191328	1300	714.00
110	2	191299	600	365.50	191309	1000	467.50	191358	1300	620.50	191319	1050	578.00	191329	1300	714.00
220	2	191300	600	365.50	191310	1000	467.50	191359	1300	620.50	191320	1050	578.00	191330	1300	714.00
440	2	191301	600	365.50	191311	1000	467.50	191360	1300	620.50	191321	1050	578.00	191331	1300	714.00
550	2	191302	600	365.50	191312	1000	467.50	191361	1300	620.50	191322	1050	578.00	191332	1300	714.00
110	1	191303	700	476.00	191313	1050	731.00	191362	1300	858.50	191323	1065	799.00	191333	1300	952.00
220	1	191304	700	476.00	191314	1050	731.00	191363	1300	858.50	191324	1065	799.00	191334	1300	952.00

Panels to Control 35, 50 and 75 Amp. Outfits

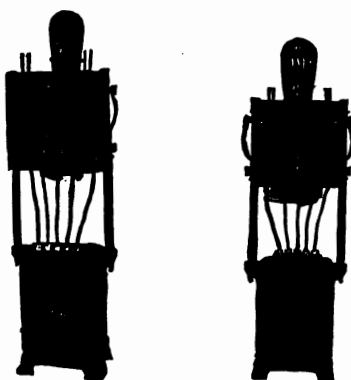
For One Arc Lamp Only

Cycles	Ampers	List No.	Shpg. Wt. in Lbs.	Separate Compensar	With Compensar
60	35	190439	40	\$59.50	\$51.00
25	35				
60-25	50	190440	75	68.00	60.30
60-25	75	191367	75	68.00	60.30

*List Nos. include compensar complete including { 35 ampere EF3 gen. and 3 H.P. motor.
50 ampere EF5 gen. and 5 H.P. motor.
75 ampere EF5 gen. and 7 1/2 H.P. motor.†This outfit should not be sold without panel, which is included in above prices.
Delivery F. O. B. Factory, Ft. Wayne, Ind. For warehouse deliveries write nearest house.

Transformers, Arc Lamps and Accessories

MULTIPLE MERCURY RECTIFIERS



Rectifier for Moving Picture Machines

For Moving Picture Machines

Last No.	Normal Frequency	Frequency Limits	D. C. Amp.	Mfr. No. Rect. Tube	Link or Dial Regulation	Ammeters Scale	List Price Each
158594	60 cycles	50-60 cycles	30	40958	Link	*	\$315.00
158595	60 cycles	50-60 cycles	30		Link	60	338.40
†158596	60 cycles	50-60 cycles	30		Dial	*	315.00
158597	60 cycles	50-60 cycles	30		Dial	60	338.40
158598	60 cycles	50-60 cycles	40		Link	*	387.00
158599	60 cycles	50-60 cycles	40	47409	Link	60	410.40
158600	60 cycles	50-60 cycles	40		Dial	*	387.00
158601	60 cycles	50-60 cycles	40		Dial	60	410.40
†158602	60 cycles	50-60 cycles	50		Link	*	450.00
158603	60 cycles	50-60 cycles	50		Link	60	473.40
†158604	60 cycles	50-60 cycles	50	40958	Dial	*	450.00
158605	60 cycles	50-60 cycles	50		Dial	60	473.40
158606	25 cycles	25-40 cycles	30		Link	*	394.20
158607	25 cycles	25-40 cycles	30		Link	60	417.60
†158608	25 cycles	25-40 cycles	30		Dial	*	394.20
158609	25 cycles	25-40 cycles	30	47409	Dial	60	417.60
158610	25 cycles	25-40 cycles	40		Link	*	484.20
158611	25 cycles	25-40 cycles	40		Link	60	507.60
158612	25 cycles	25-40 cycles	40		Dial	*	484.20
158613	25 cycles	25-40 cycles	40		Dial	60	507.60
158614	25 cycles	25-40 cycles	50	47409	Link	*	563.40
158615	25 cycles	25-40 cycles	50		Link	60	586.80
†158616	25 cycles	25-40 cycles	50		Dial	*	563.40
158617	25 cycles	25-40 cycles	50		Dial	60	586.80

Extra Reactances

For Use with Rectifiers for Charging Telephone Batteries

D.C. RECTIFIERS

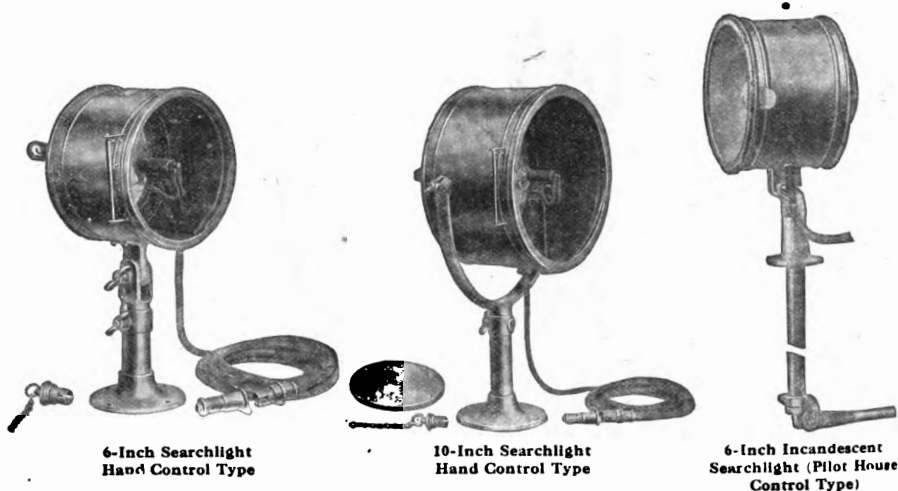
List No.	Amperes	List Price
47554	10	\$61.20
47555	20	86.40
47556	30	108.00
47557	40	154.80
59606	50	172.80

*No instruments.

†Stock sizes and types.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

INCANDESCENT LAMP SEARCHLIGHT



Incandescent Lamp Searchlights

These lamps have been developed to meet the demand of motor boats and other small craft for an efficient and effective searchlight capable of being operated on a low voltage circuit. Boats having no electrical equipment other than a 6 volt storage battery for ignition and a minimum amount of lighting with low voltage incandescent lamps can be supplied with an incandescent lamp searchlight either 6 inches or 10 inches in diameter. The current required for these searchlights is approximately 4 amperes. These searchlights are made up in two types of control, i.e., hand and pilot house. The hand control type is equipped with a pedestal adapted for securing directly to the deck. Deck plates for both 6 inch and 10 inch hand control sizes are furnished on special order. The pilot house control is adapted for mounting on the top of the awning supports or pilot house with a lever controlling the motion of the beam from below and convenient for manipulating.

List No.		List Price Each
230249	6 in. hand control searchlight without deck plate.....	\$32.40
230250	6 in. pilot house control searchlight.....	40.50
230251	10 in. hand control searchlight without deck plate.....	50.40
230252	10 in. pilot control searchlight.....	61.20

Deck Plates Extra

230253	6 in. deck plate.....	\$3.06
230254	10 in. deck plate.....	4.28

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.
Transformers, Arc Lamps and Accessories

"ELECTRA" CARBONS

Pink Label

The "Electra" Pink Label Carbons have no equal for use in **Moving Picture Machines, Stereopticons** or Projector work of any kind, where absolute steadiness of arc and quiet burning are essential. They are equally serviceable on both Direct or Alternating Current.

Quality: "Electra" Pink Label Carbons are made of the very highest grade lamp black, which is manufactured by the carbon factory.

Uniformity: As the "Electra" Pink Label Carbon factory makes its own lamp black it is sure that the raw material is always of the same grade, and for this reason "Electra" Pink Label Carbons are always uniform in quality.

Light: Because of the high grade raw material used in the manufacture of "Electra" Pink Label Carbons, as well as the careful baking, they can always be depended upon to give brilliant steady light.

Arc: It has been proven that "Electra" Pink Label Carbons will draw a much larger arc than any other brand. This is of great advantage in moving picture work for the reason that the operator need not pay all his attention to adjusting the arc.

Resistance: Resistance of "Electra" Pink Label Carbons is very low, which allows a maximum of current at the arc, insuring of course a much more brilliant arc than can be obtained from other brands whose resistance is higher.

Life: "Electra" Pink Label Carbons give longer life than any other brands. This has been proven by a good many practical tests.

Quiet Burning: The use of "Electra" Pink Label Carbons is not accompanied with the hissing and noise which other carbons make, and they always burn very quietly in either A.C. or D.C.

Even Burning: Notwithstanding the high amperage at which carbons are used in moving picture machines "Electra" Pink Label Carbons both upper and lower always burn at an even point, which of course insures a very steady arc, and is not accompanied by a flaring up of the arc which is seen very often with other carbons.

Deposit: Because of the pure material of which "Electra" Pink Label Carbons are made they leave very light deposit, and the operator is therefore not bothered with cleaning his lamp house often of sooty black deposit which he is compelled to do when he uses inferior carbons.

General Advantages: It is a well known fact that carbons are really the most important factors for moving picture projection, and that unless carbons of the very best quality obtainable are used the operator cannot show a clear, well-defined picture. It is, therefore, to the advantage of the operator to always specify "Electra" Carbons, and by doing so he will be assured of getting absolutely the best carbon obtainable.

PINK LABEL CARBONS

For Projectors

Size m/m	Size Inches	Cored	Solid
		List No.	List No.
13 x 150 m/m	1/2 x 6	230046	230070
14 x 150 m/m	5/16 x 6	230047	230071
15 x 150 m/m	1/2 x 6	230048	230072
16 x 150 m/m	5/8 x 6	230049	230073
19 x 150 m/m	3/4 x 6		230074
13 x 175 m/m	1/2 x 7	230050	230075
14 x 175 m/m	5/16 x 7	230051	230076
15 x 175 m/m	1/2 x 7	230052	230077
16 x 175 m/m	5/8 x 7	230053	230078
13 x 190 m/m	1/2 x 7 1/2	230054	230079
14 x 190 m/m	5/16 x 7 1/2	230055	230080
15 x 190 m/m	1/2 x 7 1/2	230056	230081
16 x 190 m/m	5/8 x 7 1/2	230057	230082
13 x 240 m/m	1/2 x 9 1/2	230058	230083
14 x 240 m/m	5/16 x 9 1/2	230059	230084
15 x 240 m/m	1/2 x 9 1/2	230060	230085
16 x 240 m/m	5/8 x 9 1/2	230061	230086
13 x 255 m/m	1/2 x 10	230062	230087
14 x 255 m/m	5/16 x 10	230063	230088
15 x 255 m/m	1/2 x 10	230064	230089
16 x 255 m/m	5/8 x 10	230065	230090
13 x 305 m/m	1/2 x 12	230066	230091
14 x 305 m/m	5/16 x 12	230067	230092
15 x 305 m/m	1/2 x 12	230068	230093
16 x 305 m/m	5/8 x 12	230069	230094
19 x 305 m/m	3/4 x 12	230200	230201

Prices on
Application

Prices on
Application

SERIES INCANDESCENT LIGHTING SYSTEMS

Alternating current is generally supplied at constant potential, consequently, when lamps or other apparatus requiring constant current are used, it is necessary to equip the circuit with some means of transforming from constant voltage supply to constant current. A constant series reactance will maintain approximately constant current if the circuit is highly inductive, but the power-factor will be sacrificed.

In order then to maintain constant current and at the same time a respectable value of power-factor, it is necessary to insert in the circuit a series reactance, which changes with the load in such a manner as to keep the total impedance, and consequently the current, constant.

This variable reactance is obtained in the constant current transformer by means of two coils movable with respect to each other.

In the Western Electric line of movable coil constant current transformers for series incandescent street lighting, one coil is stationary while the other is suspended from a rocker arm to the other end of which weights are attached. These weights, together with the magnetic repulsion between the coils, counter-balance the weight of the secondary coil. At full load the coils should be from 1 to 2 inches apart, and as the load falls off the tendency for the current to rise, due to the decreased resistance of the secondary circuit, is offset by the separation of the coils.

The separation is caused by the greater repulsion of the increased magnetic flux, due to the momentarily increased current in the secondary coil. With the coils farther apart more of the magnetic lines of force from the primary coil go out between the coils as leakage flux and the e.m.f. induced in the secondary is decreased in proportion to the fall in the secondary load, thus maintaining the current at a constant value.

The transformers are designed so that the coils will separate sufficiently to maintain constant current, even when all of the lamps are cut out of the circuit; in other words, they regulate from full load to no load. The center of curvature of the weight sector arm is adjustable, as is also the amount of balancing weight. They can be operated on any primary voltage within 5 per cent. of the normal rated value.

The complete Western Electric line consists of four types of transformers: the Type RB transformer, the Type SA transformer, the Type PD transformer and the Type SL transformer.

The Type RB transformer has the best electrical and mechanical characteristics, and is without doubt the most efficient constant current transformer on the market.

The Type SA transformer contains in its design and construction the highest grade of material, and is to be considered where initial cost is the important factor.

The Type PD transformer has been designed for controlling certain classes of street lighting, where it is desirable to mount the transformer on a pole, and operate it with a time switch. As this transformer has no moving parts, it is well adapted to fill this condition. It is similar in general appearance to the Type H constant potential transformer. In operating high efficiency incandescent lamps it will allow a smaller variation between full load and short circuit than any device on the market except the movable coil C.C. transformer.

A considerable field exists where a transformer of this kind can be used. The field can be divided into two parts, as follows:

1. Where lighting companies run transmission lines through small villages where no lighting is done at the present time, this Type PD transformer will make it possible to install ten to thirty incandescent lamps without necessitating an attendant to watch the operation of the transformer or lamps, the transformer being turned on and off by means of a time switch.

At the present time, these villages are not lighted for the reason that the cost of running special wires from the nearest central station is so high as to make it prohibitive and it is entirely out of the question to put in a central station and employ an attendant to care for the few number of lamps that would be used in these small villages.

2. The transformer will be used extensively in city and suburban lighting where it does not seem desirable to run high voltage series circuits.

Briefly, the field for which the Type PD constant current transformer is particularly adapted lies along high potential transmission lines, in small villages and with lighting plants where first cost is the determining factor.

This transformer is oil cooled and is mounted in a cast iron tank which is weatherproof, being provided with a gasket beneath the cover which prevents the entrance of dust and moisture. The cover is securely clamped down by eyebolts which serve also for lifting the transformer. To simplify installations the two primary and secondary leads are brought out of the tank. The coils have ample oil ducts, which insure a low and uniform temperature throughout the windings. The core and coils are subjected to the well-known vacuum drying and compound filling process, leaving the transformer in a solid moisture-proof and oilproof unit, which is securely bolted in the tank.

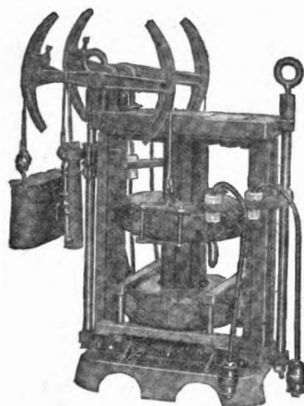
The transformer is so designed that it will not be injured when subjected to swinging or dead grounds in any part of the secondary circuit.

It is also designed to have an open circuit voltage which will positively puncture the film cutout when lamp burns out.

The Type PD transformer is desirable because of the fact that it is complete in itself and has no external reactance or choke coils, as it is free from moving parts and it requires no more attention than the ordinary lighting transformer.

The Type SL transformer is intended for lighting series incandescent lamps from series arc circuits. There are numerous places where it is economical to install these transformers, such as railroad bridges, alleys, etc.

TYPE RB CONSTANT CURRENT TRANSFORMER



Type RB

Type RB Constant Current Transformer

1100 and 2200 Volt Primary—60 Cycles

1100 and 2200 Volt Primary—60 Cycles											
K.W. Output Unit Power- Factor	Capa- city in Arc Lamps	Secondary Amperes	†List Price Trans- former	‡Panels to Control						†Panel to Control One Single Secondary Transformer with Two Lamp Circuits	
				One Transformer		Two Transformers		Three Transformers			
				*List Price	Shpg. Wt.	*List Price	Shpg. Wt.	*List Price	Shpg. Wt.	*List Price	Shpg. Wt.
3	4	4.0, 5.5, 6.6 or 7.5	\$360	\$115	300	\$200	375	\$280	475	\$145	350
5	8	4.0, 5.5, 6.6 or 7.5	410	115	300	200	375	325	475	145	350
10	15	4.0	500	130	325	230	425	325	550	160	350
15	20	5.5, 6.6 or 7.5	500	115	300	200	375	280	475	145	350
20	25	4.0	610	130	325	230	425	325	550	160	350
25	30	5.5, 6.6 or 7.5	610	115	300	200	375	280	475	145	350
30	35	4.0, 5.5, 6.6 or 7.5	720	130	350	230	425	325	550	160	350
132	50	4.0, 5.5, 6.6 or 7.5	875	130	350	230	425	325	550	160	350
136	50	6.6	1090	130	325	.....	.....	.....	.....	160	325
148	75	7.5	1090	130	325	.....	.....	.....	.....	160	325
154	75	6.6	1320	130	325	.....	.....	.....	.....	160	325
164	100	7.5	1320	130	325	.....	.....	.....	.....	160	325
172	100	6.6	1550	130	325	.....	.....	.....	.....	160	325
172	100	7.5	1550	130	325	.....	.....	.....	.....	160	325

*Panels listed above are designed for 2200 volts, 25 to 140 cycles and will be so furnished unless otherwise specified.
 †1100 volt panels may be furnished without extra charge.
 ‡For sub-base with watt hour meter, add to list price \$145. Approximate shipping weight, 250 lbs.
 These transformers are furnished with casings, and have taps for 60, 70, 80 and 90 per cent. of full load. The 60 and 70 per cent. taps should not be used for incandescent loads.

60 CYCLE TRANSFORMERS

60 CYCLE TRANSFORMERS																	
K.W. Output			Efficiency			Power Factor			Prim. Amps.		Transformer K.V.-A. Input	Sec. Load Volts					
60 Cyc.	125 Cyc.	133 Cyc.	Full Load	$\frac{1}{2}$	$\frac{1}{4}$	Full Load	$\frac{1}{2}$	$\frac{1}{4}$	1100 Volts	2200 Volts		4 Amp.	5.5 Amp.	6.6 Amp.	7.5 Amp.		
3.0	2.5	1.5	91.5	89.5	85.5	75.5	80.8	62.8	43.0	23.0	3.68	1.84	4.5	750	545	455	400
5.0	4.5	2.75	92.5	90.5	86.5	78.0	82.0	63.0	43.0	23.0	5.9	2.95	7.0	1250	910	758	667
10.0	7.75	4.0	93.5	92.0	88.5	81.5	82.5	63.2	43.2	23.0	11.56	5.78	13.75	2500	1820	1518	1333
15.0	13.0	7.0	94.5	93.0	90.5	84.0	83.2	63.2	43.2	23.2	17.32	8.66	20.75	3760	2730	2275	2000
20.0	18.5	9.0	95.0	93.8	91.0	85.0	83.6	63.5	43.4	23.2	22.22	11.11	26.5	5000	3635	3030	2668
25.0	21.5	12.0	95.2	94.0	91.5	85.5	83.8	63.5	43.4	23.2	27.82	13.91	33.0	6250	4545	3790	3335
30.0	31.0	20.5	96.1	95.1	93.1	87.5	91.4	69.2	47.0	24.8	32.8	16.4	40.0	.....	.....	4850	.....
35.0	33.5	21.5	96.4	95.4	93.6	88.4	90.0	68.1	46.1	24.2	37.2	18.6	45.0	.....	.....	4800	.....
40.0	46.0	31.5	96.1	95.0	92.9	87.3	90.3	70.5	47.9	25.3	48.2	24.1	58.0	.....	.....	7250	.....
45.0	49.5	32.5	96.3	95.3	93.4	88.0	92.0	66.7	47.1	24.8	54.70	27.35	65.0	.....	.....	7200	.....
50.0	51.5	41.5	96.7	95.8	94.0	89.1	92.5	70.0	47.4	24.7	64.1	32.1	78.0	.....	.....	9700	.....
55.0	55.5	42.0	96.9	96.0	94.4	89.9	91.5	61.0	46.7	24.3	73.2	36.6	88.0	.....	.....	9600	.....

60 CYCLE TRANSFORMERS OPERATED AT 125 CYCLES

2.5	...	...	91.5	89.2	85.0	74.5	67.5	51.8	35.8	18.5	...	...	...	...	...	...
4.5	...	...	92.5	90.4	86.5	77.2	68.0	51.8	35.8	18.6	...	...	...	...	...	...
7.75	...	...	94.0	92.0	89.0	81.0	68.5	52.2	36.0	19.0	...	...	...	...	...	...
13.0	...	...	94.5	93.4	91.0	84.0	68.5	52.2	36.0	19.0	...	...	...	...	...	...
16.5	...	...	95.0	94.0	91.5	85.5	70.0	52.5	36.2	19.2	...	...	...	...	...	...
21.5	...	...	95.5	94.5	92.5	86.5	70.0	52.5	36.2	19.2	...	...	...	...	...	...
23.5	...	...	96.8	96.0	94.4	89.8	86.5	65.3	44.2	23.4	...	...	...	...	...	...
40.0	...	...	97.1	96.3	95.8	90.7	84.5	63.7	43.0	22.2	...	...	...	...	...	...
49.5	...	...	97.6	97.0	96.5	92.5	87.2	66.0	44.5	22.8	...	...	...	...	...	...
61.5	...	...	97.8	97.3	96.6	93.3	87.2	66.0	44.5	22.8	...	...	...	...	...	...
72.0	...	...	97.0	96.2	95.0	90.5	89.3	67.5	45.5	23.5	...	...	...	...	...	...
85.5	...	...	97.3	96.6	95.2	91.2	86.0	65.0	43.7	22.5	...	...	...	...	...	...

Delivery F. O. B. Schenectady, N. Y. For warehouse deliveries, write nearest house.

Western Electric

SA Constant Current Transformers and Regulators



Switchboard Panels

List No	No of Regulators	No of Transformers	No of Circuits	Max Trans Secondary Voltage	Size of Panels in Inches	Ship Wt.	**List Price
190967	1	1	1	2300	28 by 16	300	\$110
190968	2	2	2	2300	28 by 24	375	195
190969	3	3	3	2300	28 by 36	500	280
190970	1	1	1	6600	28 by 16	325	130
190971	2	2	2	6600	28 by 24	425	225
190972	3	3	3	6600	28 by 36	550	325
190973	1	1	2	2300	36 by 16	350	135
190974	1	1	3	2300	36 by 20	425	160
190975	1	1	2	6600	40 by 16	375	145
190976	1	1	3	6600	40 by 20	450	170

Type SA Transformers and Regulators

SA Regulators and Transformers

KW Out- put	**List Price			Transformer Secondary Volts								Primary Amp.		Trans- former KVA Input
	Regu- lator Only	Trans- former Only	Regu- lator and Trans- former Only	4.0 Ampere		5.5 Ampere		6.6 Ampere		7.5 Ampere		1100 Volts	2200 Volts	
				Full Load	No Load	Full Load	No Load	Full Load	No Load	Full Load	No Load			
3	\$159	\$109	\$268	750	890	545	618	455	540	400	475	3.2	1.6	3.56
5	189	127	316	1250	1385	910	1010	760	840	670	740	5.2	2.6	5.73
7½	200	150	350	1875	2065	1365	1500	1140	1250	1000	1100	7.8	3.9	8.50
10	202	175	377	3750	2740	2730	1990	2280	1660	2010	1460	10.2	5.1	16.9
15	261	273	534	3750	4125	2730	3000	2250	2500	2010	2200	15.4	7.7	22.4
20	351	313	664	5000	5475	3640	3980	3040	3320	2680	2925	20.4	10.2	28.0
25	388	399	787	.....	.....	4550	4980	3800	4150	3350	3650	25.4	12.7	28.0
30	392	454	846	.....	.....	5160	5970	4560	4975	4020	4380	30.4	15.2	33.5

Efficiencies and Power Factor

4 TO 7.5 AMPERES—60-140 CYCLES

KW Output	Transformer			Regulator			Combined Regulator and Transformer			Power Factor of System		
	Full Load	¾	½	Full Load	¾	½	Full Load	¾	½	Full Load	¾	½
3	95.8	95.3	92.7	98.5	93.2	90.0	92.5	88.8	83.4	94.5	93.4	65.0
5	96.8	96.4	91.4	97.4	93.5	90.0	94.3	90.4	81.9	94.2	93.2	65.0
7½	97.0	96.6	94.6	97.7	93.5	91.2	94.8	90.2	85.3	94.0	92.7	79.0
10	97.2	96.8	94.9	98.0	93.6	91.5	95.3	90.6	86.8	93.8	92.5	74.0
15	97.5	97.3	95.9	98.3	95.6	92.5	95.7	93.0	88.8	93.5	92.8	71.0

KW Output	Transformer			Regulator			Combined Regulator and Transformer			Power Factor of System		
	Full Load	¾	½	Full Load	¾	½	Full Load	¾	½	Full Load	¾	½
20	97.8	97.6	97.1	95.2	98.5	96.4	94.8	92.0	96.3	94.2	92.1	87.7
25	97.9	97.7	97.5	95.5	98.6	96.5	94.8	92.0	96.5	94.3	92.5	88.0
30	97.9	97.8	97.3	95.5	98.6	96.5	95.0	92.5	96.5	94.4	92.5	88.4

Prices and data Horn Type Arresters, see Bulletin 30, arrester section.

DIMENSIONS AND WEIGHTS

K.W.	Regulator			Transformer			
	Floor Space in Inches	Height in Inches	Shipping Weight	K.V.-A.	Floor Space in Inches	Height in Inches	Gall. Oil
3	13½ by 13½	20	160	3	14½ by 11	21	None
5	16 by 20	30	280	5	14½ by 11	23	None
7½	16 by 20	30	300	7½	17 by 17	24	14
10	21 by 20	30	365	10	17 by 17	33	16
15	21 by 20	30	450	15	21 by 21	31½	20
20	26 by 20	30	610	20	21 by 21	37½	25
25	26 by 20	30	690	25	21 by 21	41½	30
30	21 by 27	43	725	30	25 by 25	43½	40

*amp capacity in kilowatts at unity power-factor load, with an allowance for line loss.

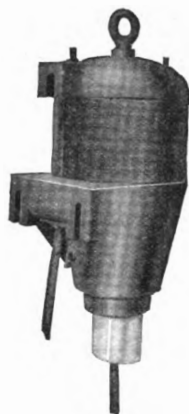
**Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries, write nearest house.

Transformers, Arc Lamps and Accessories

CURRENT AND SERIES TRANSFORMERS



Type PD Current Transformer



Type SL Series Transformers

Type PD Constant Current Transformer

K.W. Out- put	*List Price Each	Pri- mary Volts	Sec. Amps	Sec. Load Volts	Power Factor				Efficiencies				Load Amperes				Open Cir. Volt Sec.	
					Full Load	¾	½	¼	Full Load	¾	½	¼	Full Load	¾	½	¼		Short Circuit
1.0	\$200	2200	6.6	152.	38.	30.	22.	13.	84.4	80.0	72.5	56.6	6.4	6.57	6.69	6.77	6.8	433.
2.0	225	2200	6.6	303.	37.	28.	20.	11.	87.5	83.7	72.3	62.8	6.4	6.57	6.69	6.77	6.8	866.
3.0	250	2200	6.6	455.	36.	28.	19.	11.	88.5	85.0	79.0	64.1	6.4	6.56	6.69	6.77	6.8	866.
5.0	325	2200	6.6	758.	35.	26.	18.	10.	92.6	87.3	82.0	68.7	6.4	6.56	6.69	6.77	6.8	1300.
7.5	350	2200	6.6	1135.	35.	26.	18.	10.	92.7	90.2	86.0	75.0	6.4	6.56	6.69	6.77	6.8	2190.
10.0	425	2200	6.6	1515.	35.	26.	18.	10.	92.8	90.3	86.3	75.3	6.4	6.56	6.69	6.77	6.8	4330.

PRIMARY VOLTAGE

The size of fuse to be used in the primary fuse box is given in the following table:

Size of Transformer	200 to 300	400 to 600	1000 to 1200	2000 to 2400	3300
1 K.W.	15 amp.	10 amp.	3 amp.	2 amp.	1 amp.
2 K.W.	30 amp.	15 amp.	10 amp.	3 amp.	2 amp.
3 K.W.	40 amp.	20 amp.	10 amp.	5 amp.	3 amp.
5 K.W.	75 amp.	40 amp.	15 amp.	10 amp.	5 amp.
7 1/2 K.W.	100 amp.	60 amp.	25 amp.	15 amp.	10 amp.
10 K.W.	150 amp.	75 amp.	30 amp.	15 amp.	10 amp.

SL Series Transformers

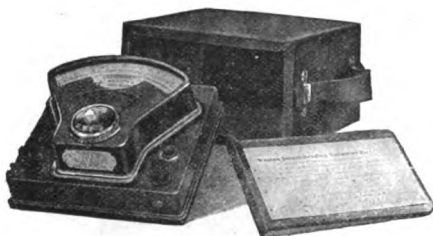
FOR OPERATING SERIES INCANDESCENT LAMP AT LOW VOLTAGE

On 60 Cycle Series Arc or Incandescent Systems

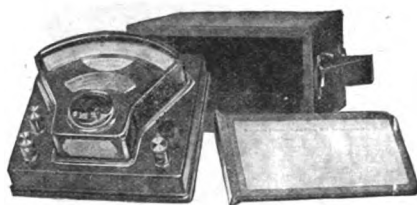
K.W.	*List Price Pole Type	*List Price Subway Type	Amperes		Shpg. Wt. Lbs.
			Primary	Secondary	
0.04	\$30.00	\$35.00	4.0	4.0	20
0.10	35.00	45.00	4.0	4.0	40
0.25	40.00	55.00	4.0	4.0	60
0.50	45.00	60.00	4.0	4.0	75
1.00	60.00	80.00	4.0	4.0	80
2.00	100.00	110.00	4.0	4.0	100
0.04	30.00	35.00	5.5	5.5	20
0.10	35.00	45.00	5.5	5.5	40
0.25	40.00	55.00	5.5	5.5	60
0.50	45.00	60.00	5.5	5.5	75
1.00	60.00	80.00	5.5	5.5	80
2.00	100.00	110.00	5.5	5.5	100
0.04	30.00	35.00	6.6	6.6	20
0.10	35.00	45.00	6.6	6.6	40
0.25	40.00	55.00	6.6	6.6	60
0.50	45.00	60.00	6.6	6.6	75
1.00	60.00	80.00	6.6	6.6	80
2.00	100.00	110.00	6.6	6.6	100
0.04	30.00	35.00	7.5	7.5	20
0.10	35.00	45.00	7.5	7.5	40
0.25	40.00	55.00	7.5	7.5	60
0.50	45.00	60.00	7.5	7.5	75
1.00	60.00	80.00	7.5	7.5	80
2.00	100.00	110.00	7.5	7.5	100

*Delivery F. O. B. Schenectady, N. Y. For warehouse deliveries, write nearest house.

WESTON INSTRUMENTS



Model 1 Voltmeter



Model 1 Ammeter

Model 1 Standard Portable Voltmeters and Ammeters

MODEL 1 DC VOLTMETER
For Direct Current

List No.	Range in Volts	No. of Scale Divisions	Value of Each Scale Division in Volts	Readable to	Attachments	*List Price Each
1	150	150	1	$\frac{1}{10}$ of a Volt	Contact Key	\$110.00
2	150	150	1	$\frac{1}{10}$ "		115.00
3 $\frac{1}{2}$	$\left. \begin{matrix} 150 \\ 3 \end{matrix} \right\}$	150	$\left\{ \begin{matrix} 1 \\ \frac{1}{50} \end{matrix} \right.$	$\left\{ \begin{matrix} \frac{1}{10} \\ \frac{1}{500} \end{matrix} \right.$		150.00
4	$\left\{ \begin{matrix} 150 \\ 15 \\ 300 \end{matrix} \right.$	150	$\left\{ \begin{matrix} 1 \\ \frac{1}{10} \end{matrix} \right.$	$\left\{ \begin{matrix} \frac{1}{10} \\ \frac{1}{100} \end{matrix} \right.$		150.00
4 $\frac{1}{2}$	$\left\{ \begin{matrix} 150 \\ 300 \end{matrix} \right.$	150	$\left\{ \begin{matrix} 1 \\ 2 \end{matrix} \right.$	$\left\{ \begin{matrix} \frac{1}{10} \\ \frac{1}{5} \end{matrix} \right.$		155.00
5	300	150	2	$\frac{1}{5}$ "		130.00
6	450	150	3	$\frac{1}{3}$ "		130.00
7	600	120	5	$\frac{1}{2}$ "		130.00
9	$\left\{ \begin{matrix} 600 \\ 150 \end{matrix} \right.$	150	$\left\{ \begin{matrix} 1 \\ 5 \end{matrix} \right.$	$\left\{ \begin{matrix} \frac{1}{10} \\ \frac{1}{5} \end{matrix} \right.$		160.00
9 $\frac{1}{2}$	$\left\{ \begin{matrix} 150 \\ 750 \end{matrix} \right.$	150	$\left\{ \begin{matrix} 1 \\ 5 \end{matrix} \right.$	$\left\{ \begin{matrix} \frac{1}{10} \\ \frac{1}{5} \end{matrix} \right.$		160.00
10	$\left\{ \begin{matrix} 600 \\ 300 \end{matrix} \right.$	150	$\left\{ \begin{matrix} 4 \\ 2 \end{matrix} \right.$	$\left\{ \begin{matrix} \frac{1}{10} \\ \frac{1}{5} \end{matrix} \right.$		160.00
11	750	150	5	$\frac{1}{2}$ "		140.00

Any of the above with reversing key, price, extra, \$5.00.

When reversing key is applied, contact key is omitted.

Prices for instruments with ranges other than those listed will be the same as for those of the next higher range.

MODEL 1 DC AMMETER

For Direct Current

These instruments are extremely compact and will be found very serviceable for rapid work. To provide sufficient carrying capacity for the self-contained shunts, it has been found necessary to make them in three sizes, the main difference being in the arrangement of the binding posts.

List No.	Range in Amperes	No. of Scale Divisions	Value of Each Scale Division in Amperes	Readable to	*List Price Each
1	5	100	$\frac{1}{20}$	1/200 of an Ampere	\$130.00
2	15	150	$\frac{1}{10}$	1/100 " "	130.00
3	25	100	$\frac{1}{4}$	1/40 " "	130.00
4	50	100	$\frac{1}{2}$	1/20 " "	130.00
5	100	100	1	1/10 " "	140.00
6	150	150	1	1/10 " "	150.00
7	200	100	2	1/5 " "	160.00
8	250	125	2	1/5 " "	160.00
9	300	150	2	1/5 " "	160.00
10	400	80	5	1/2 " "	180.00
11	500	100	5	1/2 " "	180.00

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
Measuring and Testing Instruments

WESTON INSTRUMENTS

Multipliers for Model 1 Standard Portable Voltmeters

For Direct Current

Multipliers are resistance boxes, the coils in which are highly insulated, and are adjusted so that the readings of the instrument may be multiplied by any desired constant. Multipliers are usually constructed so that the indications of the pointer, multiplied by 2, 5, 10, 20 or 50, will give the potential of the circuit.

The multipliers listed below have been designed for use in connection with direct-current voltmeters and are generally used with 120 and 150-volt instruments. Intermediate ranges or subdivisions will be provided when ordered. By the use of the multipliers, the range of voltmeters may be increased to any practical limit.

Multiplying Constant of	Range in Volts of Voltmeter and Multiplier Combined	*List Price Each	Multiplying Constant of	Range in Volts of Voltmeter and Multiplier Combined	*List Price Each
2 for 150 Volts.....	300	\$20.00	30 for 150 Volts.....	4500	\$140.00
4 for 150 Volts.....	600	30.00	50 for 100 Volts.....	5000	160.00
5 for 150 Volts.....	750	40.00	40 for 150 Volts.....	6000	180.00
10 for 120 Volts.....	1200	50.00	65 for 100 Volts.....	6500	200.00
10 for 150 Volts.....	1500	60.00	60 for 120 Volts.....	7200	210.00
20 for 100 Volts.....	2000	80.00	50 for 150 Volts.....	7500	220.00
15 for 150 Volts.....	2250	90.00	60 for 150 Volts.....	9000	260.00
25 for 100 Volts.....	2500	100.00	100 for 100 Volts.....	10000	300.00
20 for 150 Volts.....	3000	100.00	100 for 120 Volts.....	12000	350.00
25 for 150 Volts.....	3750	120.00	100 for 150 Volts.....	15000	400.00
40 for 100 Volts.....	4000	130.00			

For subdivisions, add \$10.00 to above prices for each additional range.

Special prices will be quoted for multipliers for instruments of other ranges than above.

Model 56 Portable Duplex Instruments

Direct Current



Model 56 Duplex

These Duplex Instruments consist of a voltmeter and an ammeter combined in one case. The case is of highly finished natural cherry, has a strongly hinged cover, and serves as a carrying box. All connections are made by means of binding-posts inside of the case. These posts are plainly marked, showing their polarity and to which side of the instrument they are connected.

These instruments are regularly supplied with a single-range voltmeter and a single-range ammeter; they will be supplied, however, with either 2 voltmeter movements or 2 ammeter movements of like or different ranges, if so desired. The voltmeter side may be obtained with a double range at a slight increase in cost. The ammeter is furnished only in single ranges up to 100 amperes with a self-contained shunt, but if multiple or higher ranges are desired they can be obtained by the use of external shunts.

These instruments will be found serviceable for all ordinary testing in which a greater degree of accuracy than 1 per cent. is not desired.

***List Prices**

Range in Amperes	Range in Volts					
	75	150	300	450	600	750
5.....	\$90.00	\$95.00	\$100.00	\$105.00	\$110.00	\$120.00
15.....	90.00	95.00	100.00	105.00	110.00	120.00
25.....	90.00	95.00	100.00	105.00	110.00	120.00
50.....	90.00	95.00	100.00	105.00	110.00	120.00
100.....	90.00	95.00	100.00	105.00	110.00	120.00
150.....	90.00	95.00	100.00	105.00	110.00	120.00
200.....	96.00	101.00	106.00	111.00	116.00	126.00
250.....	96.00	101.00	106.00	111.00	116.00	126.00
300.....	96.50	101.50	106.50	111.50	116.50	126.50
400.....	97.00	102.00	107.00	112.00	117.00	127.00
500.....	98.00	104.00	109.00	114.00	119.00	129.00

Upon application prices will be quoted for ranges or combinations of ranges not included in the above list.

If the voltmeter is desired with a double range, add \$6.00 to the list price for higher range.
Specify voltage desired in ordering.

*Delivery F. O. B. factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS



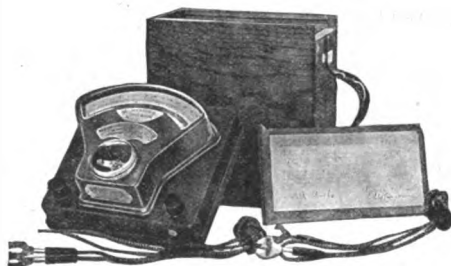
Model 1 Voltmeter

Weston Standard Portable Voltmeters, Model 1, Inspectors' Style**For Direct Current**

Classified as "Inspectors' Style," we furnish voltmeters securely fastened in highly polished mahogany cases. All of these instruments are provided with reversing keys.

The binding posts are of standard type, and the ready access to them is provided by the design of the case. To list prices of voltmeter shown elsewhere, add amounts given below.

List No.	Description	*List Price Each
1	Complete with flexible cords.....	\$8.00
2	Complete with flexible cords and compartment for same.....	10.00
3	Case contains compartment with set of 4 lamp adapters and flexible conducting cords.....	20.00



Model 1 Millivoltmeter

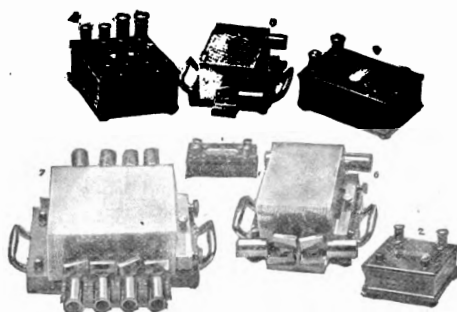
Weston Standard Portable Millivoltmeters, Model 1**For Direct Current**

These instruments may be arranged for use with alloy shunts for ampere measurements at an additional cost of \$10.00.

List No.	Description	*List Price Each
1	Range, 0 to 20 millivolts, 100 divisions, each representing 0.2 of a millivolt, readable to 0.02 of a millivolt.....	\$100.00
2	Range, 10 to 0 to 10 millivolts, zero center, 100 divisions, each representing 0.2 of a millivolt, readable to 0.02 of a millivolt.....	100.00
3	Double Range, 10 to 0 to 10 and 100 to 0 to 100 millivolts, zero center, 100 divisions, supplied with contact key, by the use of which either range may be employed.....	110.00
4	Double Range, 0 to 20 and 0 to 200 millivolts, 3 binding posts, 100 divisions, each representing either 0.2 of a millivolt or 2 millivolts, according to range used.....	110.00

* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
Measuring and Testing Instruments

WESTON INSTRUMENTS



Weston Patent Alloy Shunts

FOR USE WITH PORTABLE STANDARD MILLIVOLTMETER MODEL No. 1

For Direct Current

These Millivoltmeters, in connection with Weston Patent Alloy Shunts, read directly in amperes. Shunts of different sizes can be adjusted to the same instrument, and it can, therefore, be used to measure a current of 2000 amperes with the same degree of accuracy as a current of 1 ampere. The combination of millivoltmeter and shunt is practically compensated for temperature and is correct within $\frac{1}{2}$ of 1 per cent. If at any time the user of this combination desires to employ additional ranges to those for which the instrument is already adjusted, it is simply necessary to purchase additional shunts of the ranges required, thus saving the expense of an additional instrument. The scales of the instrument can be divided into 100, 120 or 150 divisions. In selecting shunts of different range for use in connection with one instrument, it should be considered that the higher ranges must be even multiples of the lower one in order to suit the same scale on the instrument.

These shunts can be supplied in two or more ranges combined in one case, as indicated in price list below.

Shunts with Single Range

Range in Amperes	List Price *Each	Range in Amperes	List Price *Each	Range in Amperes	List Price *Each
1	\$20.00	75	\$50.00	600	\$110.00
3	25.00	100	60.00	750	120.00
5	30.00	150	65.00	800	130.00
10	30.00	200	70.00	1000	160.00
15	30.00	250	75.00	1500	260.00
25	35.00	300	80.00	2000	350.00
30	40.00	400	90.00		
50	45.00	500	100.00		

Shunts With 2 Ranges Combined in One Case

5 and 1	\$40.00	100 and 10	\$80.00	400 and 200	\$130.00
10 and 1	45.00	150 and 15	85.00	500 and 50	125.00
15 and 1.5	50.00	150 and 30	90.00	500 and 100	130.00
15 and 3	50.00	200 and 20	95.00	500 and 200	130.00
30 and 3	50.00	300 and 15	105.00	600 and 60	130.00
40 and 4	55.00	300 and 30	110.00	600 and 300	160.00
50 and 5	60.00	300 and 150	120.00	750 and 300	180.00
75 and 15	70.00	400 and 40	120.00	1000 and 500	280.00

Shunts With 3 or More Ranges Combined in One Case

15-3-0.75	\$60.00	75-15-1.5	\$85.00	150-75-15-1.5	\$130.00
15-3-1.5	60.00	100-10-1	90.00	150-75-15-1.5-0.75	140.00
30-15-1.5	70.00	100-20-2	90.00	200-20-2	110.00
30-15-3	70.00	100-50-20-2	120.00	200-100-10	120.00
30-15-7.5-1.5	95.00	100-50-20-10-5-1	140.00	300-15-1.5	120.00
50-5-0.5	80.00	150-15-1.5	100.00	300-30-3	120.00
50-10-1	80.00	150-15-1.5-15	120.00	300-75-15	130.00
50-20-5-0.5	110.00	150-75-15	110.00		

Above prices include adjustment between millivoltmeter and shunts.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS

Model 45 Voltmeter
Voltmeters and Ammeters
Model 45 Portable
For Direct Current

These instruments are designed to meet the demand for a low-priced voltmeter or ammeter of sufficient accuracy for station work and general testing. The movement in this type of instrument is completely enclosed in an iron case (which protects it in a large measure from stray magnetic fields), securely fastened in a wooden carrying box. This box is provided with a hinged cover which protects the scale and binding-posts. Ammeters, having a maximum range of 25 amperes or less, are provided with self-contained shunts. Higher ranges are adjusted to external station type shunts.

MODEL 45 DC VOLTMETERS

Range in Volts	Value of Each Scale Division in Volts	*List Price Each
0 to 3	0.02	\$50.00
0 " 5	0.05	50.00
0 " 15	0.1	50.00
0 " 150	1	59.00
0 " 300	2	65.00
0 " 600	5	70.00
0 " 750	5	74.00

Double-scale voltmeters in this type will be furnished, when desired, at the price of \$5.00 additional to the list price of the highest range for each step.

MODEL 45 DC AMMETERS

For all ranges above 25 amperes these instruments consist of millivoltmeters adjusted with external station type shunts to read direct in amperes.

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
0 to 1.5	0.01	\$50.00
0 " 5	0.05	50.00
0 " 15	0.1	50.00
0 " 25	0.2	50.00
0 " 50	0.5	51.00
0 " 100	1	53.00
0 " 150	1	54.00
0 " 200	2	56.00
0 " 250	2	56.50
0 " 300	2	56.50
0 " 400	5	57.00
0 " 500	5	59.00
0 " 600	4	61.00
0 " 750	5	63.00

* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
Measuring and Testing Instruments

WESTON INSTRUMENTS



Model 370
Dimensions $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$ Inches
Scale Length $5\frac{1}{4}$ Inches



Model 341
Dimensions $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$ Inches
Scale Length $5\frac{1}{4}$ Inches

Weston Portable A.C. and D.C. Ammeter

MODEL 370

These instruments are electro-dynamometer ammeters and may be used with equal accuracy on either direct current circuits or on alternating current circuits of any frequency up to 133 cycles per second and of any wave form.

They are contained in polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs. and the dimensions are $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$ inches over all.

They will be found particularly useful as transfer instruments from direct to alternating current and for checking electro-magnetic (movable iron) or induction type instruments, or for all measurements of current where very high accuracy is desired.

PRICE LIST OF MODEL 370—MILLIAMMETERS

Single Range, Milliamperes	Approximate Res. in Ohms	List Price Each	Single Range, Milliamperes	Approximate Res. in Ohms	List Price Each
15	1400	\$135.00	150	19.5	\$135.00
20	720	135.00	200	7.5	135.00
30	350	135.00	300	3.2	135.00
50	167	135.00	500	1.2	135.00
75	50	135.00	750	0.9	135.00
100	28.5	135.00			

AMMETERS

Double Range, Amperes	List Price Each	Double Range, Amperes	List Price Each	Double Range, Amperes	List Price Each
2-1	\$150.00	5-2½	\$150.00	10-5	\$150.00

Weston A.C. and D.C. Portable Voltmeter

MODEL 341

These instruments are electro-dynamometer voltmeters and may be used with equal accuracy on either alternating current or direct current circuits.

They are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs., and the dimensions are $8 \times 10\frac{1}{4} \times 5\frac{1}{4}$ inches over all.

**PRICE LIST, MODEL 341 VOLTMETERS
SINGLE RANGES**

Ranges, Volts	Approximate Res. in Ohms	List Price Each	Ranges, Volts	Approximate Res. in Ohms	List Price Each
1	2	\$130.00	15	100	\$125.00
1.5	3	130.00	30	470	120.00
2	4	130.00	75	1180	120.00
3	6	130.00	120	2700	120.00
5	8	130.00	150	3300	120.00
7.5	50	125.00	300	6700	125.00
10	66	125.00	600	20000	135.00
12	80	125.00	750	25000	140.00

DOUBLE RANGES

Ranges	Approximate Res. in Ohms	List Price Each	Ranges	Approximate Res. in Ohms	List Price Each
5-1	10-2	\$140.00	150-75	3300-1650	\$130.00
15-1.5	30-3	140.00	300-150	6700-3350	135.00
3-1.5	6-3	140.00	600-150	20000-5000	145.00
6-3	21-10.5	140.00	600-300	20000-10000	145.00
15-7.5	100-50	135.00	750-150	25000-5000	150.00
30-15	300-150	135.00	750-300	25000-10000	150.00
120-60	2700-1350	130.00			

Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS

 Model 1 Mil-Ammeter
 No. 320070

**Weston Standard Portable Direct-Reading Mil-Ammeters, Model 1
 For Direct Current**

List No.	Range in Milliamperes	No. of Scale Divisions	Value of each Scale Division in Milliamperes	Readable to	*List Price Each
0	150	150	1	$\frac{1}{10}$ of a Milliampere	\$100.00
1	300	150	2	$\frac{1}{5}$ of a Milliampere	100.00
2	600	150	4	$\frac{1}{10}$ of a Milliampere	100.00
3	1000	100	10	1 Milliampere	100.00
4	1500	150	10	1 Milliampere	110.00
5	$\left\{ \begin{array}{l} 500 \\ 50 \end{array} \right.$	100	$\left\{ \begin{array}{l} 5 \\ 1\frac{1}{2} \end{array} \right.$	$\frac{1}{20}$ of a Milliampere	120.00
6	$\left\{ \begin{array}{l} 500 \\ 10 \end{array} \right.$	100	$\left\{ \begin{array}{l} 5 \\ 1\frac{1}{10} \end{array} \right.$	$\frac{1}{100}$ of a Milliampere	120.00
7	Same range and capacity as No. 320070, but is supplied with a small resistance box or multiplier, having 2 coils. When this is connected in series with the instrument, binding-posts marked 10, the lower scale may be read directly in volts, a full scale deflection being secured with 10 or 100 volts, according to the coil of the multiplier used				150.00

* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

Weston Single Phase Portable A.C. and D.C. Wattmeter


Model 310

MODEL 310

These instruments represent the latest development in electro-dynamometer wattmeters and embody many characteristics hitherto considered unattainable in instruments of this class.

They are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs. and the dimensions are $8 \times 10\frac{1}{4} \times 5\frac{3}{4}$ inches over all.

SCALES

The scales are $5\frac{1}{4}$ inches long, are uniform throughout their entire length, and are provided with mirrors to prevent parallax errors.

The pointers are of the Weston triangular truss type, with knife edges, and are equipped with simple zero setting devices controlled from the outside of the case.

RANGES

Double ranges for both the current and voltage circuits are provided.

The double current range feature is obtained by connecting the two field coil sections either in series or in multiple by means of links and binding screws, conveniently located on the top of the instrument. These links are provided with handles to facilitate their manipulation and are slotted, making it unnecessary to remove them entirely each time the range is changed.

The double voltage ranges are controlled by means of independent binding posts.

As each instrument has a number of ranges, a scale cannot be made which is readable with equal facility for all ranges. In each case, however, a scale is provided which gives 1, 2 or 5 units per division for the range marked and simple multiplying factors for the other ranges.

See following page for prices.

Measuring and Testing Instruments

WESTON INSTRUMENTS

Weston Single Phase Portable A.C. and D.C. Wattmeters

CONTINUED

List Prices of Model 310 Single Phase Wattmeter—(See Preceding Page)

Volts	Ampere				*Watt Ranges		Number of Scale Lines	List Price
	Normal		Maximum		Field Coils in Series	Field Coils in Multiple		
	Series	Multiple	Series	Multiple				
Normal 100/50.....	1	2	2	4	100/50	200/100	100	\$140.00
	2.5	5	5	10	250/125	500/250	125	140.00
	5	10	10	20	500/250	1000/500	100	140.00
	10	20	20	40	1/ .5 K.W.	2/1 K.W.	100	140.00
	20	40	40	80	2/1 K.W.	4/2 K.W.	100	150.00
Maximum 150/75.....	30	60	60	120	3/1.5 K.W.	6/3 K.W.	150	150.00
	50	100	75	150	5/2.5 K.W.	10/5 K.W.	100	150.00
Normal 150/75.....	1	2	2	4	150/75	300/150	150	140.00
	2.5	5	5	10	375/187.5	750/375	150	140.00
	5	10	10	20	750/375	1500/750	150	140.00
	10	20	20	40	1.5/ .75 K.W.	3/1.5 K.W.	150	140.00
	20	40	40	80	3/1.5 K.W.	6/3 K.W.	150	150.00
Maximum 250/125.....	30	60	60	120	5/2.5 K.W.	10/5 K.W.	100	150.00
	50	100	75	150	7.5/3.75 K.W.	15/7.5 K.W.	150	150.00
Normal 200/100.....	1	2	2	4	200/100	400/200	100	150.00
	2.5	5	5	10	500/250	1000/500	100	150.00
	5	10	10	20	1/ .5 K.W.	2/1 K.W.	100	150.00
	10	20	20	40	2/1 K.W.	4/2 K.W.	100	150.00
	20	40	40	80	4/2 K.W.	8/4 K.W.	100	160.00
Maximum 300/150.....	30	60	60	120	6/3 K.W.	12/6 K.W.	120	160.00
	50	100	75	150	10/5 K.W.	20/10 K.W.	100	160.00
Normal 300/150.....	1	2	2	4	300/150	600/300	150	150.00
	2.5	5	5	10	750/375	1500/750	150	150.00
	5	10	10	20	1.5/ .75 K.W.	3/1.5 K.W.	150	150.00
	10	20	20	40	3/1.5 K.W.	6/3 K.W.	150	150.00
	20	40	40	80	6/3 K.W.	12/6 K.W.	120	160.00
Maximum 450/225.....	30	60	60	120	10/5 K.W.	20/10 K.W.	100	160.00
	50	100	75	150	15/7.5 K.W.	30/15 K.W.	150	160.00
Normal 500/100.....	1	2	2	4	500/100	1000/200	100	170.00
	2.5	5	5	10	1250/250	2500/500	125	170.00
	5	10	10	20	2500/500	5000/1000	100	170.00
	10	20	20	40	5/1 K.W.	10/2 K.W.	100	170.00
	20	40	40	80	10/2 K.W.	20/4 K.W.	100	180.00
Maximum 600/150.....	30	60	60	120	15/3 K.W.	30/6 K.W.	150	180.00
	50	100	75	150	25/5 K.W.	50/10 K.W.	100	180.00
Normal 600/150.....	1	2	2	4	600/150	1200/300	150	175.00
	2.5	5	5	10	1500/375	3000/750	150	175.00
	5	10	10	20	3/ .75 K.W.	6/1.5 K.W.	150	175.00
	10	20	20	40	6/1.5 K.W.	12/3 K.W.	150	175.00
	20	40	40	80	12/3 K.W.	24/6 K.W.	120	185.00
Maximum 675/250.....	30	60	60	120	24/6 K.W.	40/10 K.W.	100	185.00
	50	100	75	150	30/7.5 K.W.	60/15 K.W.	150	185.00
Normal 600/300.....	1	2	2	4	600/300	1200/600	120	175.00
	2.5	5	5	10	1.5/ .75 K.W.	3/1.5 K.W.	150	175.00
	5	10	10	20	3/1.5 K.W.	6/3 K.W.	150	175.00
	10	20	20	40	6/3 K.W.	12/6 K.W.	120	175.00
	20	40	40	80	12/6 K.W.	24/12 K.W.	120	185.00
Maximum 675/450.....	30	60	60	120	20/10 K.W.	40/20 K.W.	100	185.00
	50	100	75	150	30/15 K.W.	60/30 K.W.	150	185.00
Normal 750/150.....	1	2	2	4	750/150	1500/300	150	180.00
	2.5	5	5	10	1875/375	3750/750	150	180.00
	5	10	10	20	3750/750	7500/1500	150	180.00
	10	20	20	40	7.5/1.5 K.W.	15/3 K.W.	150	180.00
	20	40	40	80	15/3 K.W.	30/6 K.W.	150	190.00
Maximum 750/250.....	30	60	60	120	25/5 K.W.	50/10 K.W.	100	190.00
	50	100	75	150	37.5/7.5 K.W.	75/15 K.W.	150	190.00
Normal 750/300.....	1	2	2	4	750/300	1500/600	150	190.00
	2.5	5	5	10	2000/800	4000/1600	160	180.00
	5	10	10	20	3750/1500	7500/3000	150	190.00
	10	20	20	40	7.5/3 K.W.	15/6 K.W.	150	190.00
	20	40	40	80	15/6 K.W.	30/12 K.W.	150	190.00
Maximum 750/450.....	30	60	60	120	25/10 K.W.	50/20 K.W.	100	190.00
	50	100	75	150	37.5/15 K.W.	75/30 K.W.	150	190.00

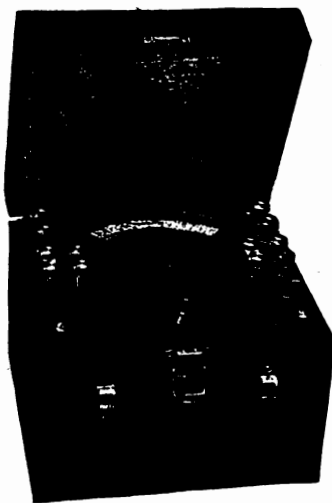
*Ranges not marked K.W. read in watts.

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WESTON INSTRUMENTS

Special Model 310 Wattmeters for Very Low Power Factors

For measurements in circuits where the power factor is very low, such as core losses in transformers, a special line of Weston Wattmeters has been designed, giving full scale deflection for 20% power factor; that is, the scale value in watts is 20% of the number of volt amperes applied.



Model 329

Maximum Volts	Maximum Capacity in Amperes		Watt Ranges		Number of Scale Lines	Price
	Fields in Series	Fields in Multiple	Fields in Series	Fields in Multiple		
150/75	0.5	1	15/7.5	30/15	150	\$160.00
150/75	1	2	30/15	60/30	150	160.00
150/75	2.5	5	75/37.5	150/75	150	160.00
150/75	5	10	150/75	300/150	150	160.00
150/75	10	20	300/150	600/300	150	170.00
150/75	20	40	600/300	1200/600	120	170.00
150/75	50	100	1500/750	3000/1500	150	170.00

*These ranges are not compensated and are useful for special conditions only. Correspond before ordering.

Weston Portable Polyphase Wattmeter
MODEL 329

These instruments are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 17½ lbs. Dimensions are 9½ x 10½ x 8½ inches over all.

This form of instrument really consists of two single phase wattmeters, electrically independent, but having their movable coils mounted on a common shaft, so that they rotate together. Each coil, however, moves in its own system of field coils.

SCALES

The scales are uniform throughout their entire length, and are 5¼ inches long.

The pointers are equipped with simple zero setting devices and are of the Weston triangular truss type with knife edges. To prevent parallax errors mirrors are provided.

List Prices of Model 329 Polyphase Wattmeters

Volts	Amperes				*Watt Ranges		Number of Scale Lines	List Price
	Normal		Maximum		Field Coils in Series	Field Coils in Multiple		
	Series	Multiple	Series	Multiple				
Normal 100/50.....	1	2	2	4	200/100	400/200	100	\$220.00
Maximum 150/75.....	2.5	5	5	10	500/250	1000/500	100	220.00
	5	10	10	20	1/5 K.W.	2/1 K.W.	100	220.00
	10	20	20	40	2/1 K.W.	4/2 K.W.	100	230.00
Normal 150/75.....	1	2	2	4	300/150	600/300	150	220.00
Maximum 250/125.....	2.5	5	5	10	750/375	1500/750	150	220.00
	5	10	10	20	1.5/75 K.W.	3/1.5 K.W.	150	220.00
	10	20	20	40	3/1.5 K.W.	6/3 K.W.	150	230.00
Normal 200/100.....	1	2	2	4	400/200	800/400	100	230.00
Maximum 300/150.....	2.5	5	5	10	1/5 K.W.	2/1 K.W.	100	230.00
	5	10	10	20	2/1 K.W.	4/2 K.W.	100	230.00
	10	20	20	40	4/2 K.W.	8/4 K.W.	100	240.00
Normal 300/150.....	1	2	2	4	600/300	1200/600	120	230.00
Maximum 450/250.....	2.5	5	5	10	1.5/75 K.W.	3/1.5 K.W.	150	230.00
	5	10	10	20	3/1.5 K.W.	6/3 K.W.	150	230.00
	10	20	20	40	6/3 K.W.	12/6 K.W.	120	240.00
Normal 500/100.....	1	2	2	4	1000/200	2000/400	100	250.00
Maximum 630/150.....	2.5	5	5	10	2500/500	5000/1000	100	250.00
	5	10	10	20	5/1 K.W.	10/2 K.W.	100	250.00
	10	20	20	40	10/2 K.W.	20/4 K.W.	100	260.00
Normal 600/150.....	1	2	2	4	1200/300	2400/600	120	255.00
Maximum 675/250.....	2.5	5	5	10	3/75 K.W.	6/1.5 K.W.	150	255.00
	5	10	10	20	6/1.5 K.W.	12/3 K.W.	150	255.00
	10	20	20	40	12/3 K.W.	24/6 K.W.	120	265.00
Normal 600/300.....	1	2	2	4	1,2/6 K.W.	2,4/1.2 K.W.	120	255.00
Maximum 675/450.....	2.5	5	5	10	3/1.5 K.W.	6/3 K.W.	150	255.00
	5	10	10	20	6/3 K.W.	12/6 K.W.	120	255.00
	10	20	20	40	12/6 K.W.	24/12 K.W.	120	255.00
Normal 750/150.....	1	2	2	4	1500/300	3000/600	150	260.00
Maximum 750/250.....	2.5	5	5	10	3750/750	7500/1500	150	260.00
	5	10	10	20	7.5/1.5 K.W.	15/3 K.W.	150	260.00
	10	20	20	40	15/3 K.W.	30/6 K.W.	150	270.00
Normal 750/300.....	1	2	2	4	1500/600	3000/1200	150	260.00
Maximum 750/450.....	2.5	5	5	10	3750/1500	7500/3000	150	260.00
	5	10	10	20	7.5/3 K.W.	15/6 K.W.	150	260.00
	10	20	20	40	15/6 K.W.	30/12 K.W.	150	270.00

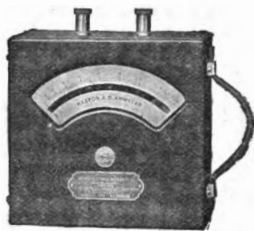
*Ranges not marked K.W. read in watts.

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WESTON INSTRUMENTS



Model 155 Voltmeter



Model 155 Ammeter

Voltmeters and Ammeters

Model 155 Portable

For Alternating Current

These instruments are of the Weston electromagnetic type, in which all the disadvantages and errors of the soft-iron type, previously supposed to be inherent, have been either eliminated or so far reduced as to be practically negligible. The indications of these Weston instruments are accurate within 1 per cent., independent of changes in temperature, frequency or wave form throughout the range of commercial practice. The scales are open and fairly uniform throughout about $\frac{2}{3}$ of the total range of deflection; therefore, the accuracy of reading within the working range is greater than it would be with a uniform scale. The indications are also dead beat and will instantly and accurately follow every change in the value of the quantity being measured.

MODEL 155 AC—PORTABLE VOLTMETERS

Range in Volts	*List Price Each	Range in Volts	*List Price Each
75.....	\$37.00	500.....	\$53.00
125.....	37.00	600.....	55.00
150.....	37.50	750.....	60.00
300.....	45.00		

MODEL 155 AC—PORTABLE AMMETERS

Range in Amperes	*List Price Each	Range in Amperes	*List Price Each
1.....	\$35.50	75.....	\$35.00
2.....	35.00	100.....	35.00
3.....	34.00	150.....	36.00
5.....	34.00	200.....	37.00
10.....	34.00	250.....	37.50
15.....	34.00	300.....	38.00
25.....	34.00	400.....	42.00
50.....	35.00	500.....	46.00

MODEL 155 AC—PORTABLE MIL-AMMETERS

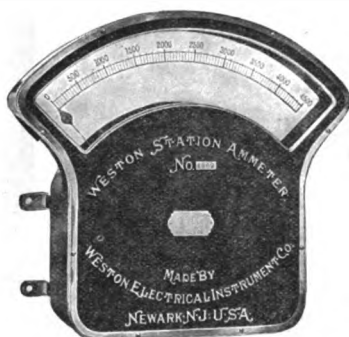
Mil-Amperes	*List Price Each	Mil-Amperes	*List Price Each
75.....	\$35.50	500.....	\$35.50
150.....	35.50	750.....	35.50
250.....	35.50		

Leather Carrying Cases

For Model No. 155 Instruments

All ammeters, mil-ammeters and also voltmeters, up to and including 300 volts, provided with leather cases at an additional price of \$7.00. Voltmeters with a range above 300 volts, and not greater than 750 volts, provided with leather carrying cases at an additional cost of \$9.00.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON SWITCHBOARD INSTRUMENTS

Model 11 Ammeter
**Weston Illuminated Dial Station Ammeters, Model 11
 With Shunts**
For Direct Current

The cases for these meters are supplied in two patterns. The one is intended to be attached by means of two brackets directly to and projecting from the front of the switchboard. The other, known as "flush type," is designed to be countersunk so that the front of the instrument is practically flush with the face of the board.

The cases are regularly finished in the following styles, but other finishes will be supplied on special order.

No. 2 finish.—Border of case and face of letters nickel-plated and polished; background of letters and back case dead-black japan. This is a neat and durable finish and one we highly recommend for general use.

No. 3 finish.—Border of front and face of letters nickel-plated and polished; background of letters dead nickel matte; all parts of back case in sight nickel-plated and polished.

Each instrument has one pair of binding-posts to which the shunt leads are to be connected, and another pair for connecting the lamp.

Range in Amperes	Value of Each Scale Division in Amperes	*List Price of Instrument with Shunt	Range in Amperes	Value of Each Scale Division in Amperes	*List Price of Instrument with Shunt	Range in Amperes	Value of Each Scale Division in Amperes	*List Price of Instrument with Shunt
200	2	\$159.00	1000	10	\$168.00	4000	30	\$213.00
250	2	159.00	1200	10	170.00	4500	40	228.00
300	2	159.50	1500	10	181.50	5000	50	243.00
400	5	160.00	2000	20	190.50	6000	50	258.00
500	5	162.00	2500	20	193.50	7000	50	273.00
600	5	164.00	3000	20	198.00	8000	100	303.00
750	5	166.00	3500	20	204.00	10000	100	333.00

Shunts for All Types of Switchboard Ammeters

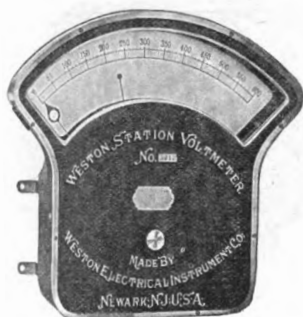
Rating in Amperes	*List Price Shunts Alone	Rating in Amperes	*List Price Shunts Alone	Rating in Amperes	*List Price Shunts Alone
200	\$6.00	1000	\$15.00	4000	\$60.00
250	6.00	1200	17.00	4500	75.00
300	6.50	1500	28.50	5000	90.00
400	7.00	2000	37.50	6000	105.00
500	9.00	2500	40.50	7000	120.00
600	11.00	3000	45.00	8000	150.00
750	13.00	3500	51.00	10000	180.00

* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
 Measuring and Testing Instruments

WESTON SWITCHBOARD INSTRUMENTS

Weston Illuminated Dial Station Voltmeters, Model 11

For Direct Current



Model 11 Voltmeter

Range in Volts	Value of Each Scale Division in Volts	*List Price Each	Range in Volts	Value of Each Scale Division in Volts	*List Price Each
125	1	\$150.00	3250	25	\$280.00
150	1	152.00	3500	25	300.00
180	2	154.00	4000	50	320.00
250	2	156.00	4500	50	340.00
300	2	158.00	5000	50	360.00
600	5	160.00	6000	50	390.00
750	5	162.00	6500	50	410.00
1000	10	200.00	7000	50	420.00
1500	10	220.00	7500	50	440.00
2000	20	240.00	8000	100	460.00
2500	20	260.00	9000	100	500.00
3000	25	270.00	10000	100	550.00

These prices are for No. 2 finish, dead-black japan with nickel trimmings. For No. 3 finish, all nickel-plated, add \$9.00.

These instruments will be supplied for mounting with the fronts flush with the switchboard (designated flush type) when so ordered, at the same prices.

Weston Illuminated Dial Station Model 9 Ammeters (With Shunts)

For Direct Current

These instruments are similar in appearance and are in every respect equal to the Model 11, as regards construction and accuracy. They are, however, of smaller dimensions, and are designed for use in plants where an illuminated-dial instrument is desired, but space is limited.

The cases for these instruments are supplied in two patterns. The one is intended to be attached directly to and projecting from the front of the switchboard. The other, known as the "flush type," is designed to be countersunk so that the front of the instrument is practically flush with the face of the board.

They are regularly supplied in No. 2 and No. 3 finish, as described under Model 11, but may be had in special finishes, at a slight addition in cost.



Model 9 Ammeter

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each	Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
200	2	\$119.00	750	5	\$126.00
250	2	119.00	1000	10	128.00
300	2	119.50	1200	10	130.00
400	5	120.00	1500	10	141.50
500	5	122.00	2000	20	150.50
600	5	124.00	2500	20	153.50

Flush type will be furnished at same price if specially ordered.

These prices are for No. 2 finish (dead-black japan with nickel trimmings).

For No. 3 finish (all nickel-plated), add \$5.00.

Weston Illuminated Dial Station Model 9 Voltmeters

For Direct Current

Range in Volts	Value of Each Scale Division in Volts	*List Price Each	Range in Volts	Value of Each Scale Division in Volts	*List Price Each
0 to 85	1	\$110.00	0 to 150	1	\$124.00
0 to 100	1	112.00	0 to 250	2	128.00
0 to 125	1	116.00	0 to 300	2	132.00
0 to 135	1	120.00			

Flush type will be furnished at same price if specially ordered.

These prices are for No. 2 finish (dead-black japan with nickel trimmings).

For No. 3 finish (all nickel-plated), add \$5.00.

*Delivery to G. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS



Model 57 Ammeter
Range, 700 Amperes



Model 57 Voltmeter
Range, 120 Amperes

Model 57 Round Pattern Station Ammeters and Voltmeters

For Direct Current

These instruments are made in three patterns. Regular, for front of board connection. Back connection, in which the binding-posts are carried through to the rear of the switchboard. Flush type, in which a flange is provided for the front, allowing the entire body of the instrument to pass through for connection in the rear of the switchboard.

MODEL 57 DC AMMETERS

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each	Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
1.....	0.01	\$50.00	300.....	2	\$56.50
5.....	0.05	50.00	400.....	5	57.00
10.....	0.1	50.00	500.....	5	59.00
15.....	0.1	50.00	600.....	5	61.00
25.....	0.2	50.00	750.....	5	63.00
50.....	0.5	51.00	1000.....	10	65.00
75.....	0.5	52.00	1200.....	10	67.00
100.....	1	53.00	1500.....	10	78.50
150.....	1	54.00	2000.....	20	87.50
200.....	2	56.00	2500.....	20	90.50
250.....	2	56.50			

The lower ranges up to 75 amperes are self-contained, the shunts being an integral part of the instrument. For ranges above 75 amperes the shunt is detachable and substantially the same as that for the illuminated-dial instruments, excepting that when specially ordered these instruments will be furnished self-contained for ranges up to 200 amperes.

MODEL 57 DC VOLTMETERS

Range in Volts	Value of Each Scale Division Volts	*List Price Each	Range in Volts	Value of Each Scale Division Volts	*List Price Each
3.....	0.02	\$50.00	125.....	1	\$56.50
6.....	0.05	50.00	150.....	1	59.00
15.....	0.1	50.00	250.....	2	63.00
25.....	0.2	52.00	300.....	2	65.00
50.....	0.5	53.00	600.....	5	70.00
75.....	0.5	54.50	750.....	5	74.00

These prices are for No. 2 finish (dead-black japan with nickel trimmings). For No. 3 finish (all nickel-plated), add \$4.00. Any of the instruments in the above list will be furnished with back connection or flush-type cases when specified in order.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
Measuring and Testing Instruments

WESTON INSTRUMENTS



Model 24 Ammeter



Model 24 Voltmeter

Weston Round Pattern Model 24 Station Instruments

For Direct Current

These instruments are made in three types to conform with the Model 57 instruments, i. e., regular, back connection and flush type. Are supplied in No. 2 or No. 3 finish, but special finishes may be obtained at a slight advance in cost.

MODEL 24 SELF-CONTAINED AMMETERS

Range in Amperes	Value of Each Scale Division in Amperes	*List Price Each
0 to 1	0.02	\$30.00
0 to 5	0.1	30.00
0 to 10	0.2	30.00
0 to 15	0.2	31.00
0 to 25	0.5	31.00
0 to 50	1	31.50
0 to 80	2	31.50
0 to 100	2	32.00
0 to 130	2	33.00
0 to 150	2	33.00
0 to 200	4	34.00

These ammeters are regularly furnished with internal shunts up to and including 200 amperes. They will, however, be furnished with detached shunts when specified in order.

These prices are for No. 2 finish (dead-black japan with nickel trimmings). For No. 3 finish (all nickel-plated), add \$3.00. Any of the instruments in the above list will be furnished with back connections or flush-type cases when specified in order.

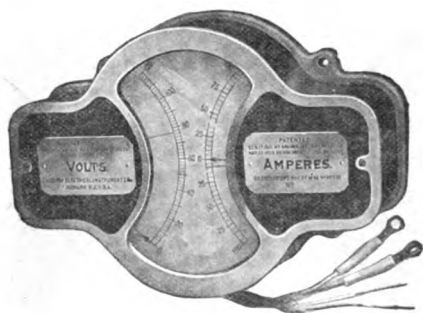
MODEL 24 VOLTMETERS

Range in Volts	Value of Each Scale Division in Volts	*List Price Each
0 to 3	0.05	\$31.00
0 to 5	0.1	31.00
0 to 6	0.1	31.50
0 to 10	0.2	32.00
0 to 15	0.2	32.00
0 to 25	0.5	32.00
0 to 50	1	32.00
0 to 80	2	32.00
0 to 130	2	33.00
0 to 150	2	34.00
0 to 250	5	39.00
0 to 300	5	41.00
0 to 600	8	53.00

These prices are for No. 2 finish (dead-black japan with nickel trimmings). For No. 3 finish (all nickel-plated), add \$3.00. Any of the instruments in the above list will be furnished with back connections or flush-type cases when specified in order.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS



Models 38 and 39 Duplex Instruments (Direct Current)
Showing a Model 39 Instrument

Weston Duplex Instruments, Model 38 and Model 39

For Direct Current

These instruments are called "duplex" because they consist of a voltmeter and an ammeter combined in one case.

MODEL 39

This model has a well designed and carefully finished aluminum case, which closely surrounds the operative parts. The use of an aluminum case secures minimum weight as well as a much smaller size than is possible with Model 38, and as the case is practically waterproof, this model is well adapted for use where accidental exposure to the weather or to dampness would be likely to occur.

This instrument was originally designed for automobile service, and extreme care has been taken in its construction to enable it to stand without injury the constant vibration to which such instruments are subjected when used on vehicles.

The zero mark on the ammeter scale may be located at any point.

Price of ammeters with scales having zero in center of scale, or in any other part of scale, will be the same as for ammeters of regular constructions of same type with a range equal to the higher reading on the special scale.

The dimensions and weight of this model are as follows:

Length.....	9½ inches.	Height (or Depth).....	3¼ inches.
Width.....	7 inches.	Weight (without Shunt).....	8 lb.

MODEL 38

The interior parts of this model are similar to those used in Model 39, but the scale and pointer are larger. The case is made of cast iron, is not waterproof and does not closely surround the working parts of the instrument. The difference in the size of the case and the material of which it is made necessarily makes the 38 model much heavier than the 39. The dimensions and weight of the 38 model are as follows:

Length.....	11 inches.	Height (or Depth).....	3½ inches.
Width.....	8½ inches.	Weight (without Shunt).....	17 lb.

The Model 38 is well adapted for use where the existence of powerful magnetic fields would render it impossible to use the 39 model. The function of the cast-iron case is to shield the instrument from external fields, and this it does in a most effective manner. In both forms of instruments the workmanship is of the highest grade.

Price List of Models 38 and 39 Instruments

Range for Ampere Scale in Amperes	75 Volts	150 Volts	300 Volts	600 Volts
	*List Price	*List Price	*List Price	*List Price
10.....	\$70.00	\$70.00	\$83.50	\$88.00
25.....	70.00	70.00	83.50	88.00
50.....	70.00	70.00	84.50	89.00
100.....	70.00	70.00	86.00	90.50
150.....	70.00	70.00	87.00	91.50
200.....	79.50	83.50	89.00	93.50
300.....	80.00	84.00	89.50	94.00
400.....	80.50	84.50	90.00	94.50
500.....	82.00	86.00	91.50	96.00

If double scales should be desired in the voltmeter, any ranges below those given in the list will be supplied at an extra charge of \$5.00 in addition to the price for the highest range.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS



Model 159

Weston Eclipse Voltmeters and Ammeters

For Direct Current

These instruments were given the designation "Eclipse" to distinguish them from the well-known moving coil Weston instruments. The designation is also very appropriate as these new instruments represent a distinct advance in the art of instrument design. They belong to the "soft-iron" or "electromagnetic" type, and yet they have none of the many disadvantages and errors commonly associated with instruments of this class. They possess a degree of accuracy and general electrical excellence hitherto wholly unknown, and heretofore deemed impossible of attainment with this type of instrument, and a degree of excellence in mechanical design and construction previously unapproached. The indications are substantially unaffected by temperature changes, whether due to changes in the room temperature or to the heating effect of the current through the instrument. Furthermore, the hysteresis or lag error is entirely negligible at the working part of the scale. This last attainment is unprecedented. Eclipse instruments are made in two models, namely: Model 160 and 159, the only difference being in the dimensions.

Model	Diameter, Inches	Depth, Inches	Length of Scale, Inches
160	9.56	3.15	6.5
159	7.25	3.15	5.25

ECLIPSE MODEL 159 AMMETERS

Range in Amperes	*List Price	Range in Amperes	*List Price
1.....	\$24.00	75.....	\$25.00
2.....	24.00	100.....	26.00
3.....	23.50	150.....	26.00
5.....	23.00	200.....	27.00
10.....	23.00	250.....	28.00
15.....	23.00	300.....	29.00
25.....	23.00	400.....	30.00
50.....	25.00	500.....	32.00

ECLIPSE MODEL 159 VOLTMETERS

Range in Volts	*List Price	Range in Volts	*List Price
75.....	\$24.00	500.....	\$32.00
125.....	24.00	600.....	34.00
150.....	24.00	750.....	36.00
250.....	29.00		

Instruments with a range above 150 volts are provided with external resistances.

W. E. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS

Model 160 Voltmeter

**Model 214
Frequency Indicator**
Weston Eclipse Voltmeters and Ammeters
ECLIPSE MODEL 160 D. C. VOLTMETERS

Range in Volts	*List Price Each	Range in Volts	*List Price Each
75	\$32.00	500	\$41.00
125	32.00	600	43.00
150	32.00	750	45.00
300	36.00		

Voltmeters with a range above 300 volts are provided with external resistances.

ECLIPSE MODEL 160 AMMETERS

Range in Amperes	*List Price Each	Range in Amperes	*List Price Each
1	\$31.00	75	\$32.00
2	31.00	100	33.00
3	30.50	150	33.00
5	30.00	200	34.00
10	30.00	250	35.00
15	30.00	300	36.00
25	30.00	400	37.00
50	32.00	500	39.00

Weston Frequency Meters
MODEL 214

These instruments are of a new type. Their indications are practically independent of changes of temperature voltage and wave form such as may be encountered in the commercial circuits of to-day. All meters are made for one voltage (100 to 125 volts), and for voltage ranges outside of this potential transformers must be used. Every frequency meter is provided with an external box which contains reactors and resistors.

Cycles	*List Price Each
20	\$120.00
25	120.00
40	120.00
60	120.00
125	120.00
133	120.00

* Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS



Model 151 Voltmeters and Ammeters

For Alternating Current
Dimensions Model 151

Model	Diameter, Inches	Depth, Inches	Length of Scale Arc, Inches
151	9.506	3.150	6.5

These instruments are of the "soft iron" or "electromagnetic" type; however, they have unique electrical and mechanical characteristics, and in these respects they may be said to constitute an entirely new type of instrument. The indications of these instruments are accurate within less than 1 per cent., independent of changes in temperature, frequency or wave form within the range of commercial practice. They are equally as dead beat as the Weston moving coil D. C. instruments, and have scales that are open and fairly uniform throughout about $\frac{1}{2}$ of the total range of deflection.

Voltmeters with a range above 300 volts are provided with external resistance coil.

Every ammeter is tested before shipment for insulation with 4,600 volts for one minute.

The case for each ammeter is provided with a "ground terminal," which must (in order to insure safety to the user) be connected to earth when the potential difference of circuits exceeds 200 volts. When properly erected, the ammeters are perfectly safe for use on circuits operating on a potential difference of 2,300 volts, but must be used with transformers on circuits of higher potential difference. Although there is economy in first cost and a slight advantage in accuracy in so doing, we are not in full accord with the practice of bringing to the front of the switchboard any device directly connected to the high potential circuits.

Transformers must be used on all circuits carrying over 500 amperes, and we recommend a value of 5 amperes for the secondary, and will calibrate the instrument so that it will be direct reading.

MODEL 151 AC VOLTMETERS

Range in Volts	*List Price, Each	Range in Volts	*List Price, Each
75	\$37.00	500	\$53.00
125	37.00	600	55.00
150	37.50	750	60.00
300	45.00		

MODEL 151 AC AMMETERS

Range in Amps.	*List Price, Each	Range in Amps.	*List Price, Each
1	\$35.50	50	\$35.00
2	35.00	75	35.00
3	34.00	100	35.00
5	34.00	150	36.00
10	34.00	200	37.00
15	34.00	250	37.50
20	34.00	300	38.00
25	34.00	400	39.00
30	34.00	500	40.00
40	35.00		

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS


Model 156

Weston Voltmeters and Ammeters
For Alternating Current

These instruments are of the "soft iron" or "electromagnetic" type; however, they have unique electrical and mechanical characteristics, and in these respects they may be said to constitute an entirely new type of instrument. The indications of these instruments are accurate within less than 1 per cent. independent of changes in temperature, frequency or wave form within the range of commercial practice. They are equally as dead beat as the Weston moving coil D. C. instruments and have scales that are open and fairly uniform throughout about $\frac{2}{3}$ of the total range of deflection.

Voltmeters with a range above 300 volts are provided with external resistance coil.

Every ammeter is tested before shipment for insulation with 4,600 volts for one minute.

The case for each ammeter is provided with a "ground terminal," which must (in order to insure safety to the user) be connected to earth when the potential difference of circuits exceeds 200 volts. When properly erected, the ammeters are perfectly safe for use on circuits operating on a potential difference of 2,300 volts, but must be used with transformers on circuits of higher potential difference. Although there is economy in first cost and a slight advantage in accuracy in so doing, we are not in full accord with the practice of bringing to the front of the switchboard any device directly connected to the high potential circuits.

Transformers must be used on all circuits carrying over 500 amperes, and we recommend a value of 5 amperes for the secondary, and will calibrate the instrument so that it will be direct reading.

These instruments are made in two models, which differ only in dimensions.

MODEL 156 A. C. SWITCHBOARD VOLTMETERS

Range in Volts	*List Price Each	Range in Volts	*List Price Each
75.....	\$29.00	500.....	\$39.00
125.....	29.00	600.....	42.00
150.....	29.50	750.....	47.00
300.....	37.00		

Voltmeters above 150 volts provided with external resistances.

MODEL 156 A. C. SWITCHBOARD AMMETERS

Range in Amperes	*List Price Each	Range in Amperes	*List Price Each
1.....	\$28.00	50.....	\$27.50
2.....	27.50	75.....	27.50
3.....	27.00	100.....	27.50
5.....	27.00	150.....	28.50
10.....	27.00	200.....	29.50
15.....	27.00	250.....	30.00
20.....	27.00	300.....	31.00
25.....	27.00	400.....	33.00
30.....	27.00	500.....	35.00
40.....	27.50		

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
 Measuring and Testing Instruments

WESTON INSTRUMENTS



Model 167
Single Phase Wattmeter

Weston Wattmeters

For Direct Current, Single Phase and Polyphase Circuits

These wattmeters have numerous advantages over any type previously built. They may be used with equal accuracy and without change of calibration on direct-current circuits or alternating-current circuits of any frequency, power-factor or wave form within the limits of usual commercial practice. The scale is uniform throughout the entire range of deflection. These wattmeters are made in two models.

DIRECT CURRENT AND SINGLE PHASE WATTMETERS

Model 167

All ranges are back connected. Meters above 300 volts range have external resistance box. For ranges above 750 volts potential transformers are used and for current ranges above 100 amperes current transformers must be used. For use with current transformers the 5-ampere range instrument is recommended. These instruments may also be had in full flush cases for a slight extra charge.

100 to 150 Volts

Amperes	Scale	*List Price	Amperes	Scale	*List Price
1.....	150 watts	\$100.00	20.....	2 kilowatts	\$100.00
2.....	300 watts	100.00	20.....	3 kilowatts	100.00
5.....	500 watts	100.00	50.....	5 kilowatts	100.00
5.....	750 watts	100.00	50.....	7.5 kilowatts	100.00
10.....	1 kilowatt	100.00	100.....	10 kilowatts	112.00
10.....	1.5 kilowatts	100.00	100.....	15 kilowatts	112.00

200 to 300 Volts

1.....	300 watts	\$112.00	20.....	6 kilowatts	\$112.00
2.....	600 watts	112.00	20.....	7.5 kilowatts	112.00
5.....	1 kilowatt	112.00	50.....	10 kilowatts	112.00
5.....	1.5 kilowatts	112.00	50.....	15 kilowatts	112.00
10.....	2 kilowatts	112.00	100.....	20 kilowatts	122.00
10.....	3 kilowatts	112.00	100.....	30 kilowatts	122.00
20.....	4 kilowatts	112.00			

400 to 600 Volts

1.....	600 watts	\$122.00	20.....	8 kilowatts	\$122.00
2.....	1.2 kilowatts	122.00	20.....	12 kilowatts	122.00
5.....	2 kilowatts	122.00	50.....	20 kilowatts	122.00
5.....	3 kilowatts	122.00	50.....	30 kilowatts	122.00
10.....	4 kilowatts	122.00	100.....	40 kilowatts	134.00
10.....	6 kilowatts	122.00	100.....	60 kilowatts	134.00

600 to 750 Volts

1.....	750 watts	\$134.00	20.....	10 kilowatts	\$134.00
2.....	1.5 kilowatts	134.00	20.....	15 kilowatts	134.00
5.....	2.5 kilowatts	134.00	50.....	25 kilowatts	134.00
5.....	4 kilowatts	134.00	50.....	40 kilowatts	134.00
10.....	5 kilowatts	134.00	100.....	50 kilowatts	150.00
10.....	7.5 kilowatts	134.00	100.....	75 kilowatts	150.00

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON INSTRUMENTS



Model 216, Full-Front Type,
Polyphase Wattmeter



Model 216, Semi-Flush Type,
Polyphase Wattmeter

Polyphase Wattmeters

Model 216

These instruments have precisely the same characteristics as Model 167. They are regularly furnished with either one of two styles of case, namely: full-front and semi-flush. The semi-flush type projects beyond the front of the board just sufficiently to bring the front of the instrument in the same plane with other Weston A. C. switchboard instruments. Full flush instruments may be had at slight extra cost.

MODEL 216, SEMI-FLUSH OR FULL-FRONT CASE; TWO-PHASE OR THREE-PHASE

100 to 150 Volts

Amperes	Scale	*List Price	Amperes	Scale	*List Price
5.....	1 kilowatt	\$140.00	20.....	7.5 kilowatts	\$140.00
5.....	1.5 kilowatts	140.00	50.....	10 kilowatts	140.00
10.....	2 kilowatts	140.00	50.....	15 kilowatts	140.00
10.....	3 kilowatts	140.00	100.....	20 kilowatts	150.00
20.....	4 kilowatts	140.00	100.....	30 kilowatts	150.00
20.....	6 kilowatts	140.00			

200 to 300 Volts

5.....	2 kilowatts	\$150.00	20.....	12 kilowatts	\$150.00
5.....	3 kilowatts	150.00	50.....	20 kilowatts	150.00
10.....	4 kilowatts	150.00	50.....	30 kilowatts	150.00
10.....	6 kilowatts	150.00	100.....	40 kilowatts	160.00
20.....	8 kilowatts	150.00	100.....	60 kilowatts	160.00

400 to 600 Volts

5.....	4 kilowatts	\$160.00	20.....	30 kilowatts	\$160.00
5.....	6 kilowatts	160.00	50.....	40 kilowatts	160.00
10.....	8 kilowatts	160.00	50.....	60 kilowatts	160.00
10.....	12 kilowatts	160.00	100.....	80 kilowatts	170.00
20.....	20 kilowatts	160.00	100.....	120 kilowatts	170.00

600 to 750 Volts

5.....	5 kilowatts	\$170.00	20.....	30 kilowatts	\$170.00
5.....	7.5 kilowatts	170.00	50.....	50 kilowatts	170.00
10.....	10 kilowatts	170.00	50.....	75 kilowatts	170.00
10.....	15 kilowatts	170.00	100.....	100 kilowatts	180.00
20.....	20 kilowatts	170.00	100.....	150 kilowatts	180.00

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
Measuring and Testing Instruments

WESTON INSTRUMENTS



Model 226
Synchroscope



Model 215
Power-Factor Meter

Weston Synchroscope

MODEL 226

This synchroscope is of a distinctly new type. It consists of a phase angle indicator mounted with its pointer behind a ground glass scale and illuminated by a small synchronizing lamp installed behind the pointer and connected to synchronize light. A difference in frequency between two machines causes the pointer to swing back and forth, but owing to the fact that the lamp is lighted only half the time the pointer is seen only during every other swing and thus appears to rotate continuously in one direction. When the machines have the same frequency, but are out of phase, the pointer comes to rest at one side or the other of the middle of the scale. Perfect synchronism is indicated by the pointer remaining at rest in the middle of the scale with the lamp lighted.

The pointer is only visible when the synchronizing lamp is lighted. The indications of the instrument are absolutely infallible.

Every synchroscope includes a lamp transformer, a condenser and a resistor mounted in a separate box. These instruments are made only for one voltage (100 to 125 volts), and when used for other voltages they must be operated with potential transformers. The instruments can be calibrated for any frequency.

Description

*List Price
Complete

Made for 110 to 125 volts and any commercial frequency up to 150 cycles. Specify the voltage and frequency in every case.

\$125.00

Weston Power-Factor Meter

MODEL 215

By virtue of a novel mode of construction the Weston Power-Factor Meter has been rendered practically perfect in its operation. From $\frac{1}{2}$ load to full load it indicates the true phase angle to within 1 per cent. independent of any variable conditions found on ordinary commercial circuits. Polyphase power-factor meters may be used on any commercial frequency. Single phase meters require a phase-splitting device and, therefore, must be calibrated for the frequency at which they are to operate. The following ranges are regularly carried in stock: 25, 40, 50, 60, 125 and 133 cycles per second. Polyphase power-factor meters are arranged for the following systems: two-phase, three-wire; two-phase, four-wire; and three-phase, three-wire. Meters above 300-volt range are equipped with external resistance box. All meters have the same kind of scale, reading from 0.50 lag to 0.50 lead. Special scales for power-factors as low as 0.30 may be had at slight extra cost. This instrument may also be arranged as a sine or cosine meter.

100 to 150 Volts

200 to 300 Volts

Ampere	*List Price Polyphase	*List Price Single Phase	Ampere	*List Price Polyphase	*List Price Single Phase
5.....	\$110.00	\$130.00	5.....	\$120.00	\$140.00
10.....	110.00	130.00	10.....	120.00	140.00
20.....	120.00	140.00	20.....	130.00	150.00
50.....	120.00	140.00	50.....	130.00	150.00
100.....	130.00	150.00	100.....	140.00	160.00

400 to 600 Volts

600 to 750 Volts

5.....	\$140.00	\$160.00	5.....	\$150.00	\$170.00
10.....	140.00	160.00	10.....	150.00	170.00
20.....	150.00	170.00	20.....	160.00	180.00
50.....	150.00	170.00	50.....	160.00	180.00
100.....	160.00	180.00	100.....	170.00	190.00

W. E. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON MINIATURE PRECISION INSTRUMENTS

For Direct Current

Model 267 Switchboard Voltmeters, Ammeters and Mil-Ammeters

This group of instruments consists of a variety of ranges of small switchboard ammeters and voltmeters suitable for use in small isolated lighting plants, small power plants, signal systems, battery charging panels and for all kinds of service where small switchboard indicating instruments are needed.

MODEL 267 SWITCHBOARD VOLTMETERS

Range	*List Price Each	Range	*List Price Each	Range	*List Price Each
1	\$21.00	7.5	\$21.00	50	\$21.00
1.2	21.00	8	21.00	60	21.00
1.5	21.00	10	21.00	75	21.00
2	21.00	12	21.00	80	21.00
2.5	21.00	15	21.00	100	21.00
3	21.00	20	21.00	120	21.00
4	21.00	25	21.00	130	21.00
5	21.00	30	21.00	150	21.00
6	21.00	40	21.00		

MODEL 267 SWITCHBOARD AMMETERS

1	\$21.00	4	\$21.00	12	\$21.00
1.2	21.00	5	21.00	15	21.00
1.5	21.00	6	21.00	20	21.00
2	21.00	7.5	21.00	25	21.00
2.5	21.00	8	21.00	30	21.00
3	21.00	10	21.00		

MODEL 267 MIL-AMMETERS

NOTE: For higher ampere readings the Model 267 will be furnished as a milli-voltmeter adjusted to external shunts. Information and prices relative to such instruments will be supplied upon application.

Dimensions.—Vertical, 3.35 inches; horizontal, 4.1 inches; depth, 1.1 inches.

MODEL 268 SWITCHBOARD VOLT-AMMETERS

These instruments are adapted for use in electrolytic work, charging and discharging small storage batteries, and for service in connection with direct-current ignition systems for gas and gasoline engines, and in all classes of work in which a single instrument is necessary for indicating either potential difference or current.

Range		*List Price Each	Range		*List Price Each
Volts	Amperes		Volts	Amperes	
10-0-15	10-0-15	\$32.00	5-0-15	10-0-30	\$32.00
10-0-15	2-0-3	32.00	5-0-10	5-0-10	32.00
10-0-15	20-0-30	32.00	10-0-20	2-0-4	32.00
7.5-0-15	7.5-0-15	32.00	5-0-10	1-0-2	32.00
7.5-0-15	15-0-30	32.00	5-0-10	10-0-20	32.00
7.5-0-15	1.5-0-3	32.00	10-0-20	5-0-10	32.00
1.5-0-3	7.5-0-15	32.00	10-0-20	1-0-2	32.00
5-0-15	1-0-3	32.00	10-0-20	10-0-20	32.00

Dimensions.—Vertical, 4.25 inches; horizontal, 4.2 inches; depth, 1.35 inches.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.


 Model 267 Voltmeter
Front View

 Model 267 Voltmeter
Rear View

 Model 267 Ammeter
Front View

 Model 267 Ammeter
Rear View

 Model 268 Volt-Ammeter
Front View

 Model 268 Volt-Ammeter
Rear View

WESTON MINIATURE PRECISION INSTRUMENTS

For Direct Current

Model 280—Portable Instruments

These instruments are all the same size and can be carried in an ordinary coat pocket. They are made in a great many varieties of ranges and are admirably adapted to all kinds of commercial and experimental testing that falls within their limits of e. m. f. and current.



Single Range Voltmeter



Double Range Voltmeter



Triple Range Voltmeter



Single Range Ammeter



Double Range Ammeter



Triple Range Ammeter

SINGLE RANGE MILLI-VOLTMETERS

Volts	List Price Each	Volts	List Price Each	Volts	List Price Each
† 50	\$25.00	†120	\$25.00	†300	\$25.00
† 60	25.00	†130	25.00	†400	25.00
† 75	25.00	†150	25.00	†500	25.00
† 80	25.00	†200	25.00	†600	25.00
†100	25.00	†250	25.00	†750	25.00

SINGLE RANGE VOLTMETERS

1	\$25.00	7.5	\$25.00	50	\$25.00
1.2	25.00	8	25.00	60	25.00
1.5	25.00	10	25.00	75	25.00
2	25.00	12	25.00	80	25.00
2.5	25.00	15	25.00	100	25.00
3	25.00	20	25.00	120	25.00
4	25.00	25	25.00	130	25.00
5	25.00	30	25.00	150	25.00
6	25.00	40	25.00		

DOUBLE RANGE VOLTMETERS

20-2	\$29.00	30-3	\$29.00	80-8	\$29.00
20-8	29.00	50-2.5	29.00	100-10	29.00
25-2.5	29.00	50-5	29.00	150-15	29.00

TRIPLE RANGE VOLTMETERS

25-10-2.5	\$33.00	40-20-4	\$33.00	80-20-4	\$33.00
30-3-1.5	33.00	50-5-2.5	33.00	100-25-2.5	33.00
30-6-3	33.00	50-25-5	33.00	150-15-1.5	33.00
30-15-3	33.00	50-25-10	33.00	150-15-3	33.00

SINGLE RANGE MIL-AMMETERS

* 50	\$25.00	*120	\$25.00	*300	\$25.00
* 60	25.00	*130	25.00	*400	25.00
* 75	25.00	*150	25.00	*500	25.00
* 80	25.00	*200	25.00	*600	25.00
*100	25.00	*250	25.00	*750	25.00

SINGLE RANGE AMMETERS

1	\$25.00	4	\$25.00	12	\$25.00
1.2	25.00	5	25.00	15	25.00
1.5	25.00	6	25.00	20	25.00
2	25.00	7.5	25.00	25	25.00
2.5	25.00	8	25.00	30	25.00
3	25.00	10	25.00		

DOUBLE RANGE AMMETERS

1-0.1	\$29.00	8-2	\$29.00	25-2.5	\$29.00
2.5-0.25	29.00	10-1	29.00	25-5	29.00
5-0.1	29.00	15-1.5	29.00	30-3	29.00
5-0.5	29.00	20-2	29.00		

TRIPLE RANGE AMMETERS

5-2.5-0.25	\$33.00	20-4-2	\$33.00	30-3-1.5	\$33.00
10-1-0.1	33.00	20-8-2	33.00	30-6-3	33.00
10-1-0.5	33.00	25-2.5-0.5	33.00	30-15-3	33.00
10-2.5-1	33.00	25-5-2.5	33.00	15-3-1.5	33.00
15-3-0.150	33.00	25-10-2.5	33.00		
		25-10-5	33.00		

† Milli-volts. * Milli-amperes.
† Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

Dimensions.—Vertical, 4.6 inches; horizontal, 4.4 inches; depth, 1.5 inches.

WESTON MINIATURE PRECISION INSTRUMENTS

For Direct Current

Model 280—Portable Volt-Ammeters

These instruments possess the same characteristics and advantages as the switchboard instruments. They should be of great value in many kinds of commercial testing where the simultaneous reading of current and e. m. f. is not necessary.

SINGLE RANGE VOLT-AMMETERS

Range		List Price *Each	Range		List Price *Each
Volts	Amperes		Volts	Amperes	
1.5	3	\$38.00	20	4	\$38.00
3	1.5	38.00	20	20	38.00
3	3	38.00	25	1	38.00
3	12	38.00	25	5	38.00
3	15	38.00	25	25	38.00
3	30	38.00	30	1.5	38.00
4	8	38.00	30	3	38.00
5	1	38.00	30	6	38.00
5	5	38.00	30	30	38.00
5	10	38.00	40	2	38.00
6	6	38.00	40	8	38.00
6	12	38.00	40	20	38.00
6	30	38.00	50	1	38.00
7.5	1.5	38.00	50	5	38.00
7.5	7.5	38.00	50	10	38.00
7.5	15	38.00	50	25	38.00
8	2	38.00	60	3	38.00
8	4	38.00	60	15	38.00
8	8	38.00	60	30	38.00
8	20	38.00	75	15	38.00
10	1	38.00	80	20	38.00
10	5	38.00	100	1	38.00
10	10	38.00	100	10	38.00
10	25	33.00	100	25	38.00
12	30	38.00	120	3	38.00
15	1.5	38.00	120	12	38.00
15	3	38.00	120	30	38.00
15	7.5	38.00	150	1.5	38.00
15	15	38.00	150	3	38.00
15	30	38.00	150	15	38.00
20	2	38.00	150	30	38.00



Single Range Volt-Ammeter



Double Range Volt-Ammeter

DOUBLE RANGE VOLT-AMMETERS

20-2	8-2	\$46.00	50-5	5-0.1	\$46.00
20-8	20-2	46.00	50-5	10-1	46.00
25-2.5	2.5-0.25	46.00	50-5	25-2.5	46.00
25-2.5	5-0.5	46.00	50-5	25-5	46.00
25-2.5	25-2.5	46.00	80-8	20-2	46.00
30-3	15-1.5	46.00	100-10	25-2.5	46.00
30-3	30-3	46.00	150-15	15-1.5	46.00
50-2.5	5-0.5	46.00	150-15	30-3	46.00
50-5	1-0.1	46.00			

TRIPLE RANGE VOLT-AMMETERS

Range		List Price *Each	Range		List Price *Each
Volts	Amperes		Volts	Amperes	
25-10-2.5	10-2.5-1	\$54.00	50-25-2.5	25-2.5-0.5	\$54.00
30-3-1.5	30-3-1.5	54.00	50-25-5	25-5-2.5	54.00
30-6-3	30-6-3	54.00	50-25-10	10-1-0.5	54.00
30-15-3	15-3-0.150	54.00	50-25-10	10-2.5-1	54.00
30-15-3	30-15-3	54.00	50-25-10	25-10-5	54.00
40-20-4	20-4-2	54.00	80-20-4	20-8-2	54.00
50-5-2.5	5-2.5-0.25	54.00	100-25-2.5	25-10-2.5	54.00
50-5-2.5	10-1-0.1	54.00	150-15-1.5	30-3-1.5	54.00
50-5-2.5	25-5-2.5	54.00	150-15-3	15-3-1.5	54.00
50-25-2.5	10-5-0.5	54.00	150-15-3	30-3-1.5	54.00



Triple Range Volt-Ammeter

Model 280 Instruments can also be supplied in the following ranges:

Single range ammeters with external shunts, 50, 75, 100 and 150 amperes, \$30.00 list.

Double range voltmeter with ranges of 15-3 volts, \$29.00 list.

Triple range volt-ammeters with ranges of 15-15-3 amperes and 150-15-1.5 volts, 30-15-1.5 amperes, \$54.00 list.

All portables will be supplied with leather cases when so ordered at an additional charge to the list price of \$3.00.

Dimensions.—Vertical, 4.6 inches; horizontal, 4.4 inches; depth, 1.5 inches.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTON MINIATURE PRECISION INSTRUMENTS

For Direct Current



Voltmeter



Ammeter

Model 279—Portable Battery Testers

These instruments consist of a battery testing voltmeter and a variety of ranges of ammeters. They are designed to facilitate the accurate and rapid testing of single cells of storage and other batteries. The voltmeter is provided with a special detachable spike terminal, designed to minimize the time required to make a test. In form it resembles somewhat a speed indicator, and is extremely convenient to manipulate and to read.

The ammeter also has conveniently arranged binding-post, but otherwise it resembles in general appearance the switchboard instruments. The form of the case of both the voltmeter and the ammeter is convenient to hold in the hand, thus adding much to the general usefulness of the instruments.

VOLTMETERS

	Range Volts	*List Price Each
Voltmeter	3-0-3	\$22.00

ZERO CENTER AMMETERS

Range Amperes	*List Price Each	Range Amperes	*List Price Each
1-0-1	\$22.00	7.5-0-7.5	\$22.00
1.5-0-1.5	22.00	10-0-10	22.00
2-0-2	22.00	15-0-15	22.00
3-0-3	22.00	20-0-20	22.00
5-0-5	22.00	30-0-30	22.00

ZERO LEFT AMMETERS

1	\$22.00	7.5	\$22.00
1.5	22.00	10	22.00
2	22.00	15	22.00
3	22.00	20	22.00
4	22.00	25	22.00
5	22.00	30	22.00

DIMENSIONS

Voltmeters

Vertical case only, 3.5 inches, with terminal, 4.9 inches; horizontal, 4.2 inches; depth, 1.35 inches.

Ammeters

Vertical, 3.7 inches; horizontal, 4.2 inches; depth, 1.4 inches.

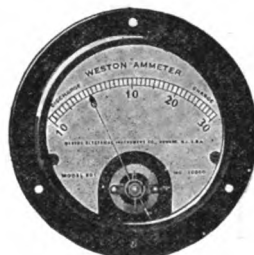
Model 279 voltmeters for other ranges than 3-0-3 will be supplied within practical limits, prices for which will be quoted upon request.

All portable voltmeters will be supplied with leather cases when so ordered at an additional charge to the list price of \$2.50.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

**WESTON INSTRUMENTS
MODEL 301—FOR AUTOMOBILES**


Zero-Center Ammeter



Zero-Left Ammeter

Weston Miniature Voltmeter and Ammeters

These instruments are especially designed for installation in automobiles. They are reliable, accurate and serviceable for measuring the voltage and rate of charge or discharge of batteries.

List No.		Mounting	Diam. Case	Depth	Scale Length	List Price
301	Ammeter	Front	2.750	1.234	2.35	\$12.00
301	Voltmeter	Flush	3.250	1.171	2.35	12.00
301	Ammeter	Flush	3.250	1.171	2.35	12.00

RANGES AMMETERS AND VOLTMETERS
AMMETERS
Zero-Left

0-1 amperes	0-8 amperes
0-1.5 amperes	0-10 amperes
0-2 amperes	0-12 amperes
0-2.5 amperes	0-15 amperes
0-3 amperes	0-20 amperes
0-4 amperes	0-25 amperes
0-5 amperes	0-30 amperes

Zero-Center

1-0-1 amperes
1.5-0-1.5 amperes
2-0-2 amperes
3-0-3 amperes
5-0-5 amperes
10-0-10 amperes
15-0-15 amperes
20-0-20 amperes
30-0-30 amperes

Zero $\frac{1}{4}$ Scale
10-0-30 amperes

VOLTMETERS
Zero-Left

0-1 volts	0-25 volts
0-1.5 volts	0-30 volts
0-2 volts	0-40 volts
0-2.5 volts	0-50 volts
0-3 volts	
0-4 volts	

Zero-Center
3-0-3 volts

‡Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries, write nearest house.

G. E. Lamp Testing Watt Indicator
Type L


No. 60565

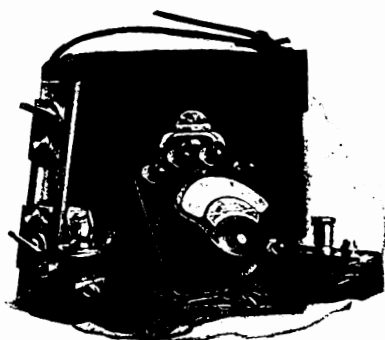
This instrument indicates the watts consumed by the lamp. The plug end of the instrument is equipped with a spring contact end, permitting an extra turn so that the scale may always be in full view.

The instrument is $6\frac{1}{4}$ inches long, $3\frac{3}{4}$ inches wide and $2\frac{1}{2}$ inches deep; it can be easily slipped into the pocket, and is therefore conveniently carried.

The aluminum part of the case is buffed, while the domes are finished in black oxide.

List No.	Amperes	Watts	*List Price Each
60565	1.5	125	\$28.00

WESTON INSTRUMENTS



**Model 280
Garage Testing Instrument**

Weston Model 280 Garage Testing Instrument

The Weston garage testing instrument is extremely serviceable and will prove of invaluable assistance to the employees in any garage. This instrument is adjusted for ranges of 30 and 3 volts and 100 millivolts, and is provided with external shunts of 3, 30 and 300 ampere rating for use in current measurements. The 30 volt range is useful for determining the voltage of the starting or lighting system or batteries. The 3 volt range is of service in testing the individual storage batteries. The 100 millivolt range may be used to determine the drop over segments of the commutator of the motor or generator. The 3 ampere range is of value in testing the current required by single lights. The 30 ampere range will denote the current required by a complete lighting circuit or the magnitude of leaks. The 300 ampere range is useful to determine the starting current. The foregoing are merely a few illustrative tests to indicate the flexibility and scope of the instrument.

List No.

280

Garage testing instrument.....

Leather carrying case.....

*List Price

\$40.50

4.96



**Model 354
Surface Type**

Weston Model 354 Direct Current Ammeter

The model No. 354 is an excellently made and reliable instrument, designed with a full knowledge of the severe conditions of the automobile service, and if properly installed, will operate successfully on any standard lighting and starting equipment, either one or two unit excepting those in which the charging and lighting circuits are not electrically separated from the starting circuits. The latter systems are those in which the current for starting is passed through the ammeter. The action of the pointer of these instruments is extremely quick and responsive, and at the same time properly deadbeat so that excessive overswing and constant oscillations from any other cause than corresponding changes in the actual strength of the current in the circuit do not occur. In other words, the pointer of the instrument moves instantly in response to every change in the strength of the current flowing in the circuit, and the instrument very correctly indicates the value of such changes. It follows therefore that wherever the spark coil is operated by a battery and the primary of the coil is included in the ammeter circuit, the ammeter will quite accurately respond to the current impulses in the coil, and indicate very closely its true average value. These ammeters are furnished with three styles of cases, i.e.: (1st) flush type with wide flange to be screwed directly to the cowl or dash board. (2nd) front projecting type with back connecting studs serving the dual function of providing a means of making electrical connections and securing the instrument in position; (3rd) flush type narrow flange, which is secured in position by means of a special clamp.

Model 354 ammeters are finished with full nickel or full black finish, but we suggest the nickel finish unless a strong preference exists for the black finish. The model 354 is always furnished with zero in the center of the scale only, and in various ranges for special purposes. The standard ranges for automobile service, however, are 15-0-15 amperes and 30-0-30 amperes. With each meter is furnished a full size templet for drilling or cutting the dash.



**Model 354
Flush Type**



**Model 354
Rear View
Surface Type**

List No.

354

354

354

354

Range Amperes

10-0-10

15-0-15

20-0-20

30-0-30

*List Price

\$6.38

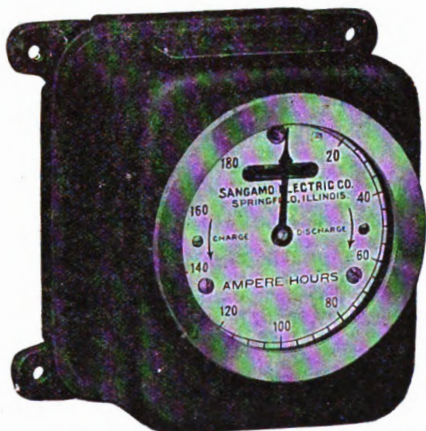
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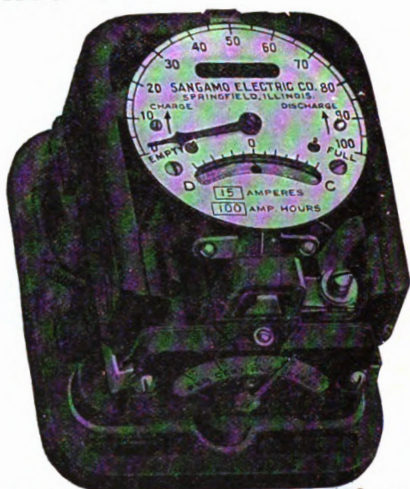
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*Delivery F. O. B. Newark, N. J. For warehouse deliveries wire nearest house.

SANGAMO AMPERE-HOUR METERS



Standard Type MS Ampere-Hour Meter



Type MS Ampere-Hour Meter with Current Indicator

Type MS Ampere-Hour Meter
For Use with Storage Batteries in Every Service

The almost universal use of storage batteries on automobiles and motorboats, and the increasing use of small electric lighting plants of the Western Electric Hyray type, which makes use of storage batteries, has opened a wide field for the type MS ampere hour meter.

With one of these meters installed, the storage battery user can determine instantly the condition of the battery, and it is of vital importance that an instrument of this type be used, as it results in: Increased life of battery, higher operating efficiency of battery, insurance against absolute discharge of battery, protection against short circuits on battery, insurance against overcharging battery.

Construction. Among the principal features of the type MS ampere hour meter are its compactness and light weight, so that it can be mounted on the dashboard of an automobile, taking up no more room than a clock or a speedometer. It is not injured by the severe shocks or jars incident to operation in automobiles.

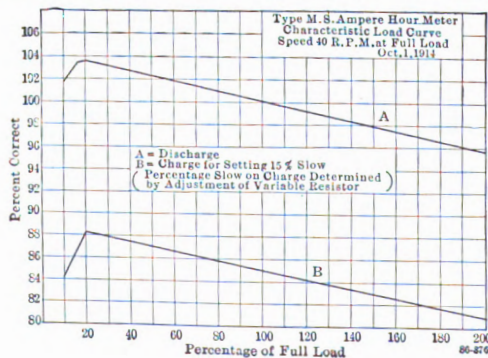
All meters in capacity from 15 to 60 amperes inclusive have internal shunts, except those for use on gasoline cars with self-starter systems, in which case a 40 ampere meter, having a small external shunt, is employed. This permits the removal of the meter at any time without interrupting the battery circuit.

All meters of 80 and 100 ampere capacity have external shunts.

Meters may be furnished with back connecting studs or bottom connecting straps.

Application. The regular type MS meter is to be recommended for electric vehicles, isolated plants, signal batteries, etc., where separate ammeters are available for measuring the charging or discharging current. The meter is furnished with a red hand stamped "Empty," which can be set at any desired point as a guide by the user. It also has an insulated contact point at zero, or full charge point, which is closed by a platinum tip on the indicating hand, thus operating a circuit breaker or signal device when the battery is fully charged. Similar contacts may be located by the user to signal certain points in the discharge.

The type MS meter with the current indicator is especially for self-starting systems where no ammeter is used. The current indicator shows whether the battery is charging, discharging or floating, the ampere hour dial indicating the condition of the battery. If accurate current measurement is desired, a standard Weston type 354 auto meter is recommended to be used with the regular type MS ampere hour meter.

Characteristic Load Curve of the MS Ampere-Hour
Measuring and Testing Instruments

Amperes	List Prices	
	Regular	With Current Indicator
15.....	\$23.86	\$26.10
30.....	25.66	27.90
40.....	27.00	29.26
60.....	28.80	30.84
80.....	31.50	35.10
100.....	32.86	38.26

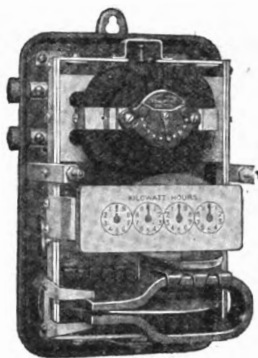
List Price	
One additional fixed contact.....	\$0.90
Compensation for high discharge rates (any capacity).....	2.26
External shunts, 30 to 60 amperes with 2 ft. leads.....	2.26
Thermo couple, 110 volts or less.....	1.36
Special dials (to cover cost of engraving), Net.....	10.00

DUNCAN WATTHOUR METERS

Direct Current



Model E, Small Size, With Cover in Position



Model E, Small Size, With Cover Removed

Models E and ER

The Duncan Direct Current Watthour Meter has now been on the market for twelve years. Its design has been kept strictly in conformity with the growing demands of the central station. It gives correct registration on loads as low as one per cent. of its normal rating in amperes.

The field coils of model E are traversed by the main current supplied to the translating devices, such as lamps, motors, etc., and the armature is energized by a current proportional to the pressure in volts, and having a resistance in series with it for the purpose of keeping the shunt current as small as possible. The Model ER is of the shunted type and a portion only of the main current traverses its field coils.

Armature. The armature for the various model E meters is wound with No. 40 B&S silk insulated electrolytic copper wire. After being wound they are thoroughly insulated with the best grade of pure grain alcohol orange shellac, then baked at a moderate heat for ten hours. After this they are aged by storing for six months before being assembled in the meters.

Commutator. The commutators are made from hard drawn silver that has a guaranteed fineness of .9995.

Field Coils. They are machine wound with double cotton covered magnet wire and of such a cross section that when the meter is loaded to full capacity, it does not exceed 600 amperes per square inch.

Brushes. The brushes are of the direct tension type of phosphor bronze wires and are provided with silver tips where they make contact with the commutator.

Permanent Magnets. They are made from special tungsten steel and strictly in accordance with a special formula.

Jeweled Bearings. It being imperative that the friction of the main revoluble element, comprising the spindle, worm, commutator, armature, and disk which it carries, be as small as possible, a cupped jewel bearing made from Australian sapphire is used. In the larger sizes of house type meters, that is, above 100 amperes, and all sizes in the switchboard types, a cupped diamond bearing is used.

Light Load Compensating Switch. This switch controls the number of turns in the compensating coil that is situated within the front series field coil, and moving the little lever or arm either cuts in or cuts out turns of the compensating coil. This switch is employed to adjust, when necessary, the meter to accuracy on light load.

See following page for prices.

DUNCAN WATTHOUR METERS

Direct Current

E and ER Continued

Model "E" meters are of the series type, and are made for capacities as shown in the price list. They develop a driving torque or power of not less than 150 millimeter grams, thus continued accuracy is assured. The Model "E" meters are also made with ASTATIC FIELD COILS and ARMATURE in sizes including 25 amperes and larger, and when this feature is wanted, please specify MODEL "EA." For Model "EA" meters the list prices are 10 per cent. higher than those for the Model "E." The Models "E" and "EA," like all Duncan watthour meters, are very simple in design, consequently easily accessible for adjustments and repairs.

Model ER is of the shunted type and is provided with a shunt that is connected in series in the main feeder or line, and having flexible cables that connect it with the field coils of the meter. This arrangement allows only a portion of the main current from the circuit to pass through the field coils of the Model ER, and for this reason it adapts it most admirably for heavy currents, and we are prepared to furnish it for any capacity up to and including 30,000 amperes at either 110, 220 or 500 volts. The armature in the Model ER is slightly different from the armature employed in the other series type models. Its form resembles that of a squirrel cage, instead of the coils being wound around the armature the same as is practiced in the building of a form wound armature for dynamos, and for this reason repairs to the armature are easily taken care of and made at small expense.

MODEL E

Model	Amperes	110 to 125 Volts 2 Wire	220 to 250 Volts 2 Wire	500 to 600 Volts 2 Wire	220 to 250 Volts 3 Wire	440 to 500 Volts 3 Wire
		*List Price	*List Price	*List Price	*List Price	*List Price
E	2½	\$25.65	\$29.70	\$37.80	\$29.70	\$39.60
E	5	25.65	29.70	37.80	29.70	39.60
E	7½	.....	31.50	.....	31.50	.....
E	10	27.90	33.30	42.30	33.30	44.10
E	15	31.50	38.70	49.50	38.70	54.00
E	25	36.90	45.90	58.50	45.90	63.00
E	50	47.70	56.70	72.00	58.50	76.50
E	75	63.00	72.00	85.50	76.50	90.00
E	100	73.80	85.50	99.00	90.00	103.50
E	150	90.00	106.20	117.00	113.40	121.50
E	200	103.50	121.50	139.50	135.00	144.00
E	300	117.00	135.00	162.00	157.50	166.50
E	400	135.00	153.00	175.50		
E	500	153.00	171.00	184.50		
E	600	171.00	189.00	198.00		

MODEL ER

ER	100	\$157.50	\$166.50	\$180.00	\$211.50	\$225.00
ER	150	162.00	171.00	184.50	225.00	238.50
ER	200	166.50	180.00	193.50	238.50	252.00
ER	300	175.50	193.50	202.50	265.50	279.00
ER	400	184.50	202.50	211.50	283.50	297.00
ER	500	193.50	207.00	220.50	292.50	306.00
ER	600	202.50	211.50	225.50	310.50	324.00
ER	800	207.00	220.50	229.50	324.00	337.50
ER	1000	211.50	225.00	238.50	333.00	355.50
ER	1200	220.50	229.50	247.50	351.00	364.50
ER	1500	225.00	238.50	252.00	360.00	373.50
ER	2000	238.50	252.00	265.50	387.00	400.50
ER	2500	252.00	265.50	279.00	414.00	427.50
ER	3000	265.50	283.50	292.50	440.00	454.50
ER	4000	292.50	310.50	324.00	495.00	508.50
ER	5000	333.00	351.00	360.00	571.50	585.00

*Delivery F. O. B. Factory, Lafayette, Ind. For warehouse deliveries, write nearest house.
 Measuring and Testing Instruments

DUNCAN SWITCHBOARD WATTHOUR METERS

Direct Current



Model F



Model FR

Models F and FR

Model F meters are of the series type and include sizes from 100 amperes to 600 amperes, 2 wire, and from 100 amperes to 300 amperes, 3 wire. The case or cover for this model is similar to the one provided with the Model "FR" as shown in the cut.

Model FR meters are of the shunted type and include sizes from 100 to 20,000 amperes.

Both Models F and FR have their internal metal parts finished in frosted nickel and are provided with a sheet metal cover having an all glass window in the front only. The cover is given three coats of white enamel on the inside, but the back support and internal mechanism are finished similar to the house type meters. The outside of the case and back support are enameled in plain black which is both neat and durable.

In furnishing Model FR meters we supply them with shunt leads or connecting cables 5 feet in length, so if additional lengths are required, please specify same when ordering, and for which an extra charge is made.

MODEL F

Model	Amperes	110 to 125 Volts 2 Wire	220 to 250 Volts 2 Wire	500 to 600 Volts 2 Wire	220 to 250 Volts 3 Wire	440 to 500 Volts 3 Wire
		*List Price	*List Price	*List Price	*List Price	*List Price
F	100	\$114.30	\$126.00	\$139.50	\$162.00	\$171.00
F	150	126.00	138.60	151.20	180.00	189.00
F	200	135.00	151.20	166.50	193.50	202.50
F	300	148.50	164.70	182.70	216.00	211.50
F	400	162.00	175.50	193.50		
F	500	175.50	187.20	205.20		
F	600	187.20	200.70	211.50		

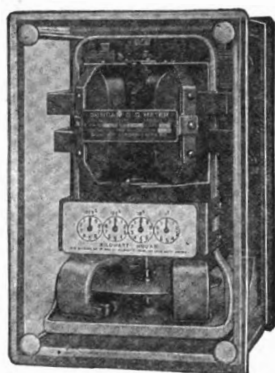
MODEL FR

FR	100	\$162.00	\$171.00	\$180.00	\$220.50	\$229.50
FR	150	166.50	175.50	184.50	234.00	243.00
FR	200	171.00	184.50	193.50	247.50	256.50
FR	300	180.00	198.00	207.00	274.50	283.50
FR	400	189.00	207.00	216.00	292.50	301.50
FR	500	198.00	211.50	220.50	301.50	310.50
FR	600	207.00	216.00	225.00	319.50	328.50
FR	800	216.00	225.00	234.00	333.00	342.00
FR	1000	225.00	229.50	238.50	342.00	351.00
FR	1200	229.50	234.00	243.00	360.00	369.00
FR	1500	238.50	243.00	252.00	369.00	378.00
FR	2000	256.50	261.00	270.00	396.00	405.00
FR	2500	265.50	270.00	279.00	423.00	432.00
FR	3000	283.50	288.00	297.00	450.00	459.00
FR	4000	310.50	315.00	324.00	504.00	513.00
FR	5000	351.00	355.50	364.50	580.50	589.50
FR	6000	387.00	396.00	405.00	661.50	670.50
FR	8000	432.00	441.00	450.00	747.00	756.00
FR	10000	477.00	486.00	495.00	832.50	841.50
FR	12000	522.00	531.00	540.00	918.00	927.00
FR	15000	585.00	594.00	603.00	1008.00	1017.00
FR	20000	639.00	652.50	661.50	1125.00	1134.00

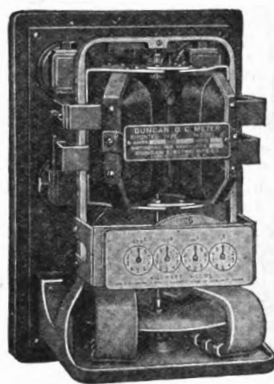
*Delivery F. O. B. Factory, Lafayette, Ind. For warehouse deliveries, write nearest house.

DUNCAN SWITCHBOARD WATTHOUR METERS

Direct Current



Model R Shunted Type Astatic



Model R Glass Cover Removed

Model R

All Model R watt-hour meters are of the shunted type.

They are provided with a neat all plate glass cover; the front of the back support and the magnet shelf are finished in white enamel; the field coils and magnets are finished in hard rubber black, and the rest of the mechanism will be finished in polished copper, polished nickel or hard rubber black and nickel combination. The latter finish will be furnished unless otherwise advised.

Five foot cables are provided with each meter as a standard length and for additional lengths an extra charge will be made.

Model	Amperes	110 to 125 Volts 2 Wire	220 to 250 Volts 2 Wire	500 to 600 Volts 2 Wire	220 to 250 Volts 3 Wire	440 to 500 Volts 3 Wire
		*List Price	*List Price	*List Price	*List Price	*List Price
R 100	100	\$171.00	\$180.00	\$189.00	\$229.50	\$238.50
R 150	150	175.50	184.50	193.50	243.00	252.00
R 200	200	180.00	193.50	202.50	256.50	265.50
R 300	300	189.00	207.00	216.00	283.50	292.50
R 400	400	198.00	216.00	225.00	301.50	310.50
R 500	500	207.00	220.50	229.50	310.50	319.50
R 600	600	216.00	225.00	234.00	328.50	337.50
R 800	800	225.00	234.00	243.00	342.00	351.00
R 1000	1000	234.00	238.50	247.50	351.00	360.00
R 1200	1200	238.50	243.00	252.00	369.00	378.00
R 1500	1500	247.50	252.00	261.00	378.00	387.00
R 2000	2000	265.50	270.00	279.00	405.00	414.00
R 2500	2500	274.50	279.00	288.00	432.00	441.00
R 3000	3000	292.50	297.00	306.00	459.00	468.00
R 4000	4000	319.50	324.00	333.00	513.00	522.00
R 5000	5000	360.00	364.50	373.50	589.50	598.50
R 6000	6000	396.00	405.00	414.00	670.50	679.50
R 8000	8000	441.00	450.00	459.00	756.00	765.00
R 10000	10000	486.00	495.00	504.00	837.00	850.50
R 12000	12000	535.50	549.00	558.00	945.00	958.50
R 15000	15000	598.50	612.00	625.50	1107.00	1120.50
R 20000	20000	801.00	810.00	828.00	1305.00	1318.50

*Delivery F. O. B. Factory, Lafayette, Ind. For warehouse deliveries, write nearest house.

NET EXTRA COST OF SHUNT CABLES (In Excess of 5 Feet)

For Models FR and R Meters

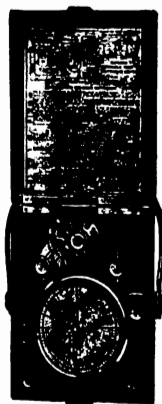
Length	Price	Length	Price
6.....	\$0.96	14.....	\$8.47
8.....	3.55	16.....	10.40
10.....	4.40	18.....	13.37
12.....	6.67	20.....	15.38

Measuring and Testing Instruments

DUNCAN PORTABLE TEST WATTHOUR METERS

Direct Current

Model HC



Model HC

This meter involves the same theory of operation as all Duncan commutator type direct current watthour meters. The current upon entering the meter is controlled by the cylindrical switch at the rear, and the spring contacts resting against it operate to arrange the windings of the series field coils for the different loads. For example, when the switch is set for minimum load, all of the windings of the field coils are in series, and when the switch is set for maximum capacity, all of these coils are in multiple. This arrangement gives maximum torque for the different capacities, and herein lies the success attending the use of the Duncan Portable Watthour Meter. At the top of the meter and immediately behind the dial is situated the series binding posts, and the handle for the controller switch. Attached to this handle is a marked index which shows the capacity in amperes, and the setting of this index for any desired load is the simplest operation possible. There is also provided a knife switch arrangement for short-circuiting the series field coils of the meter, and is used when changing the load so as to avoid opening the work circuit. For example, before changing from one load to another, this knife switch is closed, then the controller switch is set for the desired load, then after such load has been applied, the short-circuiting switch is opened and permits the current from the work circuit to pass through the series field coils. The dial is the "fly-back" type, as is found in stop watches, and the Duncan Company was the first to employ and embody this novel mechanism in its meters, which allows the meter man to start off from zero with every test.

A heat switch is provided by the use of which much time is saved and the instrument rendered more accurate. By pressing down this switch and giving it a slight turn to hold it in place, the armature of the standard is quickly brought up to operating temperature, thus eliminating errors due to the temperature coefficient of copper.

This instrument is started and stopped by means of a snap switch whose design is such that the potential circuit is always closed except when pressure is applied to the push button. This feature is another aid to accuracy as it keeps the armature from cooling off between runs.

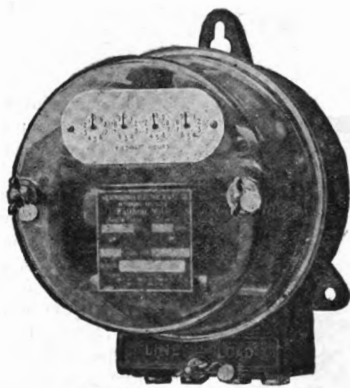
List No.	Amperes	Volts	*List Price
321400	1-2-5-10-25-50	110	\$191.25
321401	1-2-5-10-25-50	220	202.50
321402	1-2-5-10-25-50	500	213.75
321403	1-2-5-10-25-50	110-220	225.00
321404	1-2-5-10-25-50	110-500	231.75
321405	1-2-5-10-25-50	220-500	236.25
321406	1-2-5-10-25-50	110-220-500	247.50
321407	5-10-25-50-100	110	213.75
321408	5-10-25-50-100	220	225.00
321409	5-10-25-50-100	500	236.25
321410	5-10-25-50-100	110-220	247.50
321411	5-10-25-50-100	110-500	254.25
321412	5-10-25-50-100	220-500	258.75
321413	5-10-25-50-100	110-220-500	270.00

*Delivery F. O. B. Factory, Lafayette, Ind. For warehouse deliveries, write nearest house.

ALTERNATING CURRENT WATTHOUR METERS



Type OA Meter, Metal Cover



Type OA Meter, Glass Cover

Type "OA" Watthour Meter

Single Phase

Westinghouse type OA meters have been developed and constantly improved, with the fact in mind that long-life accuracy and low maintenance cost are features equal in importance to initial accuracy. The permanence of the calibration of these meters results in the least loss of revenue from inaccuracy and entails the least cost for service tests. Their durable mechanical construction minimizes the renewal of parts.

Construction. All parts of the meter element are mounted on a supporting casting and can be removed from the case as a unit without changing the calibration. The moving element is of the disk type, acted on by the electromagnets at one edge and the permanent magnets at the opposite edge. The electro-magnet punchings are in one piece, and shifting of one part with reference to another is thus obviated. They form a closed magnetic circuit, a feature that makes the meter remarkably free from the effects of stray fields.

Case and Cover. The case is of cast iron and covers of pressed zinc with dead black finish, or of glass. The cover is fitted with a dust-proof gasket and the glass windows are sealed. These precautions absolutely prevent the entrance of dust, which would in time cause friction errors.

Terminal Chamber. A separately sealed terminal chamber is provided at the bottom, separated by a dust-proof partition from the meter chamber. As the main cover does not need to be removed at installation, there is no chance for dust entering the mechanism.

Register. The registering mechanism is designed for minimum friction. The four-index dial is of sheet metal painted with a permanent white paint and baked. The dial reads directly in kilowatt-hours, except on the higher capacity meters when a multiplier is indicated on the dial.

Bearings. The main (lower) bearing is a highly polished and hardened steel ball resting between two sapphire cup jewels. The minute gyrations of the shaft give the ball a rolling action which makes a very low coefficient of friction and, by presenting constantly new bearing surfaces, gives an extremely long life. The upper bearing is a self-rolling guide bearing.

Torque and Weight. The ratio of torque to weight in the type OA meters is very high, insuring a long life and freedom from friction errors for long periods.

Connections. Both sides of the circuit are brought into the terminal chamber and the shunt connection is in the terminal chamber. Left-hand feed only is provided.

Adjustments. The ends of the permanent magnet support slide in machined grooves and are each clamped by two screws. This prevents deflecting the magnets in tightening the clamping screws when making full-load adjustment. Micrometer full-load and light-load adjustment can be made from the front of the meter. The only tool required to make adjustments is a screwdriver.

Three-wire meters are identical in appearance with the two-wire. The rated current is that in each outside wire.

See following pages for prices.

Measuring and Testing Instruments

TYPE "OA" WATTHOUR METER

Alternating Current

40 and 60 Cycle, Self-contained

Left-hand Feed—Single-phase

Price includes meter complete with metal or glass cover as listed, ready for installation.

40 Cycles		60 Cycles		Capacity			List Price Each
Metal Cover	Glass Cover	Metal Cover	Glass Cover	Volts	Amp.	Kw.	
List No.	List No.	List No.	List No.				
170780	170790	161363	161373	100	5	.5	\$15.26
170781	170791	161364	161374	100	10	1	17.86
170782	170792	170818	170824	100	15	1.5	20.16
170784	170794	170820	170826	100	25	2.5	24.36
224769	224793	224817	224851	100	50	5	33.32
224770	224794	224818	224852	100	75	7.5	38.50
224771	224795	224819	224853	100	100	10	42.22
224772	224796	224820	224854	100	150	15	45.50
224773	224797	224821	224855	100	200	20	46.90
224774	224798	224822	224856	100	300	30	47.88
195521	195549	195570	195582	200	5	1	17.16
195522	195550	195571	195583	200	10	2	19.68
195523	195551	195572	195584	200	15	3	22.06
195525	195553	195574	195586	200	25	5	26.74
224775	224799	224823	224857	200	50	10	36.12
224776	224800	224824	224858	200	75	15	41.30
224777	224801	224825	224859	200	100	20	45.02
224778	224802	224826	224860	200	150	30	48.80
224779	224803	224827	224861	200	200	40	50.68
224780	224804	224828	224862	200	300	60	51.66
195415	195427	195463	195475	400	5	2	19.40
195416	195428	195464	195476	400	10	4	22.06
195417	195429	195465	195477	400	15	6	24.50
195419	195431	195467	195479	400	25	10	29.62
224781	224805	224829	224863	400	50	20	39.48
224782	224806	224830	224864	400	75	30	44.66
224783	224807	224831	224865	400	100	40	48.44
224784	224808	224832	224866	400	150	60	52.86
224785	224809	224833	224867	400	200	80	55.58
224786	224810	224834	224868	400	300	120	56.56

500 volt, 60 cycle meters can be supplied on special order at the same price as 400 volt meters of the same ampere capacity.

3 WIRE

170785	170795	161367	161377	100-200	5	1	\$17.16
170786	170796	161368	161378	100-200	10	2	19.68
170787	170797	170821	170827	100-200	15	3	22.06
170789	170799	170823	170829	100-200	25	5	26.74
224789	224813	224847	224881	100-200	50	10	36.12
224790	224814	224848	224882	100-200	75	15	41.30
224791	224815	224849	224883	100-200	100	20	45.02
224792	224816	224850	224884	100-200	150	30	48.80

Type "OA" Meters for

133 CYCLES

The type OA meters can be supplied for 133 cycle service by the use of a special power factor coil, all other parts being standard. Meters so provided cannot thereafter be used on 60 cycles without changing the power factor coil to the standard one for that frequency.

133 cycle meters will be furnished at the price of the 60 cycle meters, but it should be determined at the time the order is entered whether or not these meters will afterward be changed back to 60 cycles, in which case the extra 60 cycle power factor coils should be ordered and will be supplied without extra charge. These coils can be supplied at any time after the meters are ordered, but under such conditions will be charged for at a nominal price. The change from one frequency to another can be easily made by the customer.

TYPE "OA" WATTHOUR METER

Alternating Current

25-Cycle Self-Contained
Left-hand Feed—Single-phase

Price includes meter complete with metal or glass cover as listed, ready for installation.

2 WIRE

Metal Cover	Glass Cover	Capacity			List Price Each
List No.	List No.	Volts	Amp.	KW.	
183728	183763	100	5	.5	\$16.24
183729	183764	100	10	1	18.84
183730	183765	100	15	1.5	21.14
183732	183767	100	25	2.5	25.34
227216	227225	100	50	5	34.30
227217	227226	100	75	7.5	39.48
183736	183771	100	100	10	43.20
227218	227227	100	150	15	46.48
183738	183773	100	200	20	47.88
183739	183774	100	300	30	48.86
183740	183775	200	5	1	18.14
183741	183776	200	10	2	20.66
183742	183777	200	15	3	23.04
183744	183779	200	25	5	27.72
227219	227228	200	50	10	37.10
227220	227229	200	75	15	42.28
183748	183783	200	100	20	46.00
227221	227230	200	150	30	49.78
183750	183785	200	200	40	51.66
183751	183786	200	300	60	52.64
195391	195403	400	5	2	20.38
195392	195404	400	10	4	23.04
195393	195405	400	15	6	25.48
195395	195407	400	25	10	30.60
227222	227231	400	50	20	40.46
227223	227232	400	75	30	45.64
195399	195411	400	100	40	49.42
227224	227233	400	150	60	53.84
195401	195413	400	200	80	56.56
195402	195414	400	300	120	57.54

3 WIRE

183752	183787	100-200	5	1	\$18.14
183753	183788	100-200	10	2	20.66
183754	183789	100-200	15	3	23.04
183756	183791	100-200	25	5	27.72
227234	227236	100-200	50	10	37.10
227235	227237	100-200	75	15	42.28
183760	183795	100-200	100	20	46.00
183762	183797	100-200	150	30	49.78

Type "OA" Meters for Use with Transformers

Left-hand Feed—Single-phase

Price includes meter with gear train and dial as ordered. Transformers should be ordered separately.

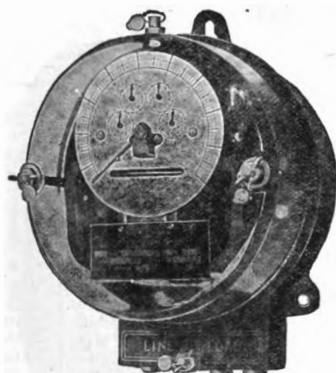
2 WIRE

Metal Cover	Glass Cover	Capacity			List Price Each
List No.	List No.	Frequency Cycles	Volts	Amp.	
183954	183957	25	100	5	\$21.98
183955	183958	25	200	5	23.88
195533	195561	40	100	5	21.00
195534	195562	40	200	5	22.90
224787	224811	40	400	5	25.14
183960	183963	60	100	5	21.00
183961	183964	60	200	5	22.90
224845	224879	60	400	5	25.14

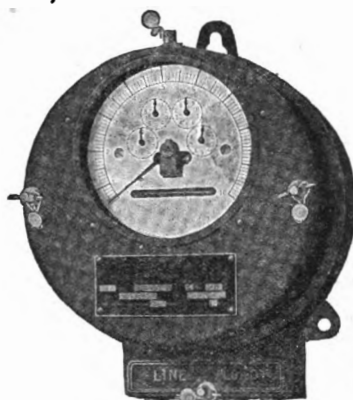
3 WIRE

183956	183959	25	100-200	5	\$23.88
195541	195569	40	100-200	5	22.90
183962	183965	60	100-200	5	22.90

TYPE RO WATTHOUR DEMAND METERS



Glass-Covered Meter



Metal-Covered Meter

Type RO Watthour Demand Meters SINGLE PHASE

The Type RO Watthour Demand is a single meter that records both the kilowatt-hours consumed and the maximum kilowatt demand. The meter is a combination of induction watthour meter, induction wattmeter and an escapement form of time element. All parts are mounted on a supporting casting and can be removed from the case as a unit without changing the calibration. Both sides of the circuit are brought into the terminal chamber and the shunt connection is inside the meter. Left hand feed is provided. The demand mechanism is calibrated by adjusting the position and length of the control spring.

60 Cycle—2 Wire Meters

Volts	Amperes	K.W.	—5 Minute Interval—		—15 Minute Interval—		—30 Minute Interval—		*List Price Each
			Metal Cover	Glass Cover	Metal Cover	Glass Cover	Metal Cover	Glass Cover	
			List No.	List No.	List No.	List No.	List No.	List No.	
100	5	.5	202955	202971	190336	190341	190346	190351	\$42.26
100	10	1	202956	202972	190337	190342	190347	190352	44.48
100	15	1.5	202957	202973	190338	190343	190348	190353	46.46
100	25	2.5	202959	202975	190340	190345	190350	190355	50.02
100	50	5	225845	225847	225849	225851	225853	225855	57.70
100	75	7.5	225846	225848	225850	225852	225854	225856	62.14
200	5	1	202963	202979	197821	197829	197837	197845	43.88
200	10	2	202964	202980	197822	197830	197838	197846	46.04
200	15	3	202965	202881	197823	197831	197839	197847	48.06
200	25	5	202967	202983	197825	197833	197841	197849	52.08
200	50	10	225865	225867	225869	225871	225873	225875	60.08
200	75	15	225866	225868	225870	225872	225874	225876	64.52

60 Cycle—3 Wire Meters

Volts	Amperes	K.W.	—5 Minute Interval—		—15 Minute Interval—		—30 Minute Interval—		*List Price Each
			Metal Cover	Glass Cover	Metal Cover	Glass Cover	Metal Cover	Glass Cover	
			List No.	List No.	List No.	List No.	List No.	List No.	
100-200	5	1	202987	202994	197526	197533	197540	197547	\$43.88
100-200	10	2	202988	202995	197527	197534	197541	197548	46.04
100-200	15	3	202989	202996	197528	197535	197542	197549	48.06
100-200	25	5	202991	202998	197530	197537	197544	197551	52.08
100-200	50	10	225881	225882	225883	225884	225885	225886	60.08

METERS FOR USE WITH TRANSFORMERS

List No. and list price include 5 ampere meter of the voltage listed, for use with transformers, but do not include transformer. When a meter is desired with register reading directly in kilowatt-hours in the primary circuit, it should be ordered as: "Meter similar to List No. (give List No. of 100 volt meter from the following table), except with register for / 5 ampere and / 100 volt transformer"; or "Meter similar to List No. (give List No. of 200, 400 or 500 volt meter from the following table), except with register for / 5 ampere transformer." Price for the meter with register as ordered will be the same as for meter listed. Transformers should be added at regular prices.

2 WIRE METERS

100	5	226670	226672	226674	226676	226678	226680	\$47.16
200	5	226671	226673	226675	226677	226679	226681	48.78

3 WIRE METERS

100-200	5	226686	226687	226688	226689	226690	226691	48.78
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*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

TYPE RO WATTHOUR DEMAND METERS

Self Contained—25 Cycles

2 WIRE SINGLE PHASE

Volts	Amp.	K.W.	List Nos.						List Price Each
			1 Minute Interval		2 Minute Interval		5 Minute Interval		
			Metal Cover	Glass Cover	Metal Cover	Glass Cover	Metal Cover	Glass Cover	
100	5	.5	206721	206744	206767	206790	206813	206836	\$42.26
100	10	1	206722	206745	206768	206791	206814	206837	44.48
100	15	1.5	206723	206746	206769	206792	206815	206838	46.46
100	25	2.5	206725	206748	206771	206794	206817	206840	50.02
100	50	5	225887	225889	225891	225893	225895	225897	57.70
100	75	7.5	225888	225890	225892	225894	225896	225898	62.14
200	5	1	206729	206752	206775	206798	206821	206844	43.88
200	10	2	206730	206753	206776	206799	206822	206845	46.04
200	15	3	206731	206754	206777	206800	206823	206846	48.06
200	25	5	206733	206756	206779	206802	206825	206848	52.08
200	50	10	225907	225909	225911	225913	225915	225917	60.08
200	75	15	225908	225910	225912	225914	225916	225918	64.52

Volts	Amp.	K.W.	List Nos.				List Price Each
			15 Minute Interval		30 Minute Interval		
			Metal Cover	Glass Cover	Metal Cover	Glass Cover	
100	5	.5	206859	206882	206905	206928	\$42.26
100	10	1	206860	206883	206906	206929	44.48
100	15	1.5	206861	206884	206907	206930	46.46
100	25	2.5	206863	206886	206909	206932	50.02
100	50	5	225899	225901	225903	225905	57.70
100	75	7.5	225900	225902	225904	225906	62.14
200	5	1	206867	206890	206913	206936	43.88
200	10	2	206868	206891	206914	206937	46.04
200	15	3	206869	206892	206915	206938	48.06
200	25	5	206871	206894	206917	206940	52.08
200	50	10	225919	225921	225923	225925	60.08
200	75	15	225920	225922	225924	225926	64.52

3 WIRE SINGLE PHASE

Volts	Amp.	K.W.	List Nos.						List Price Each
			5 Minute Interval		15 Minute Interval		30 Minute Interval		
			Metal Cover	Glass Cover	Metal Cover	Glass Cover	Metal Cover	Glass Cover	
100-200	5	1	206829	206852	206875	206898	206921	206944	\$43.88
100-200	10	2	206830	206853	206876	206899	206922	206945	46.04
100-200	15	3	206831	206854	206877	206900	206923	206946	48.06
100-200	25	5	206833	206856	206879	206902	206925	206948	52.08
100-200	50	10	225931	225932	225933	225934	225935	225936	60.08

Meters for Use With Transformers

List No. and list price include 5 ampere meter of the voltage listed, for use with transformers, but do not include transformers. When a meter is desired with register reading directly in kilowatt-hours in the primary circuit, it should be ordered as: "Meter similar to List No. (give List No. of 100 volt meter from the following table), except with register for..... / 5 ampere and / 100 volt transformer"; or "Meter similar to List No. (give List No. of 200, 400 or 500 volt meter from the following table) except with register for..... / 5 ampere transformer." Price for the meter with register as ordered will be the same as for meter listed. Transformers should be added at regular prices.

2 WIRE SINGLE PHASE METERS

100	5	....	226700	226702	226704	226706	226708	226710	\$47.16
200	5	....	226701	226703	226705	226707	226709	226711	48.78

3 WIRE SINGLE PHASE METERS

100-200	5	226716	226717	226718	226719	226720	226721	\$48.78
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Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
Measuring and Testing Instruments

WESTINGHOUSE POLYPHASE WATTHOUR METERS

Alternating Current

Type C Polyphase Meters

Each polyphase meter is virtually two independent meter elements having a common shaft and register.

Standard polyphase meters are furnished with covers of cast aluminum alloy with dial and disk windows. Covers of pressed glass will be supplied with these meters, when so ordered, at same price. Polyphase meters wanted with glass covers should be so ordered.

The number and list price include the meter, with voltage and current transformers, when necessary, ready to connect to the circuit.

Meters for more than 300 amperes per wire require current transformers, and for more than 400 volts 25 cycles or 500 volts 60 cycles voltage transformers.

Meters for three-phase four wire can be furnished self-contained in capacities 5 up to 40 amperes only, also transformer type any capacity.

Type C Polyphase Meter, Metal Cover

25 CYCLES—100 VOLTS

List No.	Current per Wire Amperes	Cap. Kw.	*List Price
46701	5	1	\$53.34
46702	10	2	55.16
130311	15	3	57.19
46703	20	4	58.87
130312	30	6	62.23
46704	40	8	65.24
130313	60	12	71.12
46705	80	16	75.95
130314	100	20	80.29
46706	120	24	84.00
46707	200	40	94.57
82271	300	60	101.01

25 CYCLES—200 VOLTS

46710	5	2	\$59.99
46711	10	4	61.88
130315	15	6	63.91
46712	20	8	65.59
130316	30	12	68.95
46713	40	16	71.89
130317	60	24	77.77
46714	80	32	82.67
130318	100	40	87.15
46715	120	48	90.65
46716	200	80	101.22
82272	300	120	108.78

25 CYCLES—400 VOLTS

46719	5	4	\$73.36
46720	10	8	75.25
130319	15	12	77.21
46721	20	16	78.89
130320	30	24	82.32
46722	40	32	85.33
130321	60	48	91.07
46723	80	64	96.04
130322	100	80	100.45
46724	120	96	104.16
46725	200	160	114.52
.....	300	240	121.10

60 CYCLES—100 VOLTS

List No.	Current per Wire Amperes	Cap. Kw.	*List Price
46755	5	1	\$53.34
46756	10	2	55.16
130323	15	3	57.19
46757	20	4	58.87
130324	30	6	62.23
46758	40	8	65.24
130325	60	12	71.12
46759	80	16	75.95
130326	100	20	80.29
46760	120	24	84.00
46761	200	40	94.57
82273	300	60	101.01

60 CYCLES—200 VOLTS

46764	5	2	\$59.99
46765	10	4	61.88
130327	15	6	63.91
46766	20	8	65.59
130328	30	12	68.95
46767	40	16	71.89
130329	60	24	77.77
46768	80	32	82.67
130330	100	40	87.15
46769	120	48	90.65
46770	200	80	101.22
82274	300	120	108.78

60 CYCLES—400 VOLTS

46773	5	4	\$73.36
46774	10	8	75.25
130331	15	12	77.21
46775	20	16	78.89
130332	30	24	82.32
46776	40	32	85.33
130333	60	48	91.07
46777	80	64	96.04
130334	100	80	100.45
46778	120	96	104.16
46779	200	160	114.52
82275	300	240	121.10

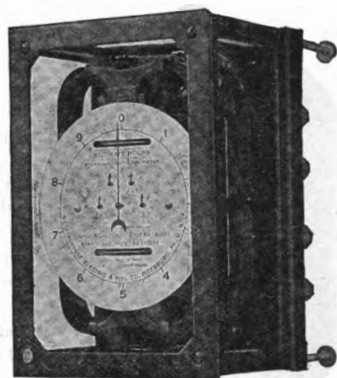
*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries, write nearest house.

WESTINGHOUSE SWITCHBOARD WATTHOUR METERS

Alternating Current



Single-phase, Metal Cover

Type C Polyphase Switchboard Meter
Glass Cover

These meters are the same in principle of operation as the single-phase and polyphase house service meters, but differ somewhat in mechanical construction. The registering mechanism is different from the house service styles, having an additional set of gears actuating a long pointer, and the cases are different to adapt the meters for mounting on a switchboard panel.

Covers—Metal covers, cast of aluminum alloy, are of round pattern to harmonize with other switchboard instruments. Meters are also furnished with glass covers built up of rectangular faces held in a metal framework, similar to Westinghouse graphic meter covers.

Transformers—For rated capacities no transformers are required, but for circuits of higher voltages or larger capacities, the 100-volt 5-ampere meter should be chosen, together with the necessary transformers.

When ordering meters other than listed, the current and voltage, or the kilowatt capacity and voltage of the circuit, and the frequency, must be specified.

With Metal Covers

SINGLE-PHASE

List No.	Volts	Capacity Amperes	Capacity Kilowatts	Cycles	*List Price
54795	100	5	.5	25	\$56.70
54796	200	5	1	25	63.00
54797	400	5	2	25	75.60
54798	100	5	.5	60	56.70
54799	200	5	1	60	63.00
54800	400	5	2	60	75.60

POLYPHASE

54801	100	5	1	25	\$81.90
54802	200	5	2	25	88.20
54803	400	5	4	25	100.80
54804	100	5	1	60	81.90
54805	200	5	2	60	88.20
54806	400	5	4	60	100.80

With Glass Covers

SINGLE-PHASE

183039	100	5	.5	25	\$63.00
183040	200	5	1	25	69.30
183041	400	5	2	25	81.90
183042	100	5	.5	60	63.00
183043	200	5	1	60	69.30
183044	400	5	2	60	81.90

POLYPHASE

183045	100	5	1	25	\$88.20
183046	200	5	2	25	94.50
183047	400	5	4	25	107.10
183048	100	5	1	60	88.20
183049	200	5	2	60	94.50
183050	400	5	4	60	107.10

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

Measuring and Testing Instruments

WESTINGHOUSE PORTABLE STANDARD WATTHOUR METERS

For Alternating Current—Single-phase and Polyphase



Standard Single-phase Watthour Meter

Portable Standard Watthour Meters

Construction. All parts of the meter element are mounted on a supporting casting and can be removed from the case as a unit attached to the insulating face plate without changing the calibration. The moving element is of the disk type, acted on by the electro-magnets at one edge and the permanent magnets of the opposite edge. The electro-magnet punchings are so clamped as to form one piece, and shifting of one part with reference to another is thus obviated. They form a closed magnetic circuit, a feature that makes the meter remarkably free from the effects of stray fields.

Checking service meters by means of a portable standard watthour meter eliminates the use of a stop watch and makes the calibration very simple. With the desired load on, the number of revolutions made by the meter under test is compared directly with the number of revolutions made by the standard meter in the same time, the result indicating by very simple calculation the error of the service meter. Moreover, as both meters are subject to the same variations, being connected in series, it is not necessary to keep the test load absolutely constant or to measure it with great accuracy.

Accuracy—The meters are carefully tested, and guaranteed to be accurate within 2 per cent. plus or minus, from 2 per cent. of full load to 50 per cent. overload, which overload they will carry continuously without injury.

Testing—The test of service meters should always be made with a standard of corresponding capacity. It is recommended that tests be made at full load and at approximately 4 per cent. of full load. Each standard meter is supplied with a set of flexible leads and a push-button switch. By closing and opening the switch the standard meter can be started and stopped at will.

At full load the large pointer on the dial of the standard meter revolves 25 times per minute and the small pointer once per minute.

Meters of other manufacture may be tested by the Westinghouse portable standard by using the printed instructions and table of constants furnished with each meter. This avoids the expense of having several standards for testing different makes of service meters.

Adjustments—The current and voltage setting of the standard meter is accomplished by means of a drum switch, turned by means of a handle on the face plate. This enables the coils to be connected in series or parallel according to the current and voltage values under which it is desired to test the service meter. Suitable graduations and indices enable this handle to be readily set at any capacity within the meter's range.

Finish—Meters are mounted in a polished walnut carrying case with removable cover.

Manufacturing number and list price cover meter complete with flexible leads.

SINGLE-PHASE

List No.	List No.	Volts	Current Amperes	Approximate Net	Weight, Lbs. Shipping	*List Price Each
60 Cycles	25 Cycles					
149742	199341	100-200	1, 5, 10, 20 and 40	15	37	\$145.80
151807	199342	100-200	1, 10, 20, 40 and 80	15	37	162.00
119375	141037	100-200	80 and 160	15	37	145.80

POLYPHASE

151808	151809	100-200	1, 5, 10, 20 and 40	29	65	\$280.80
151812	151813	100-200	1, 10, 20, 40 and 80	29	65	307.80
151818	151819	100-200	80 and 160	29	65	324.00
199345	199344	100-200-400	1, 5, 10, 20 and 40	29	65	324.00
151810	151811	200-400	1, 5, 10, 20 and 40	29	65	280.80
151814	151815	200-400	1, 10, 20, 40 and 80	29	65	307.80
151820	151821	200-400	80 and 160	29	65	324.00
199346	250-500	1, 5, 10, 20 and 40	29	65	280.00

133 CYCLES—SINGLE-PHASE

199343	100-200	1, 5, 10, 20 and 40	15	37	\$145.80
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*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

WESTINGHOUSE GRAPHIC METERS



Type U Closed



Type U Opened

TYPE U SWITCHBOARD AND PORTABLE METERS

These meters are intended primarily for use where small light-weight graphic instruments are desired that are reasonably accurate and that at the same time are comparatively low in price.

Uses. The type U meters are intended primarily for purposes where graphic meters that are easily operated, light in weight, comparatively low in price, and at the same time reasonably accurate, are required. The continuous records of the type U meters, covering a week's time on a single chart, make it possible for central stations to secure at a reasonable cost a number of records much desired but not previously obtained because of the expense.

Arc Light Circuits. One of the most important records for a central station operating series arc lamp is a graphic chart showing the actual time the arc lamps are in operation each night and the actual current supplied to the lamps.

Service Voltage. A graphic meter on the service end of each feeder provides a record of actual conditions. As the type U voltmeter is light and easily set up, it can be transferred weekly or daily from one feeder to another, thus furnishing a number of records at minimum expense.

Customer's Load Curves. A type U graphic ammeter is the simplest means for obtaining the load curve of a prospect's or customer's plant, from which maximum demand, load factor, and diversity factor of the connected load can be quickly determined as a basis of rates. A type U three-wire ammeter is particularly useful for this purpose on three-wire loads.

Station Curves. Mounted on the station or substation switchboard, type U meters will give records of the variation in current and voltage.

Other Uses. Locating leaks and theft of current, determining most economical hours for operating generators of various sizes, checking up the distribution of load between units, and many other uses will suggest themselves to every central station man.

Operation. The meter consists of a solenoid and core acting directly on an arm that carries the recording pen, and a continuous strip of paper moved uniformly by a high grade clock mechanism. The energy consumed by the voltmeter, including its external resistor, is 50 watts. The energy consumed by the ammeter is 7 watts, thus adapting it for use with ordinary current transformers when measuring currents higher than can be passed through the meter directly.

Case. The meter is contained in a metal case having a glass window. The standard meter as regularly furnished is adapted for either switchboard mounting or portable use. A hinged handle at the top makes the meter convenient to carry about, and a lug on the upper end of base is used for hanging the meter on a wall for temporary testing or while being stored in the meter room.

A Glass Ink Reservoir, which will hold a supply of ink sufficient for three weeks or more of ordinary use, is mounted in such a way that a wick, one end of which is in the reservoir and the other in the V-shaped pen, will feed the ink into the pen as used.

The Paper-driving Mechanism is a metal drum with pins that engage in perforations in the record paper, driven through gearing by a standard eight-day clock mechanism. The standard rate of drive is one inch per hour, but meters equipped with a drive mechanism to give a rate of two inches per hour can be supplied on order at the standard price. A two-inch-per-hour mechanism is also listed for changing meters already in use.

Accuracy. The type U meters are most accurate on alternating current, but can be used on direct current when they are calibrated for this service.

TYPE U STANDARD GRAPHIC METERS

The meters are furnished regularly as voltmeters, two-wire ammeters, and three-wire ammeters.

Ammeters. Currents of over 80 amperes can be measured by means of the 5-ampere ammeter in connection with a current transformer of suitable rating. Specially insulated ammeters for connection in arc circuits or other high voltage lines can be supplied at an extra price. Three-wire ammeters record the total current in both outside wires of a three-wire system. They are useful in obtaining a record of the total load on a three-wire installation but are recommended for use on direct-current circuits only. The 5-ampere two-wire meter with a three-wire current transformer is preferable for three-wire alternating-current circuits.

Portable Testing Outfit. This outfit provides a convenient means of measuring currents up to 25 amperes in an overhead line or in the station wiring without opening the circuit. The opening in the transformer for the primary cable or wire is approximately $1\frac{1}{4}$ by $1\frac{1}{4}$ inches. As this opening is not insulated the transformer cannot be used on bare conductor, but the voltage of the circuit on which it can be used is limited only by the insulation on the conductor.

WESTINGHOUSE GRAPHIC METERS



Type U Open

Type U Graphic Voltmeters
Switchboard and Portable Type

Calibrated on Direct Current

Capacity	Scale
110 Volts	90-130
220 Volts	180-260
440 Volts	360-520
550 Volts	450-650
110 Volts	90-130
220 Volts	180-260

*Uncalibrated.

List No.	List No.
173204*	190383
173205*	190384
173206*	198721
179555*	198722
199096†	199098†

Calibrated on 60 Cycles Alternating Current

List No.	List Price Each
190379	\$85.14
190380	90.08
198723	95.04
198724	100.00
199097†	95.04

Type U Graphic Ammeters

TWO WIRE

Calibrated on Direct Current

Amperes	Scale
5 Amperes	0-5
10 Amperes	0-10
20 Amperes	0-20
40 Amperes	0-40
80 Amperes	0-80

*Uncalibrated.

List No.	List No.
205889†	190385
173207*	190386
179556*	198718
179557*	198719
179558*	198720
179559*	

Calibrated on 60 Cycles Alternating Current

List No.	List Price Each
190381	\$104.89
190382	90.08
198715	90.08
198716	95.04
198717	95.04
	100.00

THREE WIRE

Scale
0-5
0-10

List No.
179560
179561

List Price Each
\$109.88
109.88

Portable Testing Set

Description

Consists of Ammeter No. 205889 and Transformer No. 117508.....

List Price Each
\$146.52

Type U Graphic Meter Paper

Voltmeter		Ammeter	
1 Inch per Hour	2 Inch per Hour	1 Inch per Hour	2 Inch per Hour
Scale	List No.	Scale	List No.
90-130	157916A	0-5	167817A
180-260	173209	0-10	174415
360-520	173210	0-20	174416
450-650	173211	0-40	174417
		0-80	174418

Note: 1 inch per hour, list price per roll, 20 cents; 2 inch per hour, list price per roll, 40 cents.

Ink for Type U Graphic Meters

List No.	Description	List Price Each
174005	1/4 ounce phial of ink	\$0.20
180199	2 ounce bottle	.60
180201	8 ounce bottle	1.00
180202	1 pint bottle	1.68

2 Inch per Hour Paper Driving Mechanism

For changing drive on Type U Graphic Meters already in use.

List Price Each
\$1.98
.20

List No.	Description	List Price Each
199210	Gear train	\$1.98
199211	Pinion	.20

†Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.
†Combination meters having two voltage ranges. ‡Specially wound for portable testing transformers.

WESTINGHOUSE PREPAYMENT METERS



TYPE OA PREPAYMENT WATTHOUR METERS

Application. The type OA prepayment meter is especially useful when supplying current to small consumers, as it collects the bill and saves bookkeeping. It is also useful when supplying a shifting population, such as at summer resorts, for it saves following up the consumer to collect the bill. Many other uses can also be found for these meters.

Operation. The type OA prepayment meter is arranged to receive quarters, and not only registers the amount of energy consumed, but indicates by an additional dial the number of quarters up to ten remaining to the credit of the consumer. As energy to the value of each quarter prepaid is consumed, the dial changes to indicate one less quarter credited. When no more coins remain to the credit of the customer, the supply is shut off automatically. The coin box will hold \$25 in quarters.

The prepayment mechanism, including the cutout mechanism, is entirely mechanical, operating by gears and levers. The meter is supplied for rates of 5 to 20 cents (full cents only) per kilowatt hour as specified in order. When ordering specify the rate. Meters for other rates can be supplied on special order, prices on application.

Two keys will be supplied to each purchaser with the first meter. Additional keys may be obtained for 40 cents each ret, on personal request of an authorized official.

2 WIRE—60 CYCLES METAL COVER

List No.	Volts	Cap. Amp.	Kw.	List Price	List No.	Volts	Cap. Amp.	Kw.	List Price
178928	100	5	.5	\$50.06	178932	200	5	1.0	\$55.86
178929	100	10	1.0	53.34	178933	200	10	2.0	62.24
178930	100	15	1.5	57.76	178934	200	15	3.0	67.76
227149	100	25	2.5	66.64	227150	200	25	5.0	77.78

3 WIRE—60 CYCLES

178936	100-200	5	1	\$55.86	178938	100-200	15	3	\$67.76
178937	100-200	10	2	62.24	227151	100-200	25	5	77.78

HALL METER BOOKS



Meter Book Closed



Meter Book Open

Hall Loose-Leaf Meter Book

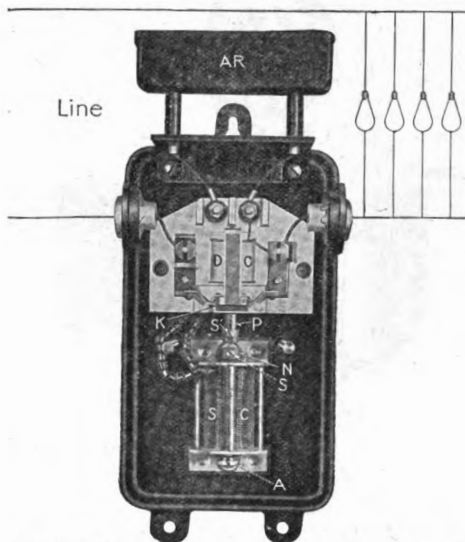
This book is made in two sizes, numbers 100 and 200. Number 100 is designed to hold 100 meter sheets; number 200 is designed to hold 200 meter sheets. Number 100C is cover and 100 sheets. Number 200C is cover and 200 sheets.

List No.		List Price
100C	Meter book complete with 100 leaves.....	Each \$4.50
200C	Meter book complete with 100 leaves.....	Each 5.70
100	Cover only.....	Each 3.46
200	Cover only.....	Each 3.74
...	Extra leaves.....	Per C 1.06

EXCESS INDICATORS



2 Ampere Flickering Indicator



2 Ampere Flickering and Dimming Indicator. Cover Removed

Excess Indicator or Flat Rate Controller

The Excess Indicator or Flat Rate Controller is an electrically operated instrument used by lighting companies for limiting the wattage in a flat rate contract to a definite contract quantity. It can be so adjusted that even the addition of a 15 watt lamp to a contract load of 150 watts will cause the lamps to flicker until the overload is reduced.

Purpose and Design. It is designed particularly for the control of small lighting loads of from 100 to 200 watts and the most popular instrument is the 2 ampere size. This size is built in two types, one a "flickering" instrument for taking care of light overloads like an extra lamp in circuit, and the other a "flickering and dimming instrument" for taking care of heavy overloads like an electric iron added to the circuit. This instrument operates the same as the regular flickering indicator by causing the lamps to flicker when a small overload occurs, and, in addition, is provided with a dimming resistance which cuts into the circuit automatically and reduces the current supply below the adjusted load when an attempt is made to use a flatiron, whether lamps are in circuit or not.

Indicators of 5 ampere and 10 ampere capacity are also available. These operate on the same principle as the smaller instruments but differ in mechanical construction, due to the greater capacity of the instrument.

Principle of Operation. The Excess Indicator operates on the series solenoid principle. The solenoid has a movable auxiliary armature. When an overload occurs this armature comes up, striking a pin passing through the coil of the solenoid which strikes against the main switch, thus opening the line. In the "flickering and dimming" indicator, when the armature comes up it strikes against a short-circuiting switch, which causes a series resistance to be thrown into the line. These instruments may be adjusted for any desired normal load between 100 and 200 watts. Adjustment to the desired load is made by a thumb-screw which increases or decreases the air gap between the auxiliary movable armature and the pole piece of the solenoid.

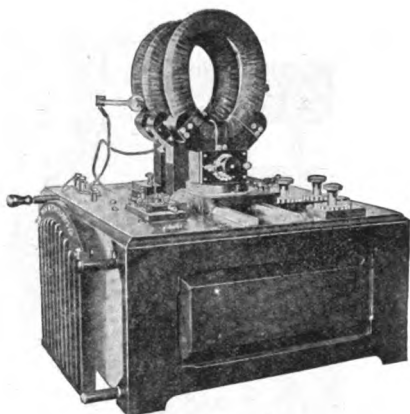
The Excess Indicator costs practically nothing to maintain. There is no current loss through the coils and the instrument would be expected to maintain its initial effectiveness without attention over an indefinite period.

List Prices and Data

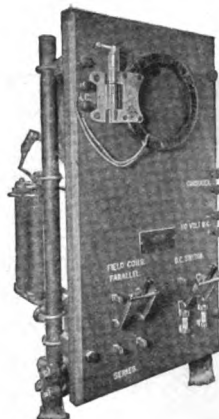
Description	Size Inches	Weight Lbs.	List Price	List Price
			Each A.C.	Each D.C.
2 ampere flickering, 2 wire.....	10 1/4 x 5 1/2 x 4 1/2	4 3/4	\$10.00	\$11.25
2 ampere flickering and dimming, 2 wire.....	12 x 5 1/2 x 4 1/2	6	15.00	17.00
5 ampere, 2 wire.....	14 1/4 x 6 1/4 x 5 1/2	18	22.50	24.50
10 ampere, 2 wire.....	14 1/4 x 6 1/4 x 5 1/2	18	25.00	27.00
25 ampere, 2 wire.....	14 1/4 x 6 1/4 x 5 1/2	18	32.00	34.00

*Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries write nearest house.

VREELAND OSCILLATORS



Laboratory Type Oscillator



Panel Type Oscillator

Vreeland Oscillators

The Vreeland Oscillator is an apparatus for obtaining alternating currents of pure sine wave form and of constant but readily controllable frequency. It is a generator in which a direct current from ordinary supply mains is converted into a sinusoidal alternating current by purely electrical means not involving the use of moving parts.

The chief advantages of this oscillator for the production of currents at telephonic frequencies are:

- 1st. The purity of its wave form.
- 2d. The wide range of frequency which can be readily obtained.
- 3d. Its constancy of frequency with wide variations of load.
- 4th. Simplicity and reliability.

It is especially suitable for use as a source of power in all A. C. bridge measurements. The absence of harmonics permits the use of a telephone receiver in place of a vibration galvanometer or other detector without the use of filters.

This oscillator is supplied in two types; the laboratory type and panel type. The laboratory type shown in illustration is known as type "A," is provided with universal adjustments of frequency current, voltage and mutual inductance of primary and secondary coils. The panel type is a more rugged form which embodies all the adjustments that are usually required, but eliminates some of the more expensive features.

In the laboratory type of apparatus, which is particularly adapted for college and university use, the condenser is contained in the polished mahogany case on which all of the parts are mounted. This condenser has a capacity range of from .1 to 11.2 microfarads in steps of .01 microfarad. With this equipment a frequency range of approximately 250 to 2500 cycles per second may be obtained. The condensers for panel type oscillator are contained in a separate unit, two types of variable condensers being standard for use with this apparatus.

1st. A high grade condenser having a capacity range of from .001 to 39.999 m. f. in steps of .001 m. f. Condensers up to and including 1 m. f. are of high grade mica units, the remaining condensers being of paper. With this equipment a frequency range of from 160 to 4200 cycles per second may be obtained. Satisfactory operation is sometimes possible at a frequency up to and above 6000 cycles per second, but for general work a frequency above 4000 is seldom necessary. The panel type oscillator equipped with this condenser is known as type B.

2d. A cheaper condenser similar to that mentioned above, having a capacity range of from .01 to 19.99 m. f. in steps of .01 m. f. paper condensers are used throughout. With this equipment a frequency range of from 250 to 2500 cycles per second may be obtained. When this condenser is supplied with the panel type oscillator the outfit is known as type C.

For certain classes of work where variable frequency is not required, another form of the panel type oscillator is supplied. This is similar to the other panel type instrument, except that the terminals marked "condenser" are omitted, a fixed condenser being permanently wired into the primary oscillating circuit. This equipment gives two frequencies, one being double the other. The standard frequencies are 500 to 1000 cycles per second. This apparatus is known as type D.

Type	List Price
A Laboratory type instrument having universal adjustments	\$1620.00
B Panel type instrument with high grade condenser	1320.00
C Panel type instrument with paper condenser	1050.00
D Two frequency panel type instrument for 500 and 1000 cycles per second	850.00
Mercury are bulb renewals	50.00

Deliveries: Type A, F. O. B. Philadelphia, Pa. Types B, C, D, and bulbs, F. O. B. Schenectady. For warehouse deliveries, write nearest house.

WESTINGHOUSE INSTRUMENT TRANSFORMERS

Westinghouse Current Transformers

Current transformers are used for either one or both of two purposes; namely, to reduce the currents to be measured to the relatively small values suitable for measuring instruments or to insulate the meter circuits from the high line voltage. For the latter purpose they should be used wherever the line voltage exceeds 1000. The primary current rating of the transformer should be the same as the full scale reading or rated capacity of the meter to which it supplies current. Current transformers are made in two types—dry and oil insulated.

Dry Type. Current transformers for operation on voltages up to and including 24,000 are of the dry type; that is, the windings are not immersed in oil as in the oil insulated type. Prices on transformers for voltages above 7,500 volts on application.

Oil Insulated Type. Current transformers for operation on voltages above 24,000 are made in the oil insulated type. Prices on oil type on application.

Dry Type A Current Transformers

25 Volt-Amperes Capacity

10 Volt-Amperes Compensation

2500 Volts

5 Amperes, Secondary

60 to 133 Cycles

**Maximum Line Potential 2500
Test Voltage, 10,000 Volts for One Minute**

List No.	Bore of Terminal Inches	Primary Current Amperes	*List Price	List No.	Bore of Terminal Inches	Primary Current Amperes	*List Price
125604	..	5	\$18.18	125612	$\frac{1}{8}$	100	\$20.04
125605	..	10	18.32	125613	$\frac{1}{4}$	120	20.30
125606	..	15	18.52	125614	$\frac{3}{8}$	160	20.66
125607	..	20	18.62	125615	$\frac{1}{2}$	200	20.90
125608	..	30	18.96	125616	$\frac{3}{4}$	250	21.24
125609	..	40	19.16	125617	$\frac{7}{8}$	300	21.54
125610	.245	60	19.56	125618	1	400	22.44
125611	.370	80	19.80	125619	1 $\frac{1}{8}$	500	22.98

Approximate weight pounds: Net, 12; boxed, 32.

No terminals are supplied for numbers 125604 to 125609 inclusive, these transformers having cable leads.

Dry Type A Current Transformers for Three-Wire Service

25 Volt-Amperes Capacity

10 Volt-Amperes Compensation

500 Volts

5 Amperes, Secondary

60 to 133 Cycles

Maximum Line Potential 600

Test Voltage, 5000 Volts for One Minute

These transformers are designed for use with watt-hour-meters on three-wire distribution systems. The primary consists of two separate windings, one of which is connected in each outside wire of the three-wire system and the secondary winding is connected to the watt-hour-meter. When so connected, the watt-hour-meter measures the total output of the system. The ampere rating refers to the current in the outside wires.

These three-wire transformers have a rating of 10 volt-amperes at their rated current and they are designed for circuits in which the maximum potential above ground does not exceed 600 volts.

List No.	Primary Current Amperes	Dimension Reference Fig. No.	*List Price
125620	5	16	\$20.00
125621	10	16	20.14
125622	20	16	20.40
125623	40	16	20.90
125624	60	16	21.30
125625	80	16	21.54
125626	120	16	21.98
125627	200	16	22.78
125628	300	16	23.76
125629	400	16	24.76

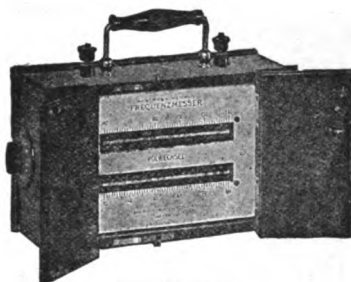
Approximate weight pounds: Net, 12; boxed, 32.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries, write nearest house.

HARTMANN AND BRAUN FREQUENCY METERS



Switchboard Type



Portable Type

Frequency Meters

These instruments are true precision devices. They are of the vibrating reed type, which type operates on the principle that a steel strip fastened at one end and free at the other end has a natural vibration period and will be set in vibration only when the frequency of the applied impulses coincides with its period, or in other words, when resonance is established. Accuracy is not affected by voltage changes; they are not influenced by variation in wave form; they contain no moving wire; there are no delicate jewels or pivots; they may be left permanently in circuit. In fact, they possess all the advantages and none of the disadvantages of other forms of frequency meters.

SWITCHBOARD TYPE

List No.	Range in Cycles	Value Each Division	No. of Reeds	Diameter of Base	†List Price Each
321817	57-63	$\frac{1}{2}$	13	9 ins.	\$93.60
321818	22-28	$\frac{1}{2}$	13	9 ins.	81.00
321819	114-126	1	13	9 ins.	99.00
321820	50-65	$\frac{1}{2}$	31	9 ins.	104.40
321821	20-27.5	$\frac{1}{2}$	31	9 ins.	95.40
321822	42.5-67.5	$\frac{1}{2}$	52	9 ins.	129.60
321823	35-70	$\frac{1}{2}$	72	9 ins.	154.80
321824	17.5-35	$\frac{1}{2}$	72	9 ins.	142.20
321825	55-65	$\frac{1}{2}$	21	6 $\frac{1}{4}$ ins.	79.20
321826	22.5-27.5	$\frac{1}{4}$	21	6 $\frac{1}{4}$ ins.	72.00
321827	57-63	$\frac{1}{2}$	13	5 $\frac{1}{2}$ ins.	63.00

All above for use on circuits of about 110 volts. Can be supplied for 220 volts. For other voltages transformers or multipliers must be used. Standard finish, dead black. Brass or nickel rims at same prices but less prompt delivery. In ordering, state voltage and give range, number of reeds and base diameter.

Price of combination frequency meter and synchroscope, \$154.80 for 60 cycle circuits; \$136.80 for 25-cycle circuits. 9 inch case; for use on 110 volts.

Price of combination frequency meter and frequency variation alarm, \$216.00; price of combination lamp and bell signal for use with same, \$34.20. 9 inch case; for use on circuits of from 20 to 70 cycles and about 110 volts.

PORTABLE TYPE

List No.	Range in Cycles	Value Each Division	No. of Reeds	†List Price Each
321828	105-135	1	31	\$142.20
321829	52.5-67.5	$\frac{1}{2}$	31	142.20
321830	15-30	$\frac{1}{2}$	31	142.20
321831	{ 23.75-31.25 47.5-62.5	$\frac{1}{4}$ $\frac{1}{2}$	31	165.00
321833	22.5-62.5	*	62	201.00
321834	22.5-90	*	62	226.80

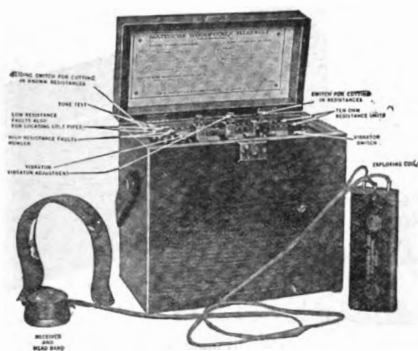
All the above provided with commutating switch so that they may be used on all potentials from 50 to 230 volts A.C.

* $\frac{1}{2}$ cycle and 1 cycle according to part of scale being used.

†Delivery F. O. B. New York City. For warehouse deliveries, write nearest house.

ELECTRICAL TESTING INSTRUMENTS

MATTHEWS TYPE "C" TELEFAULT



Matthews Type "C" Telefault

Matthews Type "C" Telefault may be used for locating faults of all kinds, excepting "opens," in telephone, telegraph and other multi-conductor cable; also power cables. It may be used for locating metal pipes under ground or within buildings. It may be used for locating concealed wiring. It may be used by Telephone Companies as a tone test set or as a howler to make subscribers hang up their receivers. It can be used on telephone, telegraph and signal cable in place of a galvanometer or loop meter. It requires much less expert knowledge to use it.

Most wireless fault finders use about 45 volts. Matthews Type "A" Telefault used $17\frac{1}{2}$ volts. Matthews Type "C" Telefault uses only 4 volts. The use of high voltage is the cause of "noising up" other working pairs in telephone cable. This feature alone is a decided improvement over any instrument on the market. Matthews Type "C" Telefault, equipped with battery, weighs only 12 lbs. This is about half the weight of any other fault finding instrument.

Matthews Type "C" Exploring Coil is about 50 per cent. more sensitive than the Type "A," which is more sensitive than any other exploring coil on the market.

The tone given out by the Matthews Type "C" Telefault is very much easier to distinguish than that of any other fault finding instrument, because, instead of being a hum, it sounds like a riveting hammer. It can't be confused.

Matthews Type "C" Telefault has a set of known or calibrated resistances, which, if properly manipulated, enables the troubleman to approximately locate the trouble before starting from the office. This saves an immense amount of time, trouble and expense.

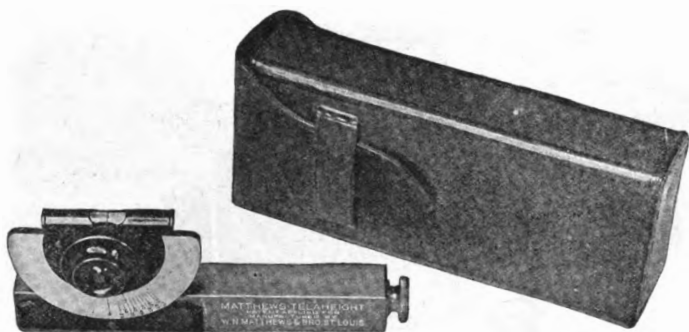
Matthews Type "C" Telefault is more efficient for locating pipes than Matthews Telepipe. It has taken its place. Only one dry battery is used. It is held in a neat, strong case, furnished with strong carrying strap and waterproof cover. The vibrator, battery, head phone and exploring coil are all contained in this box.

	*List Price Each
Matthews Type "C" Telefault, each complete.....	\$100.00
Extra Type "C" Exploring Coil.....	30.00
Extra Type "C" Receiver.....	3.00

No batteries furnished. Shipping weight 12 lbs. Shipped by express unless otherwise specified.

*Delivery F. O. B. Factory, St. Louis, Mo. For warehouse deliveries write nearest house.

INDICATING INSTRUMENTS

**Matthews Teleheights****Description**

When a tree, telephone line or other obstruction is to be crossed, the usual practice is to send an experienced lineman to judge the height of pole needed. This man estimates the height of the object above the ground, adds what he thinks is the necessary amount of clearance and the distance which the butt is to be set into the ground, and turns in his report of the length of pole required. But when the pole is delivered to the site it is too often found that the estimator has allowed too much margin in order to be on the safe side, and that, say, a 35-foot pole has been ordered where a 30-foot pole would have served; or, what would be a more serious matter, the height may have been underestimated, so that the wires will not clear the obstruction. Such errors on either side of the actual requirements mean waste of material, time and labor.

Having these difficulties in mind, the Matthews Teleheight was conceived by its inventors. This simple little pocket instrument is so designed that an ordinary lineman can sight over the object to be crossed and read directly on a scale, the length of the pole required to give 5 feet clearance when set into the ground at the proper depth.

Use of Teleheight

To use Matthews Teleheight, the lineman measures with a tape a distance of 75 feet from the point which is directly under the object which it is desired to cross. From this distance he sights through the peekhole in the estimator, at the top of the tree or other obstruction. By turning a thumbscrew at the side, he rotates a spirit level until its bubble is seen crossing the line across which he is sighting the top of the object. As soon as the bubble and the object have been sighted together across the line, the pointer will show on a calibrated scale the exact height of the pole necessary to clear the object 5 feet and make an allowance for the proper depth in the ground according to the specifications of the National Electric Light Association or the American Telephone and Telegraph Company. If the former is desired specify Type A, Matthews Teleheight. If the latter, specify Type B. The Type C Matthews Teleheight which give the actual height of an object above the ground is very popular with inspectors for checking up the work of others. The scales have ranges from 25-feet to 75-feet poles.

Type		List Price Each
A	Matthews Teleheight, N. E. L. A., Std.....	\$30.00
B	Matthews Teleheight, A. T. & T. Co., Std.....	30.00
C	Matthews Teleheight for direct reading in feet.....	30.00

Weight complete, 14 ounces.

The above prices include the leather carrying case.

ELECTRICAL TESTING INSTRUMENTS



Queen Volt-Wattmeter



Queen Wireless Test Set

Queen Volt-Wattmeter or Lamp Testing Meter

For demonstrating and checking the Mazda tantalum and carbon filament lamp, and to enable the user to see at a glance the exact wattage, voltage and the cost of using same.

Indispensable to all users of incandescent lamps.

This instrument is an entirely new type of volt-wattmeter, and one which will be extremely valuable to all electricians, testing engineers, lamp salesmen, and any one interested in the testing of line voltages and low wattages. There are but two binding posts, and in ordinary use it reads as a voltmeter. Flush on the side is a lamp socket into which can be screwed an incandescent lamp or an attachment plug and automatically change instrument from a voltmeter to a wattmeter, so that the instrument is then reading directly on the wattage scale. Thus it can be readily seen that this meter comprises two instruments in one, each scale being separate and direct reading without interpolation or reference to a chart.

A cost scale will be added without extra charge if desired, based on a ten cent K. W. rate, making an easy multiple if the rate is more or less. This feature alone will enable the lamp salesman to sell many lamps, as he will be able to show the customer exact cost of running the lamp in comparison to any other type of lamp. At an additional cost an adapter can be supplied to be used for facilitating testing lamps in barrel lots.

Accuracy of Calibration 1 per cent.

List No.	Range	*List Price Each
E-8500	150 v. 150 watts AC & DC.....	\$60.00
E-8505	250 v. 250 watts AC & DC.....	64.00
E-8510	300 v. 300 watts AC & DC.....	70.00

Queen Wireless Cable Testing Set

OR INDUCTIVE FAULT FINDER

This instrument is a simple self-contained and inexpensive cable test set used for locating crosses, grounds, split pairs, etc., by means of an exploring coil. Designed and used by a large Bell Telephone Company. Indispensable to all users of telephone and telegraph cables including telegraph and signal departments of railroads. This simple device may be regarded as a "vernier" to the location made with a Wheatstone bridge, and should be placed in the hands of every testman using a bridge set and is also recommended when no bridge sets are used. Its results depend only upon the ability of a man to "listen" and does not involve any mathematical formula. It is also arranged to give a trouble tone.

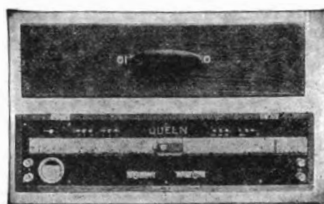
List No.		*List Price Each
E-3118	Queen Wireless Cable Testing Set or Inductive Fault Finder complete with exploring coil and receiver.....	\$40.00
E-3118A	Exploring coil with cord.....	7.20

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house.

ELECTRICAL TESTING INSTRUMENTS



Queen Silver Chloride Battery



Queen Low Resistance Ohmmeter

The Chloride of Silver Dry Cell Testing Batteries

The main characteristics of the chloride of silver cell, viz., absolutely constant electromotive force and minute size, render it admirably convenient for testing requirements.

The E.M.F. remains constant throughout the life of the cell, while the temperature coefficient is practically zero for a large range.

The most valuable feature is the entire absence of local action.

During periods of inactivity there is absolutely no deterioration and the life of the battery may be expended at periods ranging from a fraction of a second to the full life limit. It may lie idle for years and then be found instantly available on demand.

The batteries are put up in handsomely finished and serviceable hardwood cases, with pole-changing switch of approved designs except in 12 and 24 cell sizes.

Any number of particular cells may be selected by means of a simple plugging device.

List No.		†List Price Each
E-8934	Silver chloride testing battery, 100 cells.....	\$170.00
E-8935	Silver chloride testing battery, 75 cells.....	144.50
E-8936	Silver chloride testing battery, 50 cells.....	102.00
E-8937	Silver chloride testing battery, 36 cells.....	76.50
E-8938	Silver chloride testing battery, 24 cells.....	59.50
E-8939	Silver chloride testing battery, 12 cells.....	34.00
E-8940	Single cells.....	1.70

Queen Low Resistance Ohmmeter

Conductivity Bridge

A new direct reading instrument for the accurate measurement of resistance less than one ohm. Readable to .00001 ohm.

Based upon the Kelvin double bridge method, thereby eliminating contact resistance.

This ohmmeter supplies the long-felt want of central stations, telephone companies, electrical manufacturers, electrical departments of railroads, engineers of tests, industrial establishments, etc., for a simplified arrangement for measuring conductor resistances, too small for Wheatstone or slide wire bridges. With the Queen Low Resistance Ohmmeter a thousandth of an ohm is measured with the same ease and facility that ten ohms would be measured on the usual type of ohmmeter or bridge.

List No.		†List Price Each
E-3273	Queen Low Resistance Ohmmeter.....	\$200.00
*E-3274	Queen Low Resistance Ohmmeter.....	350.00

*This instrument resembles E-3273, but is more specifically adapted for conductivity measurements.

†Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house.

ELECTRICAL TESTING INSTRUMENTS



E3116 Queen Combined Lineman's Fault Finder and Ohmmeter

Queen Combined Lineman's Fault Finder and Ohmmeter

This instrument represents the latest developments in a simplified device for locating crosses, grounds and opens in line and cable circuits by the slide wire bridge method, and is also a direct reading ohmmeter for all ranges of resistance from a fraction of an ohm to several megohms. The design is such that accurate results can be obtained by those unfamiliar with the more complete bridge sets, the only operations being arithmetical ones of simple multiplication and division. Plainly lettered switches enable the instrument to be set for the various tests without necessity of memorizing a complicated scheme of connections.

The construction is high grade throughout, one feature being the elimination of the usual straight stretched wires ordinarily used in this class of apparatus. It can also be used for locating "opens," thereby offering in a single instrument all necessary measurements to be made in telephone and telegraph line and cable circuits.

When used as an ohmmeter, the unknown resistances are read directly on the scale, and it is not necessary to refer to a table of values. The ohmmeter circuit is provided with ratio coils, 1, 10, 100, 1000 and 10,000, thereby permitting resistances to be measured to a high degree of accuracy.

When used with the Queen Wireless Cable Testing Set, an ideal combination is offered, since the entire apparatus permits of accurate results by those not necessarily skilled with the use of measuring instruments.

*List Price Each

List No.		
E-3116	Queen Combined Lineman's Fault Finder and Ohmmeter	\$150.00
E-3116A	Queen Lineman's Fault Finder	200.00
E-3117	Sole leather carrying case and shoulder strap for above	16.00

**This instrument is the same as E-3116 except the direct reading ohm scale is not included and the ratio coil has one fixed value of 100 ohms. Unknown resistances are determined by the scale setting and reference to a table of readings supplied with each instrument.

Queen Direct Reading Ohmmeter

This instrument is an improvement in heretofore existing types of direct reading ohmmeters, having a greater range and accuracy, thus making it possible to use these ohmmeters in many instances where it had been necessary to use a complete Wheatstone Bridge.

The instrument is high grade, using the same galvanometer as placed in Queen Portable Testing Sets, which are characterized by high sensibility and a construction enabling them to withstand rough usage. The scale is engine divided on brass and by means of ratios 1, 10, 100, 1000, 10,000, unknown resistances from a fraction of an ohm to several megohms can be measured. Provision is also made for use of external battery in addition to the contained battery.

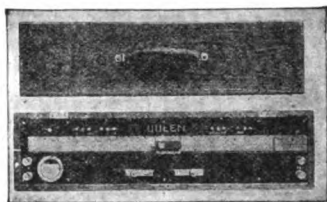
These ohmmeters are provided with an extra pair of binding posts for connecting a resistance of a different value than the ratio coils supplied. This feature is useful when measuring many resistances of the same value. A sample coil is wound to the correct value and placed in these posts. All other coils when measured in the ohmmeter will balance at mark 1 on the scale if exactly correct, or the scale can be made to read in percentage error. If, for example, allowable error is 1 per cent., the scale index is set to an amount corresponding to 1 per cent. high and the deflection of the galvanometer noted. The index is then placed at 1 per cent. low and the deflection noted. If the deflections are in the opposite direction, the coil is within 1 per cent., but if in the same direction it is without the limit of accuracy. This provision of the extra binding posts also has the advantage of using a coil for the standard having the same wire as the unknown, thereby eliminating any errors due to temperature.

*List Price Each

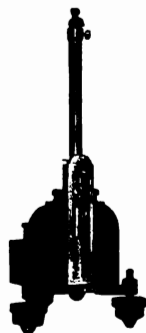
List No.		
E-3270A	Queen improved direct reading ohmmeter	\$150.00
E-3270B	Queen improved direct reading ohmmeter	100.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house.

ELECTRICAL TESTING INSTRUMENTS



E-3275 Queen Low Resistance
Fault Finder



E-8000 Queen High
Sensibility Galvanometer

Queen Low Resistance Fault Finder FOR USE BY POWER PLANTS

The location of faults in low resistance lines and cables such as power and feeder circuits necessitates the use of a bridge of special design, so as to practically eliminate contact and lead resistances. The instrument is somewhat similar to E-3273, but with a large sized bridge wire to permit the use of current sufficiently large for satisfactory location and long flexible leads with special clamps to permit connecting to cable terminals in manholes or switches, bus bars, etc.

List No.	*List Price Each
E-3275 Queen Low Resistance Fault Finder.....	\$270.00

Queen New High Sensibility D'Arsonval Galvanometer

This improved design of high sensibility galvanometer has embodied in it all the elements necessary for ease of manipulation, high insulation and high sensibility.

The optical parts, so essential for perfect operation, have received the manufacturers' special attention by reason of their being makers of high-grade optical and engineering equipment. The telescope gives a large and distinct field so as to avoid fatigue when taking a long series of observations.

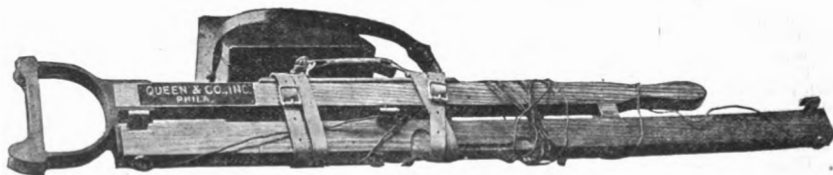
All parts have been highly insulated, including the leveling screws, so that no false leakage can take place when using a high E.M.F. for testing insulation.

The working qualities of the system provide a galvanometer that is dead beat and quick in action.

The tube containing the system is quickly removable for placing in the magnet a system of different resistance and sensibility, but for most measurements a system of medium resistance will be found to suffice.

List No.	*List Price Each
†E-8000 Queen New High Sensibility D'Arsonval Galvanometer.....	\$135.00
E-8000A Same as preceding, but with telescope and scale.....	180.00
E-8001 Extra tube and system, resistance at option of purchaser.....	63.00
E-8020 Tripod for street use, solid or split leg.....	30.00
E-8021 Carrying case for galvanometer of oak with strap, lock and key.....	30.00
E-8024 Repair kit consisting of extra upper and lower suspensions, screw driver, tweezers...	7.20

†Galvanometer system can also be provided with concave mirror for use with lamp and scale.



E2670 Queen Rail Bond Tester—Complete

Queen Rail Bond Tester

This instrument is arranged to measure the resistance of a jointed conductor, the value of the resistance being indicated in the equivalent number of track feet. The contacts for the rail have been most carefully designed so as to insure reliability. The bar carrying the contacts are pressed down against the rail by the operator's foot, and the scale readings are noted by the same operator. The scale range can be calibrated to meet user's requirements.

List No.	*List Price Each
E-2670 Queen Rail Bond Tester, complete.....	\$160.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house.

QUEEN PORTABLE GALVANOMETER AND SHUNT



E-8058 Queen Portable Galvanometer



E-8808A, etc., Queen-Ayrton Shunt

Queen Portable Galvanometers

These instruments are of the D'Arsonval type, unaffected by surrounding magnetic fields or neighboring circuits. Their characteristic is high sensibility and immunity from derangement even under conditions of severe use. The sensibility is such that 1 volt through 1 megohm will produce deflections of 1 scale division. The deflections are proportional to the current and the scale has 30 divisions each side of the center. The glass covering the scale is in the form of a lens, so as to magnify the deflection. This feature enables these galvanometers to be used in commercial measurement where heretofore it was considered necessary to use a reflecting type. A zero adjustment is provided of such design as to eliminate the possibility of derangement. Useful for supplementing old style galvanometers in testing sets, insulation testing and the detecting of circuits where sensibility is required.

List No.		*List Price Each
E-8058	Queen Portable D'Arsonval Galvanometer	\$28. 80
E-8060	Queen Portable D'Arsonval Galvanometer in case with lid and carrying handle	40. 00
E-8062	Same as E-8060 with six silver chloride cells	63. 00

Note: Any of the above galvanometers can be supplied with Ayrton shunts attached.

Queen Portable Galvanometer for Insulation Testing

This galvanometer is similar to E-8060, but has an Ayrton shunt of values 1, .1, .01, and .001 and a standard resistance for calibrating the galvanometer scale. It is intended for the measurement of insulations where a higher priced galvanometer outfit is not required. The manipulation is such as to simplify the ordinary calculations for insulation measurements. Can be used on 110 V.D.C. circuits or battery, and has range from 10,000 ohms to 100 megohms.

List No.		*List Price Each
E-8065	Queen Portable Galvanometer for insulation testing	\$135. 00

Galvanometer Shunts

These shunts are of the Ayrton universal type and can be used with any galvanometer regardless of the galvanometer's resistance. This type of shunt is also accurate for ballistic measurements. The dial type of switch used is similar to that employed in the Queen Dial Decade Testing Sets and is more convenient than plugs. The total resistance of shunt should not be too great as compared with that of the galvanometer and in consequence the following sizes are listed. Each gives 1, .1, .01, .001 and .0001 of full current through the galvanometer.

List No.		*List Price Each
E-8808A	Ayrton Universal Shunt	\$72. 00
E-8808B	100,000 ohms; for galvanometers 3000-10,000 ohms. Ayrton Universal Shunt	54. 00
E-8808C	30,000 ohms; for galvanometers 1000-3000 ohms. Ayrton Universal Shunt	49. 50
E-8808D	10,000 ohms; for galvanometers 500-1000 ohms. Ayrton Universal Shunt	40. 50
	3000 ohms; for galvanometers 100-500 ohms.	

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house.

QUEEN PHOTOMETERS



Station Type

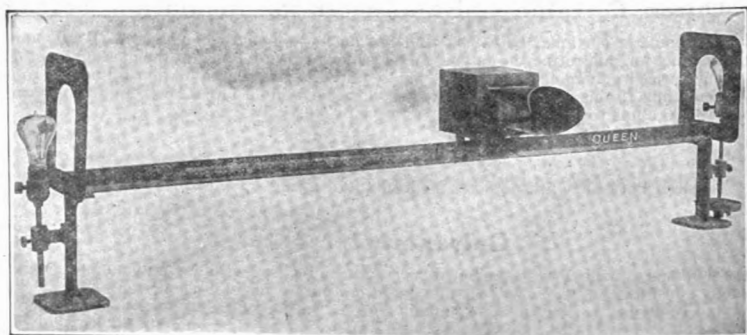
Queen Station Type Photometer

It consists of a regular angle iron tracks with direct reading candle power scale and an adjustable support at one end for the standard lamp and at the other end for lamp under test. Provision is also made so that the lamp under test can be rotated to secure mean horizontal measurement, the motor for this purpose not being supplied but all the attachments to hold the lamp are present. An ordinary fan motor will answer the purpose admirably. Metal end screws are provided and a very sensitive Bunsen sight box. The construction is first-class throughout, and all the necessary binding posts for connection of the different instruments are supplied. There is also furnished one carefully standardized incandescent lamp. Scale reads from 1.5 c.p. to 800 c.p.

For greater sensibility the Bunsen sight box can be replaced by the Lummer-Brodhun. Readings to one-tenth candle power can then easily be made.

The distance between centres is 100 inches, thereby providing ample sensibility.

List No.		*List Price Each
E-4020	Station photometer as above.....	\$180.00
E-4025	Station photometer with brackets for attachment to wall.....	190.00
E-4026	Station photometer with Lummer from the wall, Brodhun box instead of Bunsen, but no electrical attachments.....	250.00



Commission Type

Queen Commission Type Photometer

Strong construction and arranged for permanent installation by setting on a table or by brackets of the wall.

The distance between centres is 60 inches. It is equipped with a Bunsen Sight Box, metal screen direct reading candle power scale and a standard incandescent lamp.

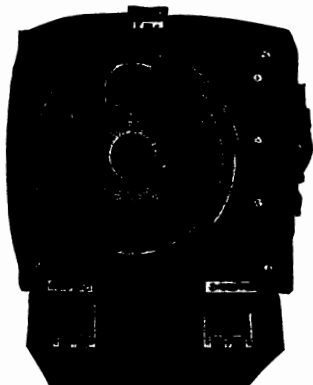
List No.		*List Price Each
E-4028	Commission photometer.....	\$100.00

Correspondence solicited regarding all photometric equipment.

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house.

ELECTRICAL TESTING INSTRUMENTS

Portable Bond Tester



Portable Bond Tester

This instrument is rapid and accurate. One man can use it. Compares 3 ft. of bonded rail with 3 ft. of unbroken rail and reads direct in equivalent length of unbroken rail. Ordinarily uses current in rail and accuracy is independent of amount of current, this influencing sensibility only.

For places where current in rails is small or intermittent, or for new construction, a special high sensibility model is furnished, current being obtained from portable storage batteries. To operate the high sensibility model two men are required.

The contact bar carries renewable saw blade contacts which will not fail to make good contact. The bar may be folded for more easy transportation.

Operation

In operation, the section of the bar marked "Bond" is made to span the joint. The central button is then rotated until the galvanometer needle at the top comes to 0. The rotated needle then indicates directly on the scale, the length of rail to which the bonded section is equivalent.

List No.	Description	Weight Lbs.	*List Price Each
321839	Standard sensibility type Bond Tester.....	6	\$136.00
321840	High sensibility type Bond Tester.....	6	170.00

Size closed $5\frac{1}{4} \times 8\frac{1}{4} \times 7\frac{1}{2}$ inches.

Portable Ohmmeter

A most convenient instrument for all ordinary resistance measurements and extremely simple to operate. Close readings are obtainable, there being 4 ranges, each on a scale 30 inches long.

An unknown resistance is measured by connecting it to points XX. The plug is inserted in one of the sockets marked "brown, blue, red, black" and the toucher tapped along the wire that runs from end to end of the scale. At a certain point there will be no sound in the telephone (or no deflection in the galvanometer). The resistance is then read off the scale, using figures of color corresponding to the socket. If the first test indicates that a closer reading could be obtained with another range, it is only necessary to change the plug to another socket and find point of silence as before.

There are no loose parts, except two additional scales to lay over regular scales in testing for grounds and crosses. Batteries are supplied in compartment in bottom and are readily renewable. In order to prevent waste of batteries a key is provided, conveniently located in the telephone receiver.

TELEPHONE TYPE

This type has the telephone receiver only as a means of finding the point of balance, and is often preferred for its simplicity. It is like cut if the lever switches, galvanometer dial and coil in cover were omitted.

List No.	Description	*List Price Each
321841	With 4 scales, 10, 100, 1,000, and 200,000 ohms.....	\$76.50
321842	With 4 scales, 10, 100, 1,000, and 2,000,000 ohms.....	85.00

GALVANOMETER TYPE

The galvanometer type is useful where noise makes telephone readings difficult. It is also more sensitive than the telephone. The induction coil is for the purpose of converting instrument into a Kohlrausch bridge for measuring resistance of electrolytes, and comparison of inductances and capacities. In addition, this type has all features of telephone type.

List No.	Description	*List Price Each
321843	With 4 scales, 10, 100, 1,000 and 200,000 ohms.....	\$102.00
321844	With 4 scales, 10, 100, 1,000 and 2,000,000 ohms.....	110.50
321845	Leather carrying cases can be furnished at.....	13.60

Weight, 11 pounds. Size, 17 x 5 x 5 inches.

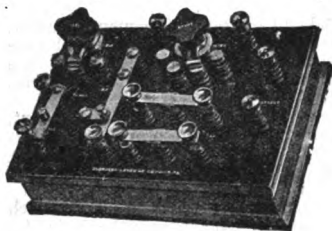
For warehouse deliveries, write nearest house.

Galvanometer Type
*Delivery F. O. B. Factory, Bethlehem, Pa.

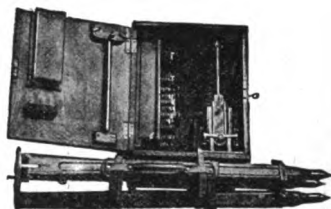
Measuring and Testing Instruments

ELECTRICAL TESTING INSTRUMENTS

Peerless Portable Insulation and Capacity Testing Outfit



Test Unit



Outfit Packed for Field Work

Consists of Peerless galvanometer, of the High Sensibility type, test box and tripod.

Galvanometer. Any sensibility up to 1600 megohms, and any coil resistance from 30 ohms to 2000.

The separate units required for the measurements of insulation and capacity are combined in a polished oak case, highly insulated rubber top, size 8 x 11 x 2 1/4 inches.

The main test switch has studs for "Cable," .1 megohm and .1 M. F.

The Universal Ayrton shunt has values of 1, .1, .01, .001.

All coils in test box accurate to 1/25 of 1 per cent.

Standard condenser accurate to 1/4 of 1 per cent.

Special short circuit key can be used as a permanent short circuit by depressing the knife-blade contact on one side, or used as a tapping short circuit, by tapping with the finger on the other side.

"Set-test" key makes contact in knife-blade contacts for insulation or capacity tests.

Test key has points of charge, insulate and discharge.

The insulation throughout is extremely high, of the corrugated pillar form, and is extended entirely through the rubber plate, and has as much below as is shown above, thus eliminating any possible chance of any leakage.

List

No.

*List

Price

T-2050	Insulation and capacity testing outfit, complete with High Sensibility Galvanometer and tripod.	\$450.00
T-2052	Cable testing outfit, complete with Wheatstone bridge unit, test unit, High Sensibility Galvanometer and tripod.	675.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.



Artificial Lines and Cables

These instruments are made up in various subdivisions of their total length, and are made to represent various sizes of wire in telephone and telegraph use. The standards are 1-mile, 5-mile, 10-mile and 32-mile cable, which represents the equivalent of 32 miles. No. 19 B. & S. gauge wire has a loop resistance of 88 ohms per mile and a capacity of .060 M. F. per mile.

Experience in the manufacture of these cables extends over a considerable period of time, and we are prepared to furnish promptly standard sizes or special sizes to meet requirements. This is a line of apparatus which is made up strictly on order and is not usually carried in stock on account of the varying conditions, and we solicit the correspondence of those interested and who desire full particulars and the prices on these cables.

ELECTRICAL TESTING INSTRUMENTS



Peerless Fault Finder



Peerless Inductive Fault Finder

Peerless Improved Lineman's Fault Finder

This instrument is used for measuring resistances and locating crosses, grounds, opens and other cases of line and cable troubles.

The unknown resistances are read directly from the scale, thereby avoiding the additional operation of referring to a table for values.

List No.		*List Price Each
T-2062	Peerless Improved Fault Finder.....	\$144.50
T-2063	Sole leather carrying case.....	18.00

Peerless Inductive Fault Finder

This fault finder is used principally for locating wire troubles, such as are found in telephone cables, conduits and similar troubles. The outfit is extremely simple, and directions for its use are on a printed card, which is fastened to the inside lid of the set, so that any one entirely unacquainted with this method of testing can in a few minutes make the test required without having any previous experience. It is an inexpensive but handy accessory to any telephone company, and wherever one has cable to be maintained and where it is desired to locate trouble quickly and accurately, these will be found very useful and will pay for themselves in a very short time.

List No.		*List Price Each
T-2065	Peerless Inductive Fault Finder without telephone receiver, but complete with exploring coil.....	\$30.00
T-2066	Peerless inductive fault finder with telephone receiver and exploring coil.....	32.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

ELECTRICAL TESTING INSTRUMENTS



Government Standard Testing Set



Portable Plug Set

Government Standard Testing Set

Government Standard Testing Set, made in strict accordance with the rigid requirements of the United States Navy Specifications 17-T-2. A high-grade type of "Plug-In" set.

Battery consists of 6 silver chloride cells.

Bridge values in the A and B arms, 1, 10, 100, 1000, and coils are accurate to 1/20 of 1 per cent.

Rheostat on the decade plan, with 10 coils in each decade, of the values of units, tens, hundreds and thousands.

List No.		*List Price Each
T-2070	Peerless G. S. decade portable testing set.....	\$200.00
T-2085	Carrying case of sole leather, with shoulder strap.....	18.00

Peerless Portable Plug Set

Bridge coils in A arm of the values of 1, 10, 100, accurate to 1/20 of 1 per cent. Bridge coils in B arm of the values of 10, 100 and 1000, accurate to 1/20 of 1 per cent. Bridge arms reversible.

Rheostat coils are of units, tens, hundreds and thousands, and are of the multiples of 1, 2, 2, 5 of each denomination, a total of 11,000 ohms, and by using the 1 to 1000 ratio on the bridge, gives a range of 11 megohms in single ohm steps. Accuracy of the rheostat coils 1/10 of 1 per cent.

Provision for outside battery, in case higher E. M. F. is required than that furnished in the cells in the set.

This set is especially designed for ease in reading. The bridge is at the top, out of the way of the tester, and the plugs are in vertical columns, beginning with the thousands at the left hand side and followed by the hundreds, tens and units, so that when balance is obtained one reads the value of the resistance plugged out, the same as reading a column of figures.

The finish of this set is the same as the Peerless Switch Dial Set.

Weight, 7½ pounds. Size, 8½ inches x 5½ inches x 6 inches.

List No.		*List Price Each
T-2010	Peerless plug type testing set.....	\$120.00
T-2016	Sole leather carrying case for T-2010.....	18.00
T-2040	Folding tripod for supporting T-2010 in street.....	18.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

ELECTRICAL TESTING INSTRUMENTS



Switch Dial Set



Switch Dial Set. Large Type

The Peerless Switch Dial Test Set

Bridge arms have values of 1, 10, 100 and 1000 in each arm, and the coils are accurate to 1/20 of 1 per cent.

Rheostat has four dials of 10 coils each, of the values of units, tens, hundreds and thousands, and the coils are adjusted to an accuracy of 1/10 of 1 per cent.

Ayrton shunt in set as part of the apparatus.

Provision for outside galvanometer and outside battery.

Special designed switch, with negligible contact resistance.

Commercial cells used in batteries are obtainable in any supply house.

Quick make and break switches for changing from test to test.

Weight, complete, 7¾ pounds. Size, 9½ inches x 5¼ inches x 5½ inches.

Finish of wood work, highly polished mahogany; finish of metal work, polished brass, gold lacquered.

List No.		*List Price
T-2000	Peerless Switch Dial Decade Testing Set.....	\$170.00
T-2015	Sole leather carrying case for T-2000.....	18.00
T-2020	Flexible contact clutches for gripping heavy conductors.....	9.00
T-2025	Low resistance standard for current up to 5 amperes.....	45.00
T-2030	Low resistance standard for current up to 150 amperes.....	72.00
T-2035	Standard Weston Cell, with certificate.....	30.00
T-2040	Folding tripod for supporting T-2000 in street.....	18.00

Large Type Peerless Switch Dial Test Set

This set is similar in layout to the Peerless Switch Dial Set T-2000, but is in a larger case, the same as the Government Standard size. The A and B Bridge Arms have each four coils, of the values of 1, 10, 100 and 1000 ohms in each arm, with a guaranteed accuracy of 1-25 of 1 per cent. The rheostat is composed of four dials of 10 coils each, of the values of 1, 10, 100 and 1000 ohms, respectively, adjusted to an accuracy of 1/10 of 1 per cent. Universal Ayrton Shunt in set. Provision for outside galvanometer and outside battery. The batteries are of the commercial type, obtainable at any supply house. The switches are of the quick make and break type, designed for rapidity of manipulation. Weight complete 12½ pounds. Size 12¾ x 8¼ x 5¾ inches.

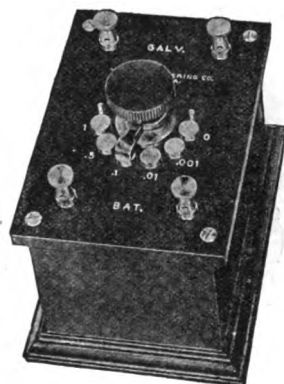
List No.		*List Price Each
T-2005	Large Type Peerless Switch Dial Test Set.....	\$240.00
T-2006	Carrying case of sole leather with shoulder strap.....	18.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

TESTING INSTRUMENTS



Plug Type Resistance Box and Wheatstone Bridge



Ayrton Shunt

Plug Type Resistance Box and Wheatstone Bridge

The resistance units in the rheostat are adjusted to an accuracy of 1/10 of 1 per cent. and the bridge arms to 1/20 of 1 per cent. These are built on the well-known post office plan, and are very satisfactory for ordinary testing work. The coils are carefully treated and aged, and are wound on wooden spools. The plugs are carefully made to an exact taper, and will fit in the plug holes smoothly, with practically no contact resistance. The line posts are of a double-grip type, for gripping small or large sized wire, and all binding posts are of a substantial size throughout.

List No.	Description	*List Price Each
T-1550	Resistance box and Wheatstone bridge. Resistance coils 1, 2, 2, 5, 10, 20, 20, 50, 100, 200, 200, 500, 1000, 2000, 2000, 5000; ratio coils—A arm 1, 10, 100 and 1000; B arm 1, 10, 100 and 1000; supplied with battery and galvanometer keys, galvanometer key having a short circuit strap	\$68.00
T-1552	Resistance box. Resistance coils of 1, 2, 2, 5, 10, 20, 20, 50, 100, 200, 500	34.00
T-1554	Resistance box, similar to the above, except coils of 1, 2, 2, 5, 10, 20, 50, 100, 200, 200, 500, 1000, 2000, 2000, 5000	51.00

Universal Ayrton Shunt

The Universal Ayrton shunt is designed for any galvanometer, and is not dependent upon the resistance of the instrument used. The shunt is made with switch contacts, the sliding contact being carefully ground, and is absolutely smooth and of a negligible resistance. The brush is of the finest grade of spring phosphor bronze, of a number of laminations, and of a design which is entirely new, which gives a uniform spring contact both on the arm running over the block, and also on the center ring. The contact surfaces of the brush are set at an angle, so that in swinging over the blocks it does not mar or line them, and the contact surface of the brush on the center stud is equal to the contact surface on the studs. Thus on all switches the contact surfaces are equal. These shunts are made in three sizes, and can give .1, .1, .01, .001 and .0001 of the full current through the galvanometer.

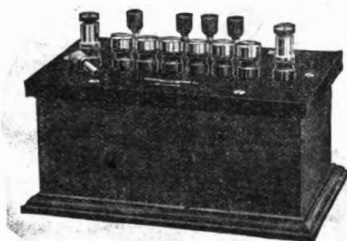
List No.	Description	*List Price Each
T-3000	Ayrton Universal shunt of about 100,000 ohms, for galvanometers having resistance of 3000 to 10,000 ohms	\$68.00
T-3005	Ayrton Universal shunt of about 20,000 ohms, for galvanometers having resistances of 1000 to 3000 ohms	51.00
T-3010	Ayrton Universal shunt of about 10,000 ohms, for galvanometers having resistances of 500 to 1000 ohms	63.76
T-3015	Ayrton Universal shunt of about 3000 ohms, for galvanometers having resistances of 100 to 500 ohms	38.26

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.
 Measuring and Testing Instruments

TESTING INSTRUMENTS



No. T-9025. Standard Mica Condenser



Resistance Box

Standard Mica Condensers

No. T-8000. Condenser is made of standard grade of mica, and is accurate to $\frac{1}{4}$ of 1 per cent. and will stand a continuous alternating E.M.F. of 250 volts. The case is of polished mahogany, with a highly polished hard rubber top, and metal parts lacquered.

No. T-8005, T-8010, similar to T-8000.

No. T-8025 is a subdivided condenser. This allows the sections to be used in series, as well as parallel combinations, and all values can be obtained from .05 up to .1 M.F.

Nos. T-8060, T-8065, T-8070, and T-8075 are furnished where a cheaper mica condenser is desired. They are of a very good grade of mica, mounted in hardwood cases, neatly finished, and adjusted to an accuracy of 1 per cent.; and capable of withstanding voltages of 250 volts alternating current.

List No.		*List Price Each
T-8000	.3 M.F. single value.....	\$42.50
T-8005	$\frac{1}{2}$ M.F. single value.....	42.50
T-8010	.1 M.F. single value.....	68.00
T-8025	.1 M.F. subdivided of .05, .2, .2, .5.....	102.00
T-8060	.1 M.F. capacity.....	14.46
T-8065	.2 M.F. capacity.....	21.42
T-8070	.5 M.F. capacity.....	30.60
T-8075	.1 M.F. capacity.....	44.20

Standard Resistance Boxes

The construction of these boxes throughout is the best. The segments are highly insulated on hard rubber above the regular hard rubber top furnished, which gives a very high insulation. The regular box supplied with most outfits is of one value mounted in a polished mahogany case, hard rubber top, with strap to short-circuit same. We can also furnish subdivided types in both switch and plug styles. In the megohm box there are six pillars, with extra insulation, and the binding posts are double, so they may be connected with links if desired.

List No.		*List Price Each
T-1000	Resistance box, 100,000 ohms single value.....	\$59.50
T-1005	Resistance box 100,000 ohms, in four units, 10,000, 20,000, 30,000 and 50,000 ohms..	85.00
T-1020	50,000 ohms single value in hard wood case, with rubber top, with 2 terminals on hard rubber.....	42.50
T-1025	250,000 ohms consisting of five groups of coils of 50,000 ohms each, same style mounting as T-1020.....	127.50
T-1030	500,000 ohms same as T-1020, but 100,000 ohms in each group.....	170.00
T-1035	Megohm box same as T-1020, but 200,000 ohms in each group.....	255.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

LEEDS AND NORTHRUP TESTING SETS



Type S No. 5300



No. 5400

Type S Dial Decade Portable Testing Set

This instrument has been brought out in response to a definite demand for a portable testing set combining the features of compactness, light weight, ease of operation, accuracy of adjustment and moderate cost.

The instrument is adapted to resistance measurements within the range of the Wheatstone bridge. By means of two small, but substantial, double throw switches, the internal connections are changed for the Murray or Varley loop tests, used in locating grounds, crosses, etc., on lines and cables. The set may also be used in locating broken wires.

The set measures, when closed, $7\frac{7}{8}$ inches x $8\frac{3}{4}$ inches x $4\frac{1}{2}$ inches, and weighs but eight pounds.

The rheostat coils are adjusted to an accuracy of $1/10$ per cent. and the ratio coils to $1/20$ per cent. All resistance coils are wound upon metal spools. The dial contacts are carefully designed and no fear need be felt that errors will be introduced due to poor contacts. The dial switches revolve continuously in either direction.

The galvanometer is of a new type, the sensitivity being guaranteed to be one megohm or more. The system of this galvanometer is removable, facilitating repairs should any damage be done to the moving system.

The dial construction is of a new type. All dial contacts are inside of the box, and thus protected against dust and dirt. The ratio arms are controlled by a single dial, thus facilitating the manipulation of the instrument, as in those instruments in which two dials are used there is sometimes confusion as to whether the ratio is a certain value or its reciprocal.

List No.		*List Price Each
5300	Type S Dial Decade Portable Testing Set.....	\$120.00
5301	Leather carrying case for 5300.....	14.00

No. 5400 Dial Decade Portable Testing Set

This is a high-grade portable testing set for the measurement of resistance and the location of grounds, crosses, opens, etc.

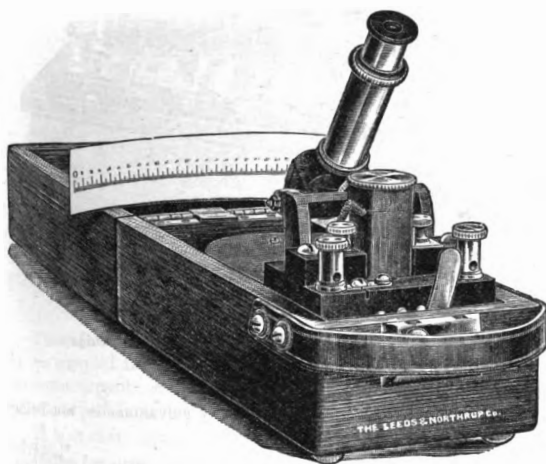
The dials revolve continuously in either direction. The bridge arms are controlled by one dial which simplifies manipulation. The changes of internal connections are made by means of small knife switches plainly marked. All resistances are wound upon metal spools. The ratio coils are guaranteed accurate to $1/20$ per cent. and the rheostat coils to $1/10$ per cent. The overall dimensions of the set are $6\frac{1}{4}$ inches x $10\frac{1}{4}$ inches x $14\frac{1}{4}$ inches, and the weight is $15\frac{1}{2}$ pounds.

The galvanometer in the instrument is guaranteed sensitive to one megohm or over, and is of a new type in which the system is easily removable, facilitating repairs, should they ever be necessary.

List No.		*List Price Each
5400	L. & N. Dial Decade Portable Testing Set.....	\$189.00
5401	Leather carrying case for 5400.....	16.00

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

LEEDS AND NORTHRUP TESTING SETS



Testing Galvanometer



Portable Galvanometer

Portable Insulation Testing Galvanometer

A new form of portable insulation testing galvanometer. The sensitivity of the galvanometer is high, one volt through a resistance of 20 megohms or more causing a deflection of one scale division. It is strictly portable and will withstand as much rough usage as an ordinary voltmeter.

The resistance of the coil is about 225 ohms and the period two seconds.

The instrument is provided with an Ayrton shunt, and a standard 100,000 ohm resistance for use in insulation measurements. The entire instrument is carried in an oak box, measuring 9 inches x 4 inches x 4 inches, and it weighs complete 6 pounds.

In the illustration the telescope and scale are shown in position for use. The telescope is pivoted at the bottom and when the box is to be closed it is laid in a position parallel to the long axis of the box. The box is made long enough to allow this to be done without altering the focus of the telescope. The scale is held in an aluminum frame, which is mounted upon the lid of the box, when open, by means of a pin on each side. When the box is to be closed, the scale is lifted from this position and placed within the box.

The moving system of this galvanometer is contained as a separate unit and may be easily removed, facilitating repairs, should they ever be necessary.

List No.		*List Price Each
5378	Portable Insulation Testing Galvanometer.....	\$153.00
2400	Galvanometer only, without Ayrton shunt and 100,000 ohms resistance.....	117.00

Portable Galvanometers

This galvanometer is at once completely portable, robust, quick and sensitive. It embodies a new design, into which has entered not only the practical experience of years of manufacture, but also the theoretical considerations which recent investigations have developed. This design has resulted in a galvanometer with remarkable characteristics.

It is portable and will stand rougher usage than an ordinary voltmeter.

The current from one volt through a resistance of 1,000,000 ohms will cause the pointer to move one millimeter over the scale. Its normal period is about three seconds. As usually constructed, it will be critically damped on an external circuit of 100 to 150 ohms.

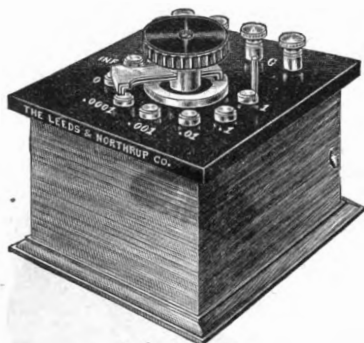
The overall dimensions are 5 inches x 3 inches x 4¼ inches.

The system is easily removable, facilitating repairs, should they ever be necessary.

List No.		*List Price Each
2320	Portable Galvanometer.....	\$30.00
2322	Portable Galvanometer, in case with lid.....	37.52

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

LEEDS AND NORTHRUP TESTING SETS



Nos. 2164 to 2167
Galvanometer Shunts



No. 4250
Resistance Box and Wheatstone Bridge

Galvanometer Shunts

These shunts are of the Ayrton Universal type, and can be applied to any galvanometer, not being dependent upon the instrument's resistance.

List No.		*List Price Each
2164	Ayrton Universal Shunt of about 100,000 ohms, for galvanometers of 3000 to 10,000 ohms.	\$72.00
2165	Ayrton Universal Shunt of about 30,000 ohms, for galvanometers having resistance of 1000 to 3000 ohms.	54.00
2166	Ayrton Universal Shunt of about 10,000 ohms, for galvanometers of from 500 to 1000 ohms resistance.	49.50
2167	Ayrton Universal Shunt of about 3000 ohms, for galvanometers of 100 to 500 ohms.....	40.50

100,000 Ohm Resistance Boxes

The 4245 instrument is of the round type mounted in a brass box, with hard rubber top. The connections should be made to terminals marked 3 and 4. When the flexible cord is on plug 1 the box is short-circuited, but when on plug 2 the resistance of 100,000 ohms is in series. The box is especially suited to rapid cable testing.

No. 4246 is in four units of 10,000, 20,000, 30,000 and 40,000 ohms. An infinity plug separates each coil from the one next to it. Segments are elevated from the hard rubber top by special washers in order to increase insulation. Binding posts are so arranged as not to be in the way when plugs are used, a common defect of square pattern sets.

List No.		*List Price Each
4245	Resistance Box, 100,000 ohms.....	\$63.00
4246	Resistance Box, 100,000 ohms.....	90.00

Resistance Boxes and Wheatstone Bridges

Post Office Pattern

In this line of resistance boxes the older post office scheme for the arrangement of the coils and blocks is used. These instruments are thoroughly well made. The blocks and binding posts are large and fastened firmly upon the rubber plate. An important feature of the blocks is their generous height, which makes possible a good plug bearing. The plugs are carefully made and the heads will not come off. Good plug fit is guaranteed. In the Wheatstone bridge keys are provided in both the battery and galvanometer circuits. All internal connections are traced in white upon the tops of the instruments.

The resistances of the rheostat are adjusted to an accuracy of 1/5 per cent., and those of the ratio coils to 1/10 per cent. The temperature coefficient of the wire is so low that no correction is necessary. The coils are all wound upon metal spools, are well aged and will not change appreciably with time. In these sets the rows of blocks are spaced well apart so that the plugs can be conveniently manipulated.

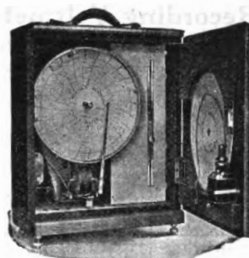
List No.		*List Price Each
4250	Resistance Box and Wheatstone Bridge.....	\$64.00
	The rheostat coils are 1, 2, 3, 4, 10, 20, 30, 40, 100, 200, 300, 400, 1000, 2000, 3000, 4000.	
	The ratio coils (non-reversible) are 1 10, 100, 1000, in one arm, and 1, 10, 100, 1000 in the other arm.	
4252	Resistance Box.....	42.00
	This box contains the coils 1, 2, 3, 4, 10, 20, 30, 40, 100, 200, 300, 400, 1000, 2000, 3000, 4000.	
4254	Resistance Box.....	32.00
	Same as 4252, but with the following coils, 1, 2, 3, 4, 10, 20, 30, 40, 100, 200, 300, 400.	

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

BRISTOL INSTRUMENTS



Switchboard Type



Portable Type

Recording Voltmeters

These Recording Voltmeters are made for use with 12 inch, 8 inch and 6 inch charts. Instruments can be supplied for direct current, alternating current and also for use interchangeably on alternating and direct current. Standard finish of switchboard instruments is nickel plate, but instruments to match any other finish furnished at same prices. Front connections furnished unless otherwise ordered.

24 hour chart furnished unless otherwise ordered.

Orders for alternating current should specify frequency.

Charts have increasing graduations, hence best working range is above one-half capacity of meters.

INCREASING SCALE TYPE—8 INCH—24 HOUR CHART

For Direct Current		Chart Data		For Alternating Current		List Price Each
Switchboard Inst.	Portable Inst.	Chart No.	Total Scale Volts	Switchboard Inst.	Portable Inst.	
List No.	List No.			List No.	List No.	
15023	35023	174	0 to 5	15239	35239	\$102.00
15039	35039	183	0 to 50	15233	35233	102.00
15001	35001	103	0 to 60	15243	35242	102.00
15043	35043	184	0 to 100	15235	35235	102.00
15035	35035	125	0 to 120	15238	35238	102.00
15038	35038	127	0 to 130	15240	35240	102.00
15040	35040	128	0 to 140	15256	35256	102.00
15056	35056	138	0 to 150	15244	35244	102.00
15044	35044	130	0 to 180	15247	35247	102.00
15047	35047	132	0 to 230	15207	35207	102.00
15028	35028	121	0 to 250	15208	35208	102.00
15037	35037	219	0 to 275	15272	35272	102.00
15074	35074	147	0 to 280	15212	35212	102.00
15009	35009	118	0 to 300	15214	35214	102.00
15010	35010	116	0 to 325	15225	35225	102.00
15027	35027	122	0 to 350	15216	35216	102.00
15029	35029	221	0 to 500	15217	35217	102.00
15011	35011	108	0 to 600	15250	35250	102.00
15050	35050	134	0 to 650	15224	35224	110.50
15025	35025	176	0 to 750	*15626	*35626	102.00
.....	.....	176	0 to 750	.....	.....	110.50
15014	35014	112	0 to 800	*15601	*35601	102.00
		214	0 to 1300	*15665	*35665	102.00
		165	0 to 2600	*15661	*35661	102.00
		222	0 to 3000	*15664	*35664	102.00
		164	0 to 15000			

*Wound for use with potential transformer of proper ratio (secondary, 125 volts). Orders for A.C. voltmeters should specify frequency. Price does not include transformer.

†Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.

BRISTOL INSTRUMENTS
Recording Voltmeters with 8 Inch-24 Hour Charts
FRACTIONAL SCALE INSTRUMENTS. UNIFORM GRADUATIONS

For Direct Current		†List Price Each	Chart Data		For Alternating Current		
Switchboard Model	Portable Model		Chart No.	Total Scale Volts	Switchboard Model	Portable Model	
List No.	List No.				List No.	List No.	†List Price Each
15045	35045	\$110.50	185	80 to 115	15245	35245	\$110.50
15019	35019	110.50	172	100 to 135	15269	35269	110.50
15051	35051	110.50	187	90 to 140	15251	35251	110.50
15053	35053	110.50	188	110 to 150	15253	35253	110.50
15048	35048	110.50	186	110 to 180	15248	35248	110.50
15084	35084	110.50	230	200 to 280	15284	35284	110.50
15081	35081	110.50	226	175 to 300	15281	35281	110.50
15079	35079	119.00	199	400 to 750	15279	35279	119.00

Recording Voltmeters with 8 Inch-24 Hour Charts
**A. C.-D. C. TYPE INTERCHANGEABLE
Switchboard Model**

List No.	Chart No.	Total Scale Volts	†List Price Each
25014†	265	80 to 130	\$110.50
25016†	267	60 to 174	110.50

Recording Voltmeters with 12 Inch-24 Hour Charts
INCREASING GRADUATIONS

For Direct Current		†List Price Each	Chart Data		For Alternating Current		
Switchboard Model	Portable Model		Chart No.	Total Scale Volts	Switchboard Model	Portable Model	
List No.	List No.				List No.	Mfr. No.	†List Price Each
5400	35400	\$119.00	151	0 to 140	5500	35500	\$119.00
5404	35404	119.00	212	0 to 160	5502	35502	119.00
5401	35401	119.00	153	0 to 210	5503	35503	119.00
5411	35411	119.00	159	0 to 230	5511	35511	119.00
5412	35412	119.00	160	0 to 275	5512	35512	119.00
5408	35408	119.00	156	0 to 300	5508	35508	119.00
5416	35416	119.00	190	0 to 325	5516	35516	119.00
5426	35426	119.00	236	200 to 600	5526	35526	119.00
5402	35402	119.00	152	0 to 650	5504	35504	119.00
5405	35405	127.50	154	0 to 800	*5707	35707	119.00
5425	35425	161.50	235	0 to 4000	*5725	35725	119.00

UNIFORM GRADUATIONS

Switchboard Model D. C.		Chart Data		Switchboard Model A. C.	
List No.	†List Price Each	Chart No.	Total Scale Volts	List No.	†List Price Each
5803†	\$127.50	271	500 to 700	5903†	\$127.50
5804†	136.00	272	450 to 850	5904*†	127.50

**A. C.-D. C. INTERCHANGEABLE
Switchboard Model**

List No.	Chart No.	Total Scale Volts	†List Price Each
25501†	268	0 to 150	\$127.50
25502†	275	0 to 300	127.50

*Wound for use with potential transformers of proper ratio (secondary 125 volts). Price does not include transformers.

†Portable voltmeters can be furnished at the same price for any range listed.

‡Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.

BRISTOL INSTRUMENTS



Recording Voltmeter

Recording Voltmeters 6 Inch-24 Hour Charts

VOLTMETERS INCREASING

For Direct Current			Chart Data		For Alternating Current		
Switchboard Model	List Prices Each		Chart No.	Total Scale D. C.	Switchboard Model	List Prices Each	
List No.	Full Nickel	Enamel Nickel Front			List No.	Full Nickel	Enamel Nickel Front
5126	\$68.00	\$59.50	3050	0 to 130	5326	\$68.00	\$59.50
5127	68.00	59.50	3051	0 to 150	5327	68.00	59.50
5128	76.50	68.00	3052	0 to 800	5328*	68.00	59.50
5130	68.00	59.50	3054	0 to 250	5330	68.00	59.50
5132	68.00	59.50	3056	0 to 500	5332	68.00	59.50
5133	68.00	59.50	3058	0 to 30	5333	68.00	59.50
5136	68.00	59.50	3061	0 to 300	5336	68.00	59.50

VOLTMETERS UNIFORM SCALE

For Direct Current			Chart Data		For Alternating Current		
Switchboard Model	List Prices Each		Chart No.	Total Scale D. C.	Switchboard Model	List Prices Each	
List No.	Full Nickel	Enamel Nickel Front			List No.	Full Nickel	Enamel Nickel Front
5129	\$76.50	\$68.00	3053	50 to 80	5329	\$76.50	\$68.00
5131	76.50	68.00	3055	90 to 140	5331	76.50	68.00
5134	76.50	68.00	3059	180 to 260	5334	76.50	68.00
5135	76.50	68.00	3060	200 to 240	5335	76.50	68.00
5137	76.50	68.00	3062	175 to 275	5337	76.50	68.00
5138	76.50	68.00	3063	90 to 180	5338	76.50	68.00

INTERCHANGEABLE ON A.C. AND D.C.

Switchboard Model	Total Scale Volts AC-DC	Chart No.	List Prices	
List No.			Full Nickel	Enamel Nickel Front
25700	0 to 130	3000	\$76.50	\$68.00

* Wound for use with potential transformer of proper ratio (secondary 125). Price does not include transformer.

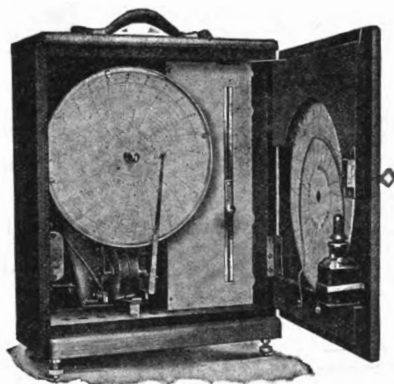
† Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.

Measuring and Testing Instruments

BRISTOL INSTRUMENTS



Switchboard Type Wattmeter



Portable Type Wattmeter

Recording Wattmeters

Direct Current 8 Inch-24 Hour Chart. Nickel Plate Furnished Unless Otherwise Ordered.

Switchboard Instrument	Capacity		Chart Range K. W.	Chart No.	*List Price Each	Switchboard Instrument	Capacity		Chart Range K. W.	Chart No.	*List Price Each
	Volts.	Amps					Volts.	Amps			
List No.						List No.					
33000	750	8	0 to 6	310	\$129.20	3048	625	120	0 to 75	324	\$146.20
3024	600	10	0 to 6	310	129.20	3033	500	150	0 to 75	324	146.20
3012	250	24	0 to 6	310	129.20	3040	250	300	0 to 75	324	163.20
3000	125	48	0 to 6	310	129.20	3039	125	600	0 to 75	324	180.20
33002	750	20	0 to 15	318	129.20	3054	750	120	0 to 90	313	146.20
3008	600	25	0 to 15	318	129.20	3031	600	150	0 to 90	313	146.20
3041	500	30	0 to 15	318	129.20	3007	150	600	0 to 90	313	180.20
3006	250	60	0 to 15	318	129.20	33017	500	200	0 to 100	3312	163.20
3005	125	120	0 to 15	318	146.20	33018	250	400	0 to 100	3312	163.20
33004	750	24	0 to 18	311	129.20	33019	125	800	0 to 100	3312	197.20
3027	600	30	0 to 18	311	129.20	33020	750	200	0 to 150	325	163.20
33005	250	72	0 to 18	311	129.20	3060	625	240	0 to 150	325	163.20
3003	125	144	0 to 18	311	146.20	3059	500	300	0 to 150	325	163.20
3046	750	40	0 to 30	312	129.20	3058	250	600	0 to 150	325	180.20
3028	600	50	0 to 30	312	129.20	3057	125	1200	0 to 150	325	197.20
3043	500	60	0 to 30	312	129.20	33021	750	240	0 to 180	307	163.20
3016	250	120	0 to 30	312	146.20	3035	600	300	0 to 180	307	163.20
3004	125	240	0 to 30	312	163.20	3011	150	1200	0 to 180	307	197.20
33009	750	50	0 to 38	359	129.20	3030	650	300	0 to 200	323	163.20
33010	625	60	0 to 38	359	129.20	3032	500	400	0 to 200	323	163.20
33011	500	75	0 to 38	359	146.20	33032	250	800	0 to 200	323	197.20
3085	250	150	0 to 38	359	146.20	33031	125	1600	0 to 200	323	197.20
33012	125	300	0 to 38	359	163.20	3070	625	400	0 to 250	331	163.20
33013	750	80	0 to 60	328	146.20	33034	500	500	0 to 250	331	180.20
3067	600	100	0 to 60	328	146.20	33033	125	2000	0 to 250	331	214.20
3068	500	120	0 to 60	328	146.20	3066	750	400	0 to 300	327	163.20
33014	250	240	0 to 60	328	163.20	3065	500	600	0 to 300	327	180.20
3069	150	400	0 to 60	328	163.20	3064	250	1200	0 to 300	327	197.20
3052	750	100	0 to 75	324	146.20	3063	125	2400	0 to 300	327	214.20

Portable Instruments can be furnished at same price for capacities of not more than 300 amperes.

*Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.

BRISTOL INSTRUMENTS

Recording Wattmeters—(Continued)

DIRECT CURRENT 8 INCH-24 HOUR CHART

Switchboard Instrument	Capacity		Chart Range K. W.	Chart No.	* List Price Each	Switchboard Instrument	Capacity		Chart Range K. W.	Chart No.	* List Price Each
	Volts.	Amps					Volts.	Amps			
List No.						List No.					
33038	750	400	0 to 300	3313	\$163.20	3062	250	2400	0 to 600	326	\$214.20
33037	500	600	0 to 300	3313	180.20	3056	750	1200	0 to 900	319	197.20
33036	250	1200	0 to 300	3313	197.20	3015	250	3600	0 to 900	319	231.20
33035	125	2400	0 to 300	3313	214.20	33041	500	2000	0 to 1000	341	214.20
3074	625	640	0 to 400	351	180.20	3077	250	4000	0 to 1000	341	231.20
33040	500	800	0 to 400	351	197.20	3083	250	5000	0 to 1250	354	435.20
33039	250	1600	0 to 400	351	197.20	33042	125	1000	0 to 1250	354	605.20
3073	750	600	0 to 450	337	180.20	33043	750	2000	0 to 1500	320	214.20
3072	125	3600	0 to 450	337	231.20	3019	625	2400	0 to 1500	320	214.20
33030	750	800	0 to 600	326	197.20	3079	600	2500	0 to 1500	320	214.20
33046	600	1000	0 to 600	326	197.20	33044	500	5000	0 to 2500	333	435.20
3061	500	1200	0 to 600	326	197.20	3071	250	1000	0 to 2500	333	605.20

Recording Wattmeters

DIRECT CURRENT 12-INCH 24-HOUR CHARTS

Switchboard Instrument	Capacity		Chart Range K. W.	Chart No.	* List Price each	Switchboard Instrument	Capacity		Chart Range K. W.	Chart No.	* List Price each
	Volts.	Amps					Volts.	Amps			
List No.						List No.					
3104	750	200	0 to 150	3316	\$180.20	3115	500	1200	0 to 600	356	\$214.20
3105	625	240	0 to 150	3316	180.20	3116	250	2400	0 to 600	356	231.20
3106	500	300	0 to 150	3316	180.20	3117	250	4000	0 to 1000	332	248.20
3107	250	600	0 to 150	3316	197.20	3118	500	2000	0 to 1000	332	231.20
3108	125	1200	0 to 150	3316	214.20	3121	750	2000	0 to 1500	3314	248.20
3113	750	800	0 to 600	356	214.20	3122	600	2500	0 to 1500	3314	248.20
3114	600	1000	0 to 600	356	214.20						

SUPPLIES FOR BRISTOL INSTRUMENTS

Description	*List Price
Extra 8 inch-24 hour Charts for Bristol Recording Voltmeters, Ammeters, and Wattmeters, per 100.....	\$1.50
Extra 12 inch-24 hour Charts, per 100.....	3.00
Special Recording Ink, per 1-oz. bottle.....	.50
Special 8 inch Charts engraved to order, per 100.....	30.00
Special 12 inch Charts engraved to order, per 100.....	40.00

*Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.

BRISTOL INSTRUMENTS
Recording Wattmeters

For Single Phase				For Balanced Two-Phase		For Balanced Three-Phase		
Wound for		Frequency Cycles	Switch-board Instrument List No.	†*List Price Each	Switch-board Instrument List No.	†*List Price Each	Switch-board Instrument List No.	†*List Price Each
Volts	Amp.							
125	5	25	33454.....	\$147.90	33430.....	\$147.90	33406.....	\$173.40
125	5	30	33455.....	147.90	33431.....	147.90	33407.....	173.40
125	5	40	33456.....	147.90	33432.....	147.90	33408.....	173.40
125	5	50	33457.....	147.90	33433.....	147.90	33409.....	173.40
125	5	60	33458.....	147.90	33434.....	147.90	33410.....	173.40
125	5	133	33459.....	147.90	33435.....	147.90	33411.....	173.40

*Portable instruments can be furnished at same price. Prices do not include transformers.

Alternating Current

8 inch-24 hour charts furnished. Prices on 6 inch and 12 inch charts furnished on application. Nickel finish shipped unless otherwise ordered.

8 Inch-24 Hour Charts and Ranges for A.C. Recording Wattmeters listed above

List No.	Graduations	Total Scale K. W.	List No.	Graduations	Total Scale K. W.
342	20 W.	0 to 1	3322	2 K.W.	0 to 60
394	5 K.W.	0 to 2.5	367	20 K.W.	0 to 600
352	1/5 K.W.	0 to 10	345	20 K.W.	0 to 700
362	1 K.W.	0 to 25	395	20 K.W.	0 to 800
393	1 K.W.	0 to 50	361	20 K.W.	0 to 1000
365	2 K.W.	0 to 80	389	50 K.W.	0 to 1200
3334	2 K.W.	0 to 100	396	50 K.W.	0 to 1600
377	5 K.W.	0 to 125	399	50 K.W.	0 to 2000
376	5 K.W.	0 to 150	397	50 K.W.	0 to 2500
340	5 K.W.	0 to 175	372	100 K.W.	0 to 3000
391	5 K.W.	0 to 200	360	100 K.W.	0 to 4000
364	10 K.W.	0 to 300	375	200 K.W.	0 to 8000
373	10 K.W.	0 to 400	3311	500 K.W.	0 to 15000
398	10 K.W.	0 to 500	378	1000 K.W.	0 to 32000
3321	100 K.W.	0 to 5000	3333	1 K.W.	0 to 40

The above wattmeters must be used with transformers where potential exceeds 125 volts or current exceeds 5 amperes.

Single phase wattmeters require one potential transformer with secondary of 125 volts and one series transformer with secondary of 5 amperes.

Prices of transformers on application.

Directions for Ordering Bristol's Recording Wattmeters for Alternating Current

Orders for Bristol's Recording Wattmeters for use on alternating current, single phase, balanced two-phase or balanced three-phase systems, should specify the following:

1. Manufacturer's number of instrument.
2. Number of chart taken from the list below.
3. Maximum number of kilowatts to be recorded.
4. Maximum number of amperes on each phase.
5. Maximum number of volts on each phase.

†Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.

BRISTOL INSTRUMENTS

Recording Shunt Ammeters



Recording Shunt Ammeter

These instruments are equipped with movements made by Weston Electrical Instrument Company. The recording arm does not drag on the surface of the chart, but swings clear in front of it. The surface of the chart is smoked and is sensitive and semi-transparent. The pointer is brought in contact with the chart every 5 seconds, by means of a mechanical vibrator, and the record produced is actually a series of dots which appear as a solid line. These instruments are for circuits on which the load is fairly steady. Prices on instruments with mechanical or electrical vibrator for rapidly fluctuating loads on application.

Charts listed below are for 24 hour records.

List prices of Wm. H. Bristol Recording Shunt Ammeter, black enamel finish, nickel raised parts, model 637, with Weston Milli-Voltmeter Movement, for use with 8 inch charts; patent semi-transparent smoked chart recording system, complete with flexible duplex leads 50 feet long, 100 patented smoked charts and fixative solution, for use in connection with the standard shunt (price does not include shunt).

Smoked Chart				Smoked Chart			
List No.	Chart No.	Total Scale in Amperes	List Price Each	List No.	Chart No.	Total Scale in Amperes	List Price Each
24001	1519	0 to 5	\$187.00	24016	1521	0 to 1500	\$187.00
24003	1507	0 to 50	187.00	24005	1522	150-0-150	187.00
24004	1506	-75 to +100	187.00	24024	1524	3000-0-6000	187.00
24006	1512	0 to 200	187.00	24000	1528	0 to 3	187.00
24010	1517	0 to 250	187.00	24029	1529	4000 to 12000	195.50
24012	1513	0 to 400	187.00	24008	1531	100-0-200	187.00
24013	1501	0 to 600	187.00	24030	1532	12000 to 17000	204.00
24014	1508	-150 to +750	187.00	24031	1533	0 to 10000	187.00
24015	1504	0 to 1000	187.00	24032	1534	-15+15	187.00
24017	1502	0 to 2000	187.00	24033	1535	100 to 1100	195.50
24018	1505	0 to 2500	187.00	24034	1536	0 to 750	187.00
24020	1503	0 to 3500	187.00	24035	1537	0 to 80	187.00
24009	1520	-100 to +200	187.00	24036	1538	0 to 150	187.00

Recording Milli-Voltmeters, 8 Inch Smoked Charts

See description of shunt ammeters listed above

Price includes instrument complete with 50 feet flexible duplex leads, 100 patent smoked charts and fixative solution. Black enamel finish, nickel raised parts, furnished unless otherwise ordered.

Switchboard			Switchboard		
Model 537	Chart	Total Scale of Chart	Model 537	Chart	Total Scale of Chart
List No.	No.		List No.	No.	
2700	505	— 4 to 0 to + 4 milli-volts	2710	512	125-0-125 volts
2701	504	— 5 to 0 to + 5 milli-volts	2711	514	0 to 120 volts
2702	506	— 5 to 0 to + 5 volts ...	2713	516	240 to 300 volts
2704	507	— 25 to 0 to +25 volts ...	2714	517	480 to 600 volts
2705	500	90 to 140 volts	2716	519	50-0-50 milli-volts
2706	502	180 to 280 volts	2717	520	0 to 100 volts
2708	503	495 to 770 volts			

List price, each \$187.00.*

Additional patented Smoked Charts, 8 inch size, per hundred	\$4.25
Special fixative solution for smoked charts, per quart can	1.31
Special glass fixing jars, each .....	.43
Additional length of duplex leads (over 50 feet), per foot .....	.10
The Wm. H. Bristol Recording Shunt Ammeters and Milli-Voltmeters may be adapted for all ranges of direct current. Special charts will be engraved to order with ranges to suit customers' requirements and arranged for being revolved once in 7 days, 24 hours, 12 hours, 1 hour, or at other clock speeds.	
Special 8 inch chart graduated to order, extra net	\$25.50

*Portable instruments can be furnished if so ordered at same prices.

Deliveries F. O. B. Factory, Waterbury, Conn. For warehouse deliveries write nearest house.

BRISTOL INSTRUMENTS


Switchboard Type Ammeter



Portable Type Ammeter

Recording Ammeters 8 Inch-24 Hour Charts

Switchboard instruments wound for ranges not exceeding 200 amperes are front connected; for higher ranges, back connected unless otherwise specified. Orders for A-C ammeters should specify frequency.

Switchboard Model 610—Direct Current

List No.	Chart No.	Total Scale of Chart No.	Wound for Amp.	▲List Price	List No.	Chart No.	Total Scale of Chart No.	Wound for Amp.	▲List Price
4047	458	0 to 2	...	\$112.20	4019	483	0 to 450	...	\$137.70
4070	1406	0 to 5	...	112.20	4067	1402	0 to 500	...	146.20
4000	431	0 to 7	...	112.20	4020	443	0 to 600	...	146.20
4001	412	0 to 10	...	112.20	4053	469	0 to 800	...	146.20
4004	441	0 to 15	...	112.20	4088	433	0 to 1000	...	154.70
4029	446	0 to 20	...	112.20	4052	468	0 to 1200	...	154.70
4042	439	0 to 25	...	112.20	4024	497	0 to 1600	...	163.20
4005	451	0 to 30	...	112.20	4079	1420	0 to 2000	...	181.90
4068	1403	0 to 35	...	112.20	4055	416	0 to 2500	...	198.70
4045	453	0 to 50	...	112.20	4056	415	0 to 3500	...	222.70
4038	438	0 to 60	...	112.20	4075	1413	0 to 4000	...	239.70
4043	417	0 to 100	...	129.20	4030	499	0 to 5000	...	265.20
4008	463	0 to 125	...	129.20	4058	411	0 to 5500	...	265.20
4059	413	0 to 150	...	129.20	4069	1405	0 to 6000	...	350.20
4011	471	0 to 180	...	129.20	4089	1421	0 to 8000	...	435.20
4077	1417	0 to 200	...	129.20	4063	403	0 to 10000	...	520.20
4044	435	0 to 300	...	137.70	4085	1438	800-0-800	...	163.20
4078	402	0 to 400	...	137.70					

Switchboard Model 610 Alternating Current

4247	458	0 to 2	2	\$112.20	*4659	413	0 to 150	5	\$112.20
4270	1406	0 to 5	5	112.20	*4655	471	0 to 180	180	129.20
4287	431	0 to 7	7	112.20	4277	1417	0 to 200	200	129.20
4200	412	0 to 10	10	112.20	*4677	1417	0 to 200	5	112.20
*4600	412	0 to 10	5	112.20	4213	435	0 to 300	300	137.70
4211	441	0 to 15	15	112.20	4610	435	0 to 500	5	112.20
*4611	441	0 to 15	5	112.20	*4664	1402	0 to 400	5	112.20
4215	446	0 to 20	20	112.20	*4667	1402	0 to 500	5	112.20
*4615	446	0 to 20	5	112.20	*4620	443	0 to 600	5	112.20
4202	439	0 to 25	25	112.20	*4653	469	0 to 800	5	112.20
*4602	439	0 to 25	5	112.20	*4604	433	0 to 1000	5	112.20
4212	451	0 to 30	30	112.20	*4652	468	0 to 1200	5	112.20
*4612	451	0 to 30	5	112.20	*4614	497	0 to 1600	5	112.20
4268	1403	0 to 35	35	112.20	*4679	1420	0 to 2000	5	112.20
4245	453	0 to 50	50	112.20	*4689	416	0 to 2500	5	112.20
*4645	453	0 to 50	5	112.20	*4690	415	0 to 3500	5	112.20
4205	438	0 to 60	60	112.20	*4675	1413	0 to 4000	5	112.20
*4638	438	0 to 60	5	112.20	*4630	499	0 to 5000	5	112.20
4206	417	0 to 100	100	129.20	*4681	411	0 to 5500	5	112.20
*4606	417	0 to 100	5	112.20	*4669	1405	0 to 6000	5	112.20
4223	463	0 to 125	125	129.20	*4691	1421	0 to 8000	5	112.20
*4623	463	0 to 125	5	112.20	*4663	403	0 to 10000	5	112.20
4259	413	0 to 150	150	129.20					

NOTE: Portable instruments can be furnished at the same price for ranges not exceeding 300 amperes.
 *Wound for use with series transformer of proper ratio (secondary 5 amperes). Price does not include transformer.

▲Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.
 Measuring and Testing Instruments

BRISTOL INSTRUMENTS

Recording Ammeters

UNIFORM SCALE—8 INCH—24 HOUR CHARTS

Price Includes Damping Device

For Direct Current		Chart Data		For Alternating Current		
Switchboard Model 610	†List Price Each	Chart No.	Total Scale of Chart Amperes	Switchboard Model 610	Instrument Wound for Amperes	†List Price Each
List No.				List No.		
4800	\$120.70	1425	0 to 5	4900	5	\$120.70
4804	120.70	1430	0 to 7	4904	7	120.70
4034	120.70	449	8 to 11	....	....	....
4809	129.20	1439	0 to 80	4909	80	129.20
....	....	1439	0 to 80	*4644	5	120.70
4806	137.70	1432	0 to 200	4906	200	137.70
....	....	1432	0 to 200	*4628	5	120.70
4028	154.70	479	400 to 700	....	....	....
....	....	1434	0 to 1600	*4649	5	120.70
4812	120.70	1451	0 to 15	4912	15	120.70
....	....	1451	0 to 15	*4697	5	120.70
4813	120.70	1453	0 to 50	4913	50	120.70
....	....	1453	0 to 50	*4696	5	120.70
4814	120.70	1454	0 to 10	4914	10	120.70
....	....	1454	0 to 10	*4698	5	120.70

INCREASING SCALE TYPE—12 INCH—24 HOUR CHARTS

For Direct Current		Chart Data		For Alternating Current		
Switchboard Model 610	†List Price Each	Chart No.	Total Scale of Chart Amperes	Switchboard Model 610	Instrument Wound for Amperes	†List Price Each
List No.				List No.		
4410	\$129.20	409	0 to 15	4510	15	\$129.20
....	....	409	0 to 15	*4710	5	129.20
4403	154.70	418	0 to 300	4502	300	154.70
....	....	418	0 to 300	*4702	5	129.20
4413	154.70	1404	0 to 400	*4713	5	129.20
4407	154.70	456	0 to 450	*4707	5	129.20
4414	163.20	1408	0 to 800	*4714	5	129.20
4408	171.70	464	0 to 1200	*4708	5	129.20
4409	180.20	467	0 to 1600	....	....	....
4412	188.70	400	0 to 2000	*4712	5	129.20
4416	222.70	1414	0 to 3000	*4716	5	129.20
4400	256.70	498	0 to 4000	*4703	5	129.20
4422	367.20	1443	0 to 6000	4722	5	129.20
4423	146.20	1445	0 to 100	4723	100	149.60
4425	129.20	1450	0 to 5	4525	5	129.20

UNIFORM AND INCREASING SCALES—6 INCH—24 HOUR CHARTS

For Direct Current			Chart Data			For Alternating Current			
Switchboard Model 653	†List Price Each		Chart No.	Graduations Amperes	Total Scale of Chart Amperes	Switchboard Model 653	Inst. Wound for Amperes	†List Price Each	
List No.	Full Nickel	Enamel Finish				List No.		Full Nickel	Enamel Finish
24800	\$86.70	\$78.20	3100	Uniform	0 to 5	24900	5	\$86.70	\$78.20
24801	86.70	78.20	3102	Uniform	0 to 50	*24901	50	86.70	78.20
.....	.....	.....	3102	Uniform	0 to 50	*24901	5	86.70	78.20
24851	78.20	69.70	3103	Increasing	0 to 50	24951	50	78.20	69.70
24850	95.20	86.70	3101	Increasing	0 to 100	24950	100	95.20	86.70
.....	.....	.....	3101	Increasing	0 to 100	*24750	5	78.20	69.70
24852	78.20	69.70	3104	Increasing	0 to 30	24952	30	78.20	69.70
.....	.....	.....	3104	Increasing	0 to 30	23752	5	78.20	69.70
24854	95.20	86.70	3106	Increasing	0 to 120	24954	120	95.20	86.70
.....	.....	.....	3106	Increasing	0 to 120	24753	5	78.20	69.70
24855	103.70	95.20	3108	Increasing	0 to 300	24955	300	103.70	95.20
.....	.....	.....	3108	Increasing	0 to 300	24754	5	78.20	69.70

NOTE: Portable instruments can be furnished at the same price for ranges not exceeding 300 amperes.
 * Wound for use with series transformers of proper ratio (secondary 5 amperes). Prices do not include transformers.

†Delivery F. O. B. Factory, Waterbury, Conn. For warehouse deliveries, write nearest house.

PATTERSON TEST SETS


No. TS-49

Cartridge Cell
Unit with Screw-TopPhantom View Showing Screw-
Top Cell Construction
Cartridge Cell Type

Patterson Cartridge Cell Test Sets will appeal to every electrical engineer who has occasion to use a test set.

Regularly furnished with two sizes of cells as follows: $2\frac{1}{4} \times \frac{3}{4}$ inch diameter and $2\frac{1}{4} \times 1$ inch diameter.

The larger size cell equipment, of course, gives longer life, but weighs more than the $2\frac{1}{4} \times \frac{3}{4}$ inch.

Each cell is in the form of a screw-top unit and each unit is as easily renewable as an incandescent lamp in a socket.

To put in an entirely new set of cells, it is only necessary to order a set of screw-top cartridge cells by express, for anyone can put them in place.

The cells used in these test sets are of special high grade glycerine type; they will last from 6 to 8 months without enough deterioration to interfere with practical everyday working of the set.

PATTERSON CARTRIDGE CELL TEST SETS
Complete With $\frac{3}{4} \times 2\frac{1}{4}$ Inch Cells

List No.	No. of Cells	Initial Volts	Capacity Amperes	Wt., Lbs. with Cells	Size, Inches			*Price Each Complete
					Height	Width	Depth	
TS-12.....	12	14	6	2½	3½	3½	2½	\$27.00
BTS-24.....	24	35	6	4	3½	7	2½	48.00
TS-49.....	49	70	6	7½	3½	4½	7½	96.00
TS-74.....	74	105	6	12½	3½	7½	7½	144.00
TS-99.....	99	140	6	15	3½	9	7½	180.00

Complete With $1 \times 2\frac{1}{4}$ Inch Cells

BTS-12.....	12	14	6	5	5½	6	7½	\$32.40
BTS-24.....	24	35	6	9	5½	6	15	59.60
BTS-49.....	49	70	6	17	5½	8	14	115.20
BTS-74.....	74	105	6	25	5½	13	14	152.80
BTS-99.....	99	140	6	34	5½	16	14	192.00

RENEWAL CELLS FOR TEST SETS

List No.	Size of Cell, Inches	Initial Capacity		*List Price Each
		Volts	Amperes	
GCS.....	$\frac{3}{4} \times 2\frac{1}{4}$	1	6	\$0.90
BCL.....	$1 \times 2\frac{1}{4}$	1	6	.90

Cabinets are finely polished San Domingo mahogany and have solid brass fittings throughout. High grade cabinet locks and strong leather carrying straps are furnished on all outfits.

Note: Correspondence relative to special sets for cable testing, laboratory use, etc., will receive prompt attention.

Any size set made to order in three weeks. Other sizes cells from $\frac{3}{4} \times 2\frac{1}{4}$ inch to $1\frac{1}{2} \times 4$ inch; also $2\frac{1}{2} \times 6$ inch for stationary battery test cabinets.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Measuring and Testing Instruments

BATTERY METERS



Advance Voltmeter



Eldredge Voltmeter



Advance Volt-ammeter

Pocket Voltmeters and Volt-ammeter

These instruments can be used on either primary or storage batteries.

The case is heavily nickeled and the connecting posts have non-removable nuts.

	List Price Each		List Price Each
0 to 3 volts advance.....	\$7.50	0 to 25 volts advance.....	\$10.50
0 to 6 volts advance.....	8.26	0 to 30 volts advance.....	10.50
0 to 10 volts advance.....	9.00	0 to 3 volts Eldredge.....	8.40
0 to 15 volts advance.....	9.80	0 to 8 volts, 0 to 30 amperes advance	10.50
0 to 20 volts advance.....	9.80		



Ever Ready Pocket Meter

These meters have the smallest possible number of working parts and are therefore least liable to get out of order. The hand comes to an instant and positive stop without vibration, giving a quick reading and saving the battery. Will work in either direction of current. Each instrument furnished in a chamois leather case.

List No.	Type	Range	Diameter	List Price Each
1002	Ammeter	0 to 35 amps.	2 ins.	\$1.30
1003	Volt-ammeter	0 to 35 amps.-0 to 11 volts	2 ins.	1.60
1005	Voltmeter	0 to 10 volts	2 ins.	1.40
1007	Coil tester	0 to 3 amps.	2 ins.	2.00
1008	Coil tester and ammeter	{ 0 to 30 amps. 0 to 3 amps.	2 ins.	2.20
1010	Ammeter	0 to 35 amps.	1 1/2 ins.	1.30
1011	Volt-ammeter	0 to 35 amps.-0 to 11 volts	1 1/2 ins.	1.60
1012	Voltmeter	0 to 10 volts	1 1/2 ins.	1.40

TEST CLIPS



No. 2521



No. 2537



No. 2538

Frankel's Test Clips

These clips are so designed that the teeth grip the wire while the pin pierces the insulation and makes a positive test connection, saving all stripping of wires and subsequent taping. Saves time and labor.

List No.		List Price Each
2521	The Standard Test Clip.....	\$0.40
2537	The Switchboard Test Clip.....	1.60
2538	The German Silver Test Clip.....	.50



No. 2533



No. 2534



No. 2530



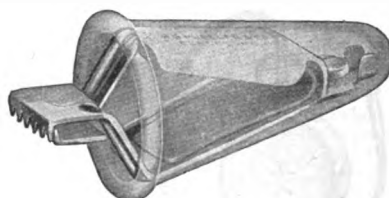
No. 2535

Frankel's Test Clips

List No.		List Price Each
2533	The Helpful Test Clip.....	\$0.48
2534	The Reliable Test Clip.....	.48
2530	The Special Test Clip.....	.20
2535	The Efficient Test Clip.....	.60



15 Ampere Clip, Actual Size

20 Ampere Clip, Actual Size,
Showing Rubber Insulator

Universal Test Clips

Time savers in any electrical work requiring quick temporary connections. Made of copper, non-corrosive, may be used over and over again. Suggested for use with test sets, with voltmeters, on shop testing devices, by telephone linemen, as a helix clip, by meter departments, by railway signal inspectors, in college and commercial laboratories, on motor and transformer test floors, in motion picture projection work and in charging storage batteries. For storage battery work the lead-plated clips No. 13A or No. 11A should be specified.

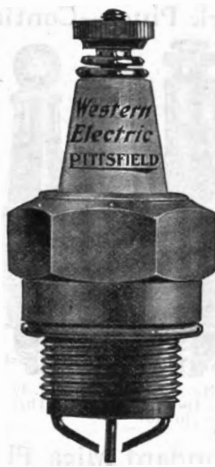
List No.		List Price Each
8	Clip only, 15 ampere soldered connection, spread of jaws $\frac{1}{4}$ in.....	\$0.30
9	Clip with insulator, 15 ampere soldered connection, spread of jaws $\frac{1}{4}$ in.....	.40
4	Insulator only for 15 ampere size.....	.15
13	Clip only, 20 ampere, screw connection, spread of jaws $\frac{1}{8}$ in.....	.30
13A	Clip only, 20 ampere, screw connection, spread of jaws $\frac{1}{8}$ in, lead plated.....	.30
14	Clip with insulator, 20 ampere, screw connection, spread of jaws $\frac{1}{8}$ in.....	.40
14A	Clip with insulator, 20 ampere, screw connection, spread of jaws $\frac{1}{8}$ in., lead plated.....	.40
15	Insulator only for 20 ampere size.....	.15
11	Clip only, 100 ampere, cleat connection, spread of jaws 1 in.....	1.00
11A	Clip only, 100 ampere, cleat connection, spread of jaws 1 in., lead plated.....	1.00
12	Clip with insulator, 100 ampere, cleat connection, spread of jaws 1 in.....	1.20
7	Insulator only for 100 ampere size.....	.30

Western Electric PITTSFIELD

SPARK PLUGS



No. 96
Ford 1/2 Inch Single Point



No. 81
1/4-18 Thread



No. 95
Overland and Buick 1/2 Inch Double Point

Standard Porcelain Nut Spark Plug

The Western Electric-Pittsfield Spark Plug is the result of years of experience in the design and manufacture of spark plugs. The best grade of materials obtainable, the most expert workmanship and the unique design of this plug unite to make it undoubtedly the best porcelain plug on the market.

The porcelain is made of an imported kaolin, of a quality superior to any other clay obtainable, and will not expand or contract under widely varying temperatures.

The electrodes are made of genuine meteor wire, an imported alloy which is, next to platinum, the highest grade electrode material.

A prominent feature of this plug is the absence of any check-nut. This has been eliminated by a special manufacturing process by which the steel shell of the plug and the porcelain are practically made into one compact unit, of exceptional ruggedness, and is absolutely gas tight.

They can be furnished in all standard threads, and with one or two sparking points.

List Prices and Data

List No.		*List Price Each—	
		In Lots of 1 to 12	In Lots of 12 and Over
80	1/8-18 Standard A.L.A.M., single point.....	\$0.80	\$0.70
81	1/8-18 Standard A.L.A.M., double point.....	.80	.70
84	1/2 in. Standard pipe thread, single point.....	.80	.70
85	1/2 in. Standard pipe thread, double point.....	.80	.70

*Finished regularly with 1 1/8 inch hex. nut: can be furnished with 1 inch hex. nut.

Spark Plugs for the Ford, Reo, Buick and Overland Cars

These plugs are especially designed for use with the Ford, Reo, Overland and Buick cars and embody all of the qualities of the standard porcelain plug.

The No. 96 has an extra long shell for use on the Ford and Reo car, which enables the user to get a grip on the plug with a wrench in replacing or removing the plug.

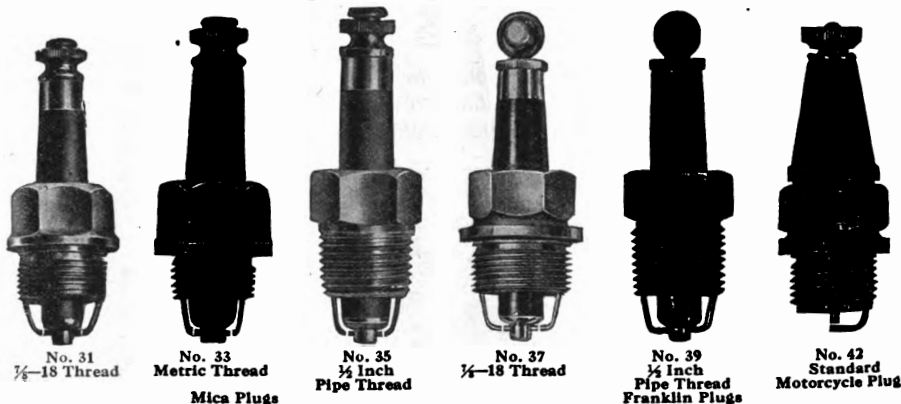
Nos. 90, 91, 94 and 95 are for use with the Overland and Buick cars or other types of cars having cylinders requiring extra long shells.

The porcelain used is specially imported kaolin, fired at an extreme heat that insures absolute durability. The wire used for sparking points is made of meteor wire, the highest grade alloy known for the severe duty which sparking points are subjected to.

List No.		—List Price Each—	
		In Lots of 1 to 12	In Lots of 12 and Over
96	Ford and Reo 1/2 in., single point.....	\$0.80	\$0.70
90	Overland or Buick 1/2 in., single point.....	.80	.70
91	Overland or Buick 1/2 in., double point.....	.80	.70
94	Overland or Buick 1/2 in., single point.....	.80	.70
95	Overland or Buick 1/2 in. double point.....	.80	.70

Western Electric
PITTSFIELD

Spark Plugs—Continued



Standard Mica Plugs

In spite of the popularity of porcelain spark plugs there still remains a marked demand among many manufacturers and users for mica spark plugs. For these we offer a plug which, for strength and durability, cannot be excelled. It is, under working conditions, indestructible.

The construction consists of a heavy pure mica tube covering the electrode over which mica washers are assembled under heavy compression. The mica used is specially selected, and is of the highest quality obtainable.

The wire used for sparking point is made of special alloy. Owners of racing cars or high speed engines will find this plug specially suited to their requirements, and they are equally well adapted for general use.

These plugs are made in either the single point or double point types. Magneto plugs have two points for the severe temperatures of heavy magneto sparking, and will be furnished if called for on the order.

List No.	Description	List Each		List No.	Description	List Each	
		In Lots of 1-12	In Lots of 12 and Over			In Lots of 1-12	In Lots of 12 and Over
30	1/8-18 std. A. L. A. M. plug.	\$1.00	\$0.90	33	Std. metric double point plug	\$1.00	\$0.90
31	1/8-18 std. A. L. A. M. double point plug	1.00	.90	34	1/2 in. std. pipe thread plug.	1.00	.90
32	Std. metric plug	1.00	.90	35	1/2 in. std. pipe thread double point plug	1.00	.90

Special Spark Plugs for Franklin Automobiles

The H. H. Franklin Company have been using for some time as their standard equipment for their automobiles a special Western Electric-Pittsfield Spark Plug which has long proven to be the plug best adapted for the requirements of the Franklin car.

The highest grade of pure imported mica is used. It is cut into thin washers which are assembled over a pure mica cylinder which surrounds the steel center pieces, and the washers are clamped together under heavy pressure. The cylinder thus formed is then turned and ground to accurate dimensions, and fitted into a tapered hole which is likewise ground to secure an accurate fit.

Any additional pressure in the cylinder only tends to make this fit tighter. The electrodes are of a specially high heat-resisting material, imported for this special duty.

The whole plug is accurately made and is recommended exclusively as the best plug adaptable for Franklin automobile models previous to 1915.

37	1/8-18 standard A. L. A. M. double point plug	\$1.50	\$1.30
39	1/2 in. standard pipe thread double point plug	1.50	1.30

Mica Motorcycle Plugs

The Western Electric-Pittsfield Mica Motorcycle Plugs are made with the same precision that characterizes the entire line and the same selected materials and high workmanship are put into these plugs that are found in our other types. They are designed to meet the unusual conditions found in high speed motorcycle engines, and long and severe tests have proved that for motorcycle use they are most satisfactory.

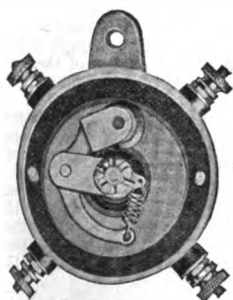
One of the principal features of this plug is the small head on the stem in the combustion chamber which renders it practically soot-proof and also proof against short circuit, due to the increased distance between the head and the sides of the shell.

The spark points are made of a specially high heat-resisting alloy which will easily outlive the life of any motorcycle. They are furnished with either a screw or clip terminal as desired.

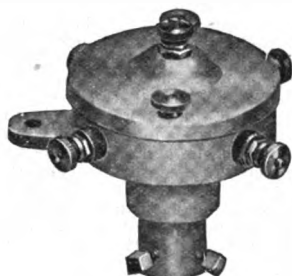
42	1/8-18 standard A. L. A. M. double point plug	\$1.00	\$0.90
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Western Electric

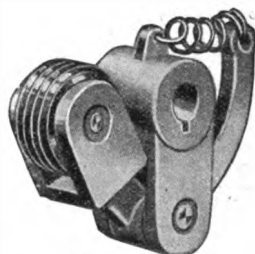
PITTSFIELD



Timer With Top Cover Removed
—Showing Lever Arm and
Grooved Roller



Assembled Four Cylinder Timer



Grooved Roller—Showing Sharp
Contact-making Edges

Timers

Much of the so-called engine trouble is often due to inaccurate timing of the explosion. This is caused by using a timer that is poorly designed or constructed and which after short usage works out of adjustment.

The Western Electric-Pittsfield Timer is built to uphold an established reputation for excellence—it is strong, durable and reliable and embodies the best features of timer design. Back of it is the guarantee of the largest electrical manufacturers in the world.

Unlike most roller type timers the Western Electric-Pittsfield is not equipped with a flat surface roller, but with a grooved roller, which having sharp edges effectively cuts through grease and insures a positive contact.

The timer is equipped with double ball bearings—one at each end of the base, preventing wobbling on the shaft and insuring accuracy of the timing.

The central contact lever on which the roller moves operates on the shaft to which it is fastened by means of a key which is threaded with a fine thread and fastened at the top with a castellated nut and cotter pin. By turning this nut one groove, a play of .005 inches is taken up, enabling the lever to be kept tight at all times and preventing unnecessary wear.

The cover which is made of pressed aluminum is attached securely with spring nuts and will not shake loose. It fits the box tightly making it absolutely dirt and dust proof—yet can be easily removed for inspection. A terminal is provided on the cover for efficiently grounding the timer roller.

These timers are made in sizes from one to six cylinders, all standard types being bored for $\frac{1}{2}$ inch shaft. Timers for $\frac{3}{8}$ inch and $\frac{3}{4}$ inch shaft will be supplied, if ordered, for an additional charge of 65 cents list.

List No.	Description	List Price Each
301	One Cylinder Timer.....	\$4.50
302	Two Cylinder Timer.....	4.80
303	Three Cylinder Timer.....	5.10
304	Four Cylinder Timer.....	5.40
306	Six Cylinder Timer.....	5.60

Western Electric

Master Vibrator and Spark Coils

MASTER VIBRATOR



Master Vibrator

Ford Ignition System. The standard Ford ignition system consists of an electric generator built in the fly wheel, a timer mounted on the engine and four transformer coils mounted on the dashboard. These coils are similar to the Pittsfield spark coil with a magnetic vibrator which makes and breaks the current supplied through the timer on the engine. The strength of the spark in each cylinder of the engine depends on the adjustment of the corresponding coil and in order to obtain perfect operation of the engine all four vibrators must be adjusted frequently.

It is to eliminate the necessity of adjusting four vibrators that the master vibrator is used. With only one vibrator to adjust, maximum efficiency in the ignition system is insured, and the wide use of master vibrators on Ford cars would indicate that Ford owners welcome a device of this kind.

The Western Electric Pittsfield master vibrator is adapted for operation on Ford Cars of the 1914 and earlier designs. The dash of the 1915 model Ford is smaller than the older models, due to the introduction of the cowl, which is new to Ford cars, leaving very little space for a vibrator of the Western Electric type. It, however, can be mounted on the dash of the 1915 car.

List Price Each

Western Electric Pittsfield Master Vibrator..... \$11.00



Six-Cylinder Spark Coil



Four-Cylinder Spark Coil



One-Cylinder Spark Coil

Dash Type Spark Coil

The Western Electric-Pittsfield Spark Coils are built for every requirement of automobile, motorboat and industrial gas engine ignition. All Dash Board Coils are constructed on the unit system.

The unit boxes are made of special composition, and are absolutely waterproof. They may be removed without changing connections, and fit accurately in place.

The Dash Spark Coil Cases are of mahogany, lock cornered, highly polished and thoroughly waterproof. Carefully made condensers built of the best material and perfectly proportioned with the working parts of the coil complete the system.

Western Electric-Pittsfield Switches are strong and absolutely free from danger of short-circuiting. The operation is absolutely positive. Switches are provided with a key for locking and may be furnished either for battery and battery, magneto and battery, or for magneto only.

Unit Construction. Western Electric-Pittsfield Spark Coils are constructed on the unit system, viz.: one unit coil for each cylinder of the engine. Each coil unit is self-contained and operated independently from the neighboring units. The loosening of the proper connections permits the removal of a unit for examination or replacement. With this arrangement an extra unit may be carried and used to replace a damaged unit. This operation does not necessitate stopping the engine.

Vibrators. Vibrators are of the latest improved type and are constructed to give the greatest frequency with a positive make and break at all times. The contact points are made of iridio-platinum and a condenser eliminates all sparking between the contact points, insuring the coil being operated over an extended period without any perceptible wearing of the contact points. The adjusting screw of each coil may be locked in position by means of a check nut, providing a permanent means of adjustment.

List No.	Cylinder	List Prices and Data		Thickness Including Sw.	List Price Each
		Height	Width		
111	1	7 $\frac{1}{4}$ ins.	3 $\frac{3}{4}$ ins.	5 $\frac{5}{8}$ ins.	\$12.00
112	2	7 $\frac{1}{4}$ ins.	5 $\frac{1}{2}$ ins.	5 $\frac{5}{8}$ ins.	20.00
113	3	7 $\frac{1}{4}$ ins.	8 $\frac{1}{2}$ ins.	5 $\frac{5}{8}$ ins.	30.00
114	4	7 $\frac{1}{4}$ ins.	10 $\frac{1}{4}$ ins.	5 $\frac{5}{8}$ ins.	35.00
116	6	7 $\frac{1}{4}$ ins.	14 $\frac{1}{4}$ ins.	5 $\frac{5}{8}$ ins.	50.00

REMOVABLE COIL UNIT

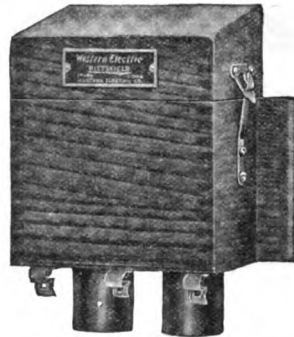
199	Unit only—complete.....	\$9.00
Automobile and Ignition Supplies		

Western Electric **PITTSFIELD**

Spark Coils—Continued



Single-Cylinder Marine Type Coil



Two-Cylinder Marine Type Coil

Marine Type Coils

Western Electric-Pittsfield Marine Coils are put up in the most thorough manner, and are perfectly insulated with a special compound, making them practically impervious to oil and water. The metal parts are formed with extreme care. The vibrator is an entirely new design and is the fastest and most economical vibrator made, and is equipped with extremely large iridio-platinum points.

In all the marine coils the units are assembled in very neat and durable solid oak boxes which can be laid down or screwed to the boat frame in an upright position.

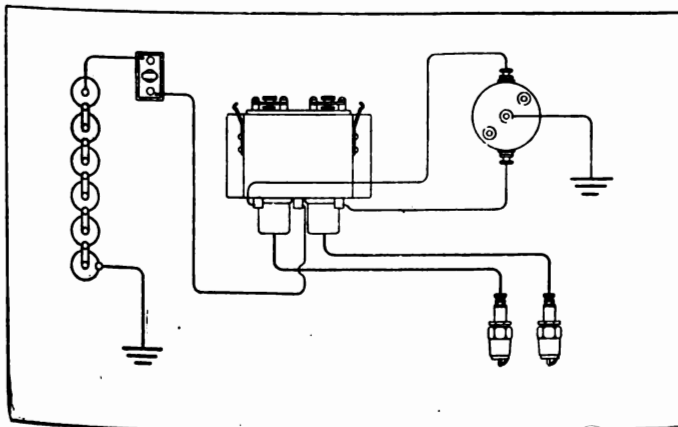
These coils are made without switches, but can be furnished with any of the switches made by us if so ordered. Prices with switches furnished on request.

The one and two-cylinder marine coils are made with units molded in the box. The three-cylinder coil is of the same construction and design as the four-cylinder coil.

List Prices and Data

List No.	Cylinder	Height	Width Including Firing Bracket	Depth Without Switch	List Price Each
101	1	7½ ins.	6 ins.	3¼ ins.	\$7.50
102	2	7½ ins.	8 ins.	3¼ ins.	15.00
103	3	8½ ins.	10¾ ins.	3¼ ins.	22.50
104	4	8½ ins.	12¾ ins.	3¼ ins.	30.00

Wiring Diagram for Marine Coils



Western Electric PITTSFIELD

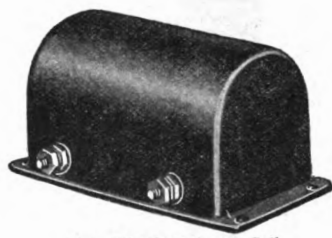
Spark Coils—Continued



Two-Cylinder Box Coil



Single Cylinder Box Coil



Non-Vibrating Spark Coil

Marine and Stationary Coils

For two-cylinder stationary and marine engines, Western Electric-Pittsfield Box type coil is not surpassed. It has removable units and can be furnished with switch if so ordered. The outside box is finished with a special waterproof varnish and the coil is manufactured with the same care and thoroughness that characterizes all the Western Electric-Pittsfield products.

List No.	Description	Height	Width	Thickness	List Price Each
233	Two Cylinder Box Coil	7½ ins.	6¾ ins.	4¼ ins.	\$13.50

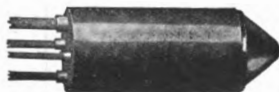
The Western Electric-Pittsfield single cylinder coil is furnished without switch in a plain oak box, neatly finished and of solid construction. Unless otherwise specified, it will be furnished as shown in the illustration with vibrator. If it is desired without vibrator, it can be so furnished if specified on the order. For an additional charge of 50c. solid brass hinges will be attached so that the coil can be fastened in any position desired. In ordering, state whether three or four leads are desired.

List No.	Description	Length	Width	Thickness	List Price Each
133	3-B 3 Lead Box Coil without Switch	6 ins.	2½ ins.	3½ ins.	\$6.76
134	3-B 4 Lead Box Coil without Switch	6 ins.	2½ ins.	3½ ins.	6.76

Waterproof Make and Break Coil

The Western Electric-Pittsfield Waterproof Make and Break type spark coil is enclosed in a metal shell and completely sealed with the special insulating compound used in all our products. It is well adapted for marine or launch use, gives a powerful and hot flame, insuring an explosion every time. The low current consumption makes it an economical coil to use. It is practically indestructible.

List No.	Description	Length	Width	Thickness	List Price Each
105	105 Non-Vibrating Coil	6 ins.	2½ ins.	3½ ins.	\$2.50



Single Cylinder Motorcycle Coil



Two-Cylinder Motorcycle Coil

Motorcycle Cylinder Coil

The Western Electric-Pittsfield Motorcycle Coils afford the highest amount of service, ability and satisfaction obtainable. They are made in two different types, the conical and the flat end, and are equipped with four or with five leads for single or twin-cylinder motorcycles.

Everything which can be done to make these coils the most efficient and at the same time the most attractive coils manufactured has been done. In all cases high standards of service are afforded.

List No.	Description	Diameter	Length	List Price Each
214	1 cylinder 4 lead square end	2½ ins.	6½ ins.	\$9.76
314	1 cylinder 4 lead conical end	2½ ins.	11 ins.	9.76
225	2 cylinder 5 lead square end	2½ ins.	6 ins.	12.76
325	2 cylinder 5 lead conical end	2½ ins.	9½ ins.	12.76

Western Electric

PITTSFIELD

Spark Coil Parts



List No.	Description	List Price Each
1001	Vibrator Blade, complete.	\$1.36
1002	Platinum Contact and Strip, complete.	1.36
1003	High Tension Contact, complete.	.10
1004	Threaded Insulator.	.16
1005	Battery Connection.	.15
1006	Packing Washer for Vibrator Blade.	.08
1007	Adjusting Nut.	.10
1008	Packing Washer for Platinum Strip.	.08
1009	Brass Screw Sleeve.	.13
1010	Brass Fibre Washer for High Tension Terminal.	.07
1011	Long Wire Terminal.	.10
1012	Connecting Post.	.12
1013	Locking Spring.	.07
1014	Long Connecting Post.	.07
1015	High Tension Wire Terminal.	.07
1016	Cap for 1004.	.16
1017	Short Wire Terminal.	.10



Kick-Off Lock Switch

Western Electric

PITTSFIELD

Ignition Switches



Baby Primary Switch

Kick-Off Lock Switch

The Western Electric-Pittsfield Kick-Off Lock Switch is simple and strong and is absolutely free from liability of short circuits, locks with a removable flat metal key and allows of the lever being shifted by the foot. This switch is readily installed by the ordinary layman as well as the skilled mechanic. It is absolutely positive at all times and is guaranteed to do the work for which it is intended.

List No.	Description	List Price Each
201	Kick-Off Lock Switch B and B.	\$2.26
211	Kick-Off Lock Switch M and B.	2.26
212	Kick-Off Lock Switch M only.	2.26
219	Kick-Off Lock Switch Key extra.	.15

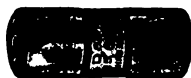
Baby Primary Switch

The Baby Primary Switch was designed to meet the requirements of a small, simple, yet durable and efficient circuit breaker, and as such is heartily recommended.

This switch is made in both open and closed circuit type. The open circuit type is for use with open circuits such as high tension magnetos, the circuits being opened when the plug is in. The closed circuit type is for use with battery lines, the circuit being closed when the plug is in.

In ordering, state whether open or closed circuit switch is wanted.

202	Baby Primary Switch, open circuit.	\$0.76
203	Baby Primary Switch, closed circuit.	.76
208	Extra Key.	.15

"D & W" AUTOMOBILE CARTRIDGE FUSES
 INDICATING


No. 2237



No. 2247

Automobile Cartridge Fuses
15 AMPERES—25 VOLTS MAXIMUM

List No.	Ampere Capacity	Length Inches	Diameter Tube	Package Net Wt.	Carton Quantity	Std. Pkg.	List Price Each
2228	3	1	$\frac{3}{8}$	15 oz.	100	100	\$0.20
2229	4	1	$\frac{3}{8}$	15 oz.	100	100	.20
2230	5	1	$\frac{3}{8}$	15 oz.	100	100	.20
2231	6	1	$\frac{3}{8}$	15 oz.	100	100	.20
2232	7	1	$\frac{3}{8}$	15 oz.	100	100	.20
2233	8	1	$\frac{3}{8}$	15 oz.	100	100	.20
2234	9	1	$\frac{3}{8}$	15 oz.	100	100	.20
2235	10	1	$\frac{3}{8}$	15 oz.	100	100	.20
2236	12	1	$\frac{3}{8}$	15 oz.	100	100	.20
2237	15	1	$\frac{3}{8}$	15 oz.	100	100	.20
2238	3	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2239	4	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2240	5	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2241	6	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2242	7	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2243	8	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2244	9	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2245	10	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2246	12	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20
2247	15	$1\frac{1}{4}$	$\frac{1}{2}$	9 oz.	100	100	.20



No. 2255



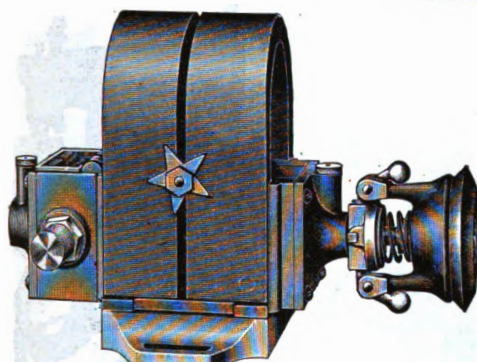
No. 2280

Automobile Cartridge Fuses
3-30 AMPERES—25 VOLTS MAXIMUM

List No.	Ampere Capacity	Length Inches	Diameter Tube	Package Net Wt.	Carton Quantity	Std. Pkg.	List Price Each
2248	3	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	\$0.20
2249	4	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2250	5	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2251	6	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2252	7	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2253	8	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2254	9	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2255	10	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2256	12	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2257	15	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2258	20	$1\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$ lbs.	100	100	.20
2268	3	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2269	4	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2270	5	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2271	6	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2272	7	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2273	8	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2274	9	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2275	10	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2276	12	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2277	15	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2278	20	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2279	25	2	$\frac{1}{2}$	4 lbs.	100	100	.27
2280	30	2	$\frac{1}{2}$	4 lbs.	100	100	.27

HENRICK'S IGNITION MAGNETOS

LOW TENSION

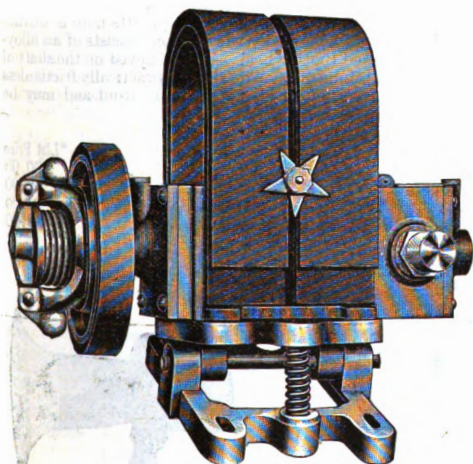


Type S-6 and J-6

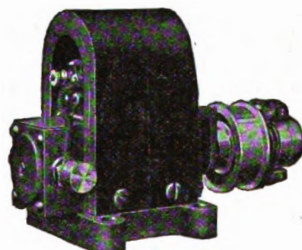
Heavy Duty Magneto

One-half inch phosphor bronze bearings. For make and break spark ignition. The cut shows the magneto with bevel faced governor which drives at thirty degree angle from the face of fly wheel. This machine can be furnished with flat governor to drive at right angles from the face or side of the fly wheel, or fully drive governor. For belt governor for $\frac{3}{8}$ inch round or $\frac{3}{4}$ inch flat belt add \$1.34 more.

Type		Size Inches	Speed	Wt. Lbs.	*List Price Each
"S-6"	For make and break spark.....	4 x 5 $\frac{1}{2}$ x 9	1500 R. P. M.	12	\$14.68
"S-6-C"	For make and break spark with coil.....	4 x 5 $\frac{1}{2}$ x 9	1500 R. P. M.	12	16.00
"J-6"	For jump spark only.....	4 x 5 $\frac{1}{2}$ x 9	2000 to 2500 R. P. M.	12	16.00



**"S-6-X" and "J-6-X"
Heavy Duty Magneto**



Improved Eureka Type

Heavy Duty Magneto For Multiple Cylinder Engines

These magnetos are especially adapted for large marine or stationary engines. They are equipped with one-half inch phosphor bronze bearings, spring cushion base and pulley drive governor. It can be furnished with bevel face, flat face governor or with belt governor for $\frac{3}{8}$ inch round or $\frac{3}{4}$ inch flat belt.

Type		Size Inches	Speed	Wt. Lbs.	*List Price Each
"S-6-X"	For make and break spark.....	4 x 6 x 9	1200 to 1500 R. P. M.	14	\$21.36
"J-6-X"	For jump spark only.....	4 x 6 x 9	1200 to 1500 R. P. M.	14	22.68

IMPROVED EUREKA

For lighting and ignition outfits. With or without storage battery connection. For motor boat or automobile. Ball bearing. Tungsten magnets. Built in two sizes, either with or without cutout. When used for lights direct without storage battery no cutout is needed. When used in connection with storage battery always sold with automatic cutout.

Type		Size	Capacity	*List Price Each
"BC-1"	With automatic cutout and governor.....	10 $\frac{1}{2}$ x 4 x 6 $\frac{1}{2}$	50 to 60 C. P.	\$66.68
"LD-1"	Without automatic cutout for lights direct.....	10 $\frac{1}{2}$ x 4 x 6 $\frac{1}{2}$	30 to 60 C. P.	46.68
"BC-2"	With automatic cutout and governor.....	8 $\frac{1}{2}$ x 4 x 6	30 to 35 C. P.	40.00
"LD-2"	Same as "BC-2" without automatic cutout for lights direct.....	8 $\frac{1}{2}$ x 4 x 6	30 to 35 C. P.	26.66

*Delivery F. O. B. Factory, Indianapolis, Ind. For warehouse deliveries write nearest house.

Automobile and Ignition Supplies
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AUTOMOBILE AND MARINE SIGNALS



Type L Klaxon



Type S Klaxon



Klaxon for 1915 Cadillac Cars



Combination Klaxon

The Klaxon possesses the true warning note: loud, abrupt, penetrating. It is operated by means of a push-button, on six to eight dry cells or a six to eight volt storage battery. Its note is instantaneous and entirely independent of the running of the car. Mechanically the Klaxon consists of an alloy-steel diaphragm set in violent vibration by means of a hardened tooth wheel. This is keyed on the shaft of a finely constructed little electric motor—a railway motor in miniature. The shaft is practically frictionless with a ball-bearing base. The instrument is dust and waterproof, needs no screen in front and may be cleaned with a hose.

List No.	List No.
Black & Nickel	Black & Brass
330423	330809
330424	330810
330425	330811
330915	330916

	*List Price
Type L, long projector	\$30.00
Type S, short projector	30.00
Combination type	45.00
With special brackets, for 1915 Cadillac cars	30.00



Marine Deck Klaxon



Hand Klaxon for Motorcycle



Hand Klaxon

Marine Deck Type Klaxon for Motor Boats

330426	330812	Marine Deck type	\$33.76
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NOTE: The above prices cover instruments finished in brass, black enamel, nickel, gun metal, black enamel and brass, black enamel and nickel. Each Klaxon is supplied with a push-button, matching the finish of the instrument itself, and ten feet of double insulated wire.

Hand Klaxon

330477	330813	Hand Klaxon, with regular bracket	\$11.26
330787	330814	Hand Klaxon, with side bracket for motor trucks and taxicabs ..	11.26
330770	330823	Hand Klaxon Boat type	13.50

Hand Klaxon for Motorcycles

The Hand Klaxon for motorcycle use is exactly like the automobile Hand Klaxon except that it has a short projector and is fitted with a special bracket by which it may be easily and quickly attached to the bus-bar of the motorcycle.

330592	330815	Hand Klaxon with special bracket for motorcycle	\$11.26
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*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries, write nearest house.

Automobil and Ignition Supplies

AUTOMOBILE WARNING SIGNALS



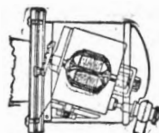
Klaxonet Combination Type



Type L Klaxonet



Type S Klaxonet



**Sectional View of
Klaxonet Mechanism**

The Klaxonet

The Klaxonet is smaller in design than the Klaxon described on preceding page, but operated on the same principle. To gain compactness, the motor is placed on an incline behind the diaphragm and the teeth are cut slantwise on the face of the ratchet wheel rather than on the edge. The Klaxonet produces the true Klaxon warning note—higher in pitch, lower in volume; and every detail of its construction has been as carefully perfected. It can be satisfactorily operated on four or six dry cells.

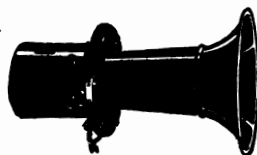
List No.	List No.		*List Price Each
Black and Nickel	Black and Brass		
330427	330816	Combination type.....	\$36.00
330428	330817	Type L, long projector.....	22.50
330429	330818	Type S, short projector.....	22.50



Marine Deck Klaxonet



Type L Klaxet



Under Hood Klaxet

Marine Deck Klaxonet

For Motor Boats

330430	330819	Marine Deck type, with swivel bracket.....	\$24.76
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The Klaxet

The Klaxet is slightly smaller than the Klaxonet, operating on the same principle. It is a high grade and thoroughly efficient motor driven signal to sell at a low price.

330431	330820	Type L, long projector.....	\$13.50
330928	330821	Boat type, with swivel bracket.....	15.76

Under Hood Klaxet

May be installed outside or under the hood. Regular Klaxon finish, all black. A motor driven Klaxon. Under Hood Klaxet..... \$9.00

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

HAND KLAXONET



[Hand] Klaxonet

Hand Klaxonet

The Hand Klaxonet represents the latest developments in the Klaxon line. It embodies in its construction and design the same high grade of materials that characterizes the latest Klaxon line.

Each Hand Klaxonet may be permanently guaranteed to give complete satisfaction indefinitely. It does not make any difference if the instrument has been abused, dropped on the floor, smashed in a wreck or anything else. It may be returned to the factory, express collect, and it will be put in perfect operating condition without charge.

Finishes. The Hand Klaxonet may be finished in black and nickel, black and brass, and all black.

Hand Klaxonets

For Motorcycles

Hand Klaxonets for motorcycles are equipped with a short projector and special attaching brackets, in all nickel, black and nickel, and all black.

List Price and Data

	Finish	*List Price Each
Hand Klaxonet.....	Black and nickel	\$6.00
Hand Klaxonet.....	Black and brass	6.00
Hand Klaxonet.....	All black	6.00
Hand Klaxonet, for motorcycle.....	Nickel	6.00
Hand Klaxonet, for motorcycle.....	Black and nickel	6.00
Hand Klaxonet, for motorcycle.....	Black	6.00

Fire Alarm Klaxon

The Klaxon is heard—where the old-fashioned gong is not. This is the whole story in a word.

The Klaxon no sharp and penetrating. Its sound waves are like the teeth of a saw. They cut through other noise—all kinds of noise. This fact led originally to the adoption of the Klaxon in the fire alarm systems of noisy factories. No matter how loud the machinery the Klaxon is heard above it.

It is also adapted for use in schools, hotels, stores, clubs, dormitories and wherever else a sure alarm of fire may save lives and property.

The Klaxon is a noise machine—operated by electricity. Its sound is produced by a tough vanadium steel diaphragm set in violent vibration by means of a cam wheel. In the center of the diaphragm there is a glass-hard button with which the cam wheel comes in contact. The revolutions of the latter produce 33,000 vibrations of the diaphragm per minute. The cam wheel is keyed to the shaft of a finely constructed little electric motor. In the Klaxonet this motor is placed on an incline behind the diaphragm; in the Klaxon at a right angle to the diaphragm.

In both instruments the motor is a railway motor in miniature with laminated seven-coil armature and a commutator of standard type. Regularly they are wound for 6 volts.

	Finish	*List Price Each
Fire Alarm Klaxon.....	Red	\$26.68
Fire Alarm Klaxonet.....	Red	20.00

Special Voltages

All Types

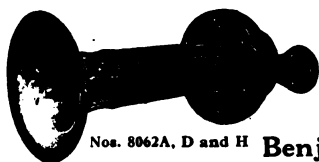
Special voltages up to 12 inclusive are supplied at no extra charge. For higher voltages additional charges are made as follows:

	List Addition Each		List Addition Each
13 to 20 volts inclusive.....	\$1.50	70 to 79 volts inclusive.....	\$7.00
21 to 29 volts inclusive.....	2.00	80 to 89 volts inclusive.....	8.00
30 to 39 volts inclusive.....	3.00	90 to 99 volts inclusive.....	9.00
40 to 49 volts inclusive.....	4.00	100 to 120 volts inclusive.....	10.00
50 to 59 volts inclusive.....	5.00	110 volts A.C.....	5.00
60 to 69 volts inclusive.....	6.00		

The Klaxon can be wound for voltages up to and including 120; the Klaxonet up to and including 60.

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

BENJAMIN SIGNAL DEVICES



Nos. 8062A, D and H



No. 8062G

Benjamin Automobile Horns

Electric Horn for Ford Cars

The Ford Magneto furnishes current in excess of that needed for ignition purposes, and many unsuccessful attempts have been made by inventors to design a horn to operate from a portion of this excess current. The Fordorn blows directly from Ford Magneto current. No battery needed. No contacts to get out of order, nor commutator, bearing or oiling troubles as in motor horns. It is made in two styles: Model A, dash-board type, Model B, under-hood type. Standard finish on the former is black and brass; on the latter all black.

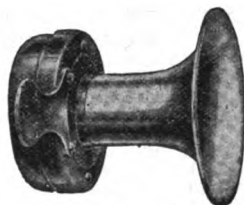
List No.		Finish	List Price Each
8062A	Complete, with Dad button, cable and two cable clamps.....	Black and brass	\$8.02
8062D	Complete, with Dad button, cable and two cable clamps.....	Black enamel	6.72
8062H	Complete, with Dad button, cable and two cable clamps.....	Black and nickel	8.04
8062G	Complete, with Dad button, cable and two cable clamps.....	All brass	9.40



Nos. 8202 L and O



No. 8167N



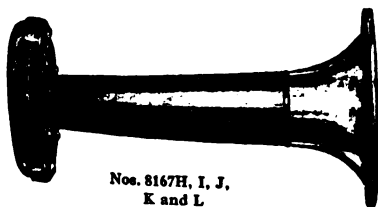
Nos. 8167P and Y

Benjamin Auto Horns

Nos. 8202L and O Motorcycle Horn is the product of painstaking effort on the part of engineers with broad experience in designing automobile and motorcycle accessories. The materials are of the highest grade. Diaphragm, contact and armature springs are Swedish steel.

Nos. 8167N and 8167P Horns have among their dominating mechanical features the following: magnet-laminated contact, very massive; screw lock, novel and effective; case for movement, shallow 1½ inch. Weight only 31 ozs. Diaphragm, Swedish steel spring; springs, Swedish steel springs; washers, cork felt.

List No.		Finish	List Price Each
8202L	Complete, with push button and cable.....	Brass and nickel	\$6.72
8202O	Complete, with push button and cable.....	Steel and black enamel	5.38
	Lever push button only, with cable attached.....	Nickel finish	.82
8167N	Steel body and projector.....	Black enamel	5.38
8167P	One piece brass projector.....	Black and nickel	6.72
8167Y	One piece brass projector.....	Black and brass	6.72



Nos. 8167H, I, J,
K and L

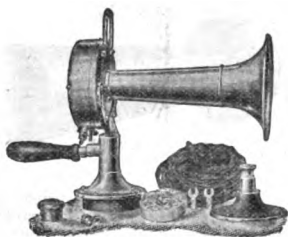


No. 8201B

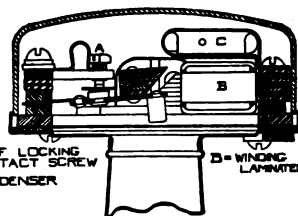
Benjamin Dash and Under-Hood Horn

This horn is of the oscillating motor type and is peculiarly effective in the sound it produces. It has one piece brass projector.

List No.		Finish	List Price Each
8167H	Complete, with Tip-top button, cable and mounting screws.....	Black and nickel	\$6.72
8167I	Complete, with Tip-top button, cable and mounting screws.....	All nickel	8.06
8167J	Complete, with Tip-top button, cable and mounting screws.....	All brass	8.06
8167K	Complete, with Tip-top button, cable and mounting screws.....	Black and brass	6.72
8167L	Complete, with Tip-top button, cable and mounting screws.....	Black enamel	6.72
8201B	Complete, with Tip-top button, cable and mounting screws.....	Black enamel	6.04

BENJAMIN AUTOMOBILE SPECIALTIES


Marine Horn



High Voltage Horns

Benjamin Marine Horn

Benjamin Marine Horn produces a long continued blast. It will start or stop instantaneously. It can be operated from 5 dry cells or from any 6 volt storage battery. Standard finish is polished brass, but polished nickel will be furnished if specified. The diaphragm is specially treated Swedish steel spring; the movement is absolutely water and dust proof; mounting specially designed swivel type with lock handle.

Marine Horn includes 15 ft. of heavy rubber-covered cable with special connections at horn end, 1 extra base mounting bracket, 1 Tip-top button, 8 mounting screws and 1 roll friction tape

List No.	List Price	List No.	List Price
8203B	Marine Horn, all brass..... \$13.42	8203N	Marine Horn, all nickel..... \$13.42

HIGH VOLTAGE FOR ELECTRIC PLEASURE OR COMMERCIAL VEHICLES

Benjamin Auto Horns, all types, whether for direct current or battery, can be equipped with high voltage windings, which adapt them for the severer demands of electric machines.

Do not forget, when ordering, that it is necessary to specify voltage.

List No.	Finish	High Voltage	List No.	Finish	High Voltage	List No.	Finish	High Voltage
8167H	Black and nickel...	\$7.04	8167K	All nickel.....	\$9.38	8167P	Black and nickel...	\$8.06
8167I	Black and brass...	8.06	8167L	Black enameled...	7.04	8167Y	Black enameled...	8.06
8167J	All brass.....	8.06	8201B	Black enameled...	6.04	8167N	Black enameled...	7.04

For Cable and "Tip Top" Button, add \$1.34 list.

8014N
Dad Push-Button8106F
Flush Type Mounting8106B
Fore-Door Mounting8106C
Steering
Wheel
Mounting
Dad Push-Button

The Dad Push-Button is a most desirable innovation for use with automobile horns. It is instantly operative in emergency. The whole top is a moving element, centrally poised and as sensitive as a hair-trigger. It is easily found and cannot be missed when wearing heavy gloves. Specially well designed and manufactured.

List No.	List Price Each
8014N	Dad Button, steering wheel spoke, black enamel..... \$1.34
8074A	Dad Button, fore-door, black enamel..... 1.34

Benjamin "Tip-Top" Button
Push-Button for Electric Horns. Flush Type, Fore-Door and Steering Wheel Mounting

The Tip-top button is absolutely water, grease and dust proof. Hard brass is used for the metal portions, and no parts are constructed of steel or iron which would rust or otherwise deteriorate.

8106F	Tip-top button, black enamel, flush mounting.....	\$0.82
8106G	Tip-top button, nickel, flush mounting.....	.82
8106B	Tip-top button, black enamel, fore-door mounting.....	.82
8106C	Tip-top button, black enamel, steering wheel mounting.....	.82



Regulite

The Regulite

The Regulite is a combination switch and electric controller which automatically chokes or impedes the magneto current to the lamps, prevents its rising to a voltage too high for their capacity, and keeps them from burning out. The construction and winding of the Regulite is such that it has practically no effect upon the magneto current at low speed. The lights are, therefore, allowed to burn.

List No.	List Price Each
8000A	Regulite complete..... \$3.36

AUTOMOBILE ACCESSORIES
The "Exide" Type S Ignition Battery
6 VOLT, 3 CELL



3S-7 Exide Batteries

The "Exide" Type S Ignition Battery, brought out in 1903, is the original "Exide" Ignition Battery, and has been used as standard equipment on many thousands of motor cars. The "Exide" Types LX and SX batteries listed on preceding page are of improved design and construction, and size for size are somewhat lower in price than the Type S batteries. When Type S batteries wear out in service, it will, therefore, be found desirable to substitute a Type LX or SX battery wherever the dimensions of the battery compartment permit of such substitution.

CAPACITIES, DIMENSIONS, WEIGHTS, PRICES, ETC.

List No.	Type and No. of Plate	Ampere Hour Capacity	Charging Rate in Amps.	Outside Dimensions—			Wt. in Lbs.	List Price Each
				Length	Width	Height		
53	3S-5	40	4	7 1/4	6 3/8	9	25 1/2	\$23.74
73	3S-7	60	6	9 1/4	6 3/8	9	35 3/4	28.94
93	3S-9	80	8	11 1/4	6 3/8	9	46	34.06
113	3S-11	100	10	14 1/4	6 3/8	9	55 1/2	40.66
462	3SRS-7	40	4	8 1/4	4 7/8	8 1/4	27	24.60
455	3SR-7	40	4	8 1/4	4 7/8	8 1/4	27	24.60
400	3SFS-9	80	8	11 1/4	5 1/4	8	40	34.06

LIST PRICES AND DATA OF PARTS

	3S-5		3S-7		3S-9		3S-11	
	List No.	List Price	List No.	List Price	List No.	List Price	List No.	List Price
Positive strap	7925	\$0.10	7926	\$0.11	7927	\$0.14	7928	\$0.16
Negative strap	7930	.11	7931	.14	7932	.14	7933	.18
Connector	7470	.08	7471	.08	7472	.08	7473	.19
Rubber jar	525	1.20	526	1.24	527	1.28	528	1.50
Cover, with vent and plug	35	.40	36	.43	37	.46	38	.54
Wood case, without handle	9977	2.80	9981	3.22	9985	3.54	9989	4.44
Handle for wood case	780	.39	783	.44	786	.50	789	.58
Positive plate	40	.80	40	.80	40	.80	40	.80
Negative plate	41	.74	41	.74	41	.74	41	.74
Wood separator	7725	.06	7725	.06	7725	.06	7725	.06
Cover vent, complete	25	.30	25	.30	25	.30	25	.30
Vent plug only	26	.18	26	.18	26	.18	26	.18
Cylinder for vent only	27	.12	27	.12	27	.12	27	.12
Splash cover								
Positive terminal with bolt	7915	.42	7915	.42	7915	.42	7915	.42
Negative terminal with bolt	7916	.42	7916	.42	7916	.42	7916	.42
Bolt connector, complete	7465	.23	7465	.23	7465	.23	7465	.23
Stud for bolt connector	7467	.14	7467	.14	7467	.14	7467	.14
Alloy cover thumb nut	7466	.04	7466	.04	7466	.04	7466	.04
Copper washer	7468	.02	7468	.02	7468	.02	7468	.02
Alloy covered hexagonal nut	7469	.04	7469	.04	7469	.04	7469	.04

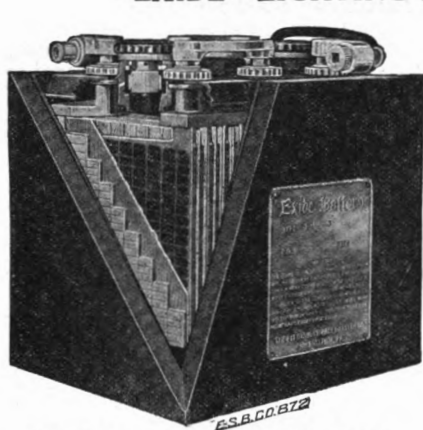
	3SRS-7		3SR-7		3SFS-9	
	List No.	List Price	List No.	List Price	List No.	List Price
Positive strap	3581	\$0.08	3581	\$0.08	7927	\$0.14
Negative strap	3582	.11	3582	.11	7932	.14
Connector	3589	.07	3589	.07	3284	.07
Rubber jar	3585	1.06	3585	1.06	3287	1.30
Cover with vent and plug	3594	.43	3594	.43	3295	.46
Wood case, without handle	3588	3.66	3591	3.66	3294	3.32
Handle for wood case	3590	.78	3592	.78	786	.50
Positive plate	3583	.56	3583	.56	3281	.72
Negative plate	3584	.52	3584	.52	3282	.64
Wood separator	3587	.05	3587	.05	3291	.06
Cover vent, complete	25	.30	25	.30	25	.30
Vent plug only	26	.18	26	.18	26	.18
Cylinder for vent only	27	.12	27	.12	27	.12
Splash cover	3595	.11	3595	.11		
Positive terminal with bolt	3494	.32	3494	.32	3266	.30
Negative terminal with bolt	3495	.32	3495	.32	3297	.30
Bolt connector, complete	3496	.23	3496	.23	7465	.23
Stud for bolt connector	7467	.14	7467	.14	7467	.14
Alloy covered thumb nut	3502	.04	3502	.04	7466	.04
Copper washer	7468	.02	7468	.02	7468	.02
Alloy covered hexagonal nut	3503	.04	3503	.04	7469	.04

List No.		List Price per Lb.
8890	Sealing compound for sealing covers in jars	\$0.80
21	Plastic asphaltum, for flooding tops of batteries	.34
22	Pouring wax, for floating batteries in case	.20

Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

Automobile and Ignition Supplies

"EXIDE" LIGHTING AND IGNITION BATTERY



Exposed View of "Exide" Type 3LX-9 Battery

"Exide" Type 3LX-9 Lighting and Ignition Battery

This battery has been adopted by the leading automobile manufacturers, and is a radical departure in many important particulars from previous practice in the design of batteries for lighting and ignition service.

Unit Cell Assembly. Each of the cells which make up the complete battery is a separate sealed unit. This is an exclusive feature of great practical value. Since each cell is adequately and independently sealed, it is unnecessary to cover the entire top of the battery with sealing compound. Packing compound is also unnecessary.

Terminals and Intercell Connectors. Terminals are of a new design and adapted to conveniently receive and permanently hold connecting wires. The terminals are of acid-resisting alloy, contain no corrodible parts, are as convenient to handle as binding posts, cannot jar or work loose in service, hold the wires firmly and with ample contact, support the wires so as to make breaking of same under vibration of rare occurrence and enclose and protect the bared ends of the wires from acid and consequent corrosion.

Ampere Hour Capacity

Type of Battery	Ignition Service	Intermittent Discharge for Lighting	At 1 Amp. Rate	At 1½ Amp. Rate	At 3 Amp. Rate	At 5 Amp. Rate	At 7½ Amp. Rate	At 10 Amp. Rate	Length	Width	Over-all Height	Weight	*List Price Complete
3 LX- 5-1	50	40	39	36½	32	28	25	23	5½	7½	9¼	24½	\$22.00
3 LX- 9-1	100	80	86½	81½	73	66	60½	56	9¼	7½	9¼	42½	30.68
3 LX-13-1	150	120	136	130	118	108	100	94	12½	7½	9¼	59½	39.34
3 LX-17-1	200	160	186	180	164	151	141	133	16	7½	9¼	77	47.34
3 SX- 9-1	80	64	68	64	57	51	46	43	9¼	6½	9¼	35	28.00
3 SX-13-1	120	96	109	102	91	84	77	73	12½	6½	9¼	49	35.34

AMPERE CAPACITY OF AUTOMOBILE LAMPS

6 volt headlights, or other large lights, use 0.17 amperes per C.P. 8 volt head light, or other large lights, use 0.125 amperes per C.P. 12 volt head light or other large lights, use 0.085 amperes per C.P. 6 volt side, tail or other small lights, use 0.21 amperes per C.P. 8 volt side, tail or other small lights, use 0.16 amperes per C.P. 12 volt side, tail or other small lights, use 0.1 amperes per C.P.

LIST PRICES OF PARTS

Parts	3 LX-5-1		3 LX-9-1		3 LX-13-1		3 LX-17-1		3 SX-9-1		3 SX-13-1	
	List No.	*List Price	List No.	*List Price	List No.	*List Price	List No.	*List Price	List No.	*List Price	List No.	*List Price
Wood case complete.....	1565	\$2.80	1566	\$3.20	1567	\$3.60	1568	\$4.00	6063	\$3.08	6064	\$3.48
Cell unit complete.....	2338	7.74	1570	10.68	1571	13.60	1572	16.54	6065	10.00	6066	12.48
Elements with separators.....	2339	4.40	1574	7.68	1575	11.08	1576	14.34	6067	7.14	6068	9.88
Positive plate group.....	2340	1.94	1578	3.48	1579	5.14	1580	6.68	6072	2.94	6073	4.40
Negative plate group.....	2341	2.28	1582	3.74	1583	5.34	1584	6.80	6074	3.68	6075	5.00
Jar.....	2682	1.74	2685	2.08	2688	2.28	2691	2.48	6076	1.88	6077	2.14
Cell cover complete with filling plug and gasket.....	5448	.74	1626	.80	1627	.88	1628	.90	6078	.80	6079	.84
Filling plug and gasket.....	2751	.20	2753	.27	2755	.37	2757	.47	2759	.27	2761	.37
Gasket only for filling plug.....	2752	.02	2754	.03	2756	.03	2758	.03	2760	.03	2762	.03
Barrel only for filling plug.....	2757	.07	1976	.07	1977	.07	1978	.07	1979	.07	1980	.07
Rubber gasket under cover, positive or negative, per doz.....	2898	.14	2895	.20	2896	.20	2897	.20	2898	.14	2899	.14
Sealing nut, positive or negative.....	2897	.05	2887	.05	2887	.05	2887	.05	2897	.05	2897	.05
Cell connector, right hand.....	2342	.06	1630	.08	1631	.10	1632	.12	1630	.08	1631	.10
Cell connector, left hand.....	2343	.06	1634	.08	1635	.10	1636	.12	1634	.08	1635	.10

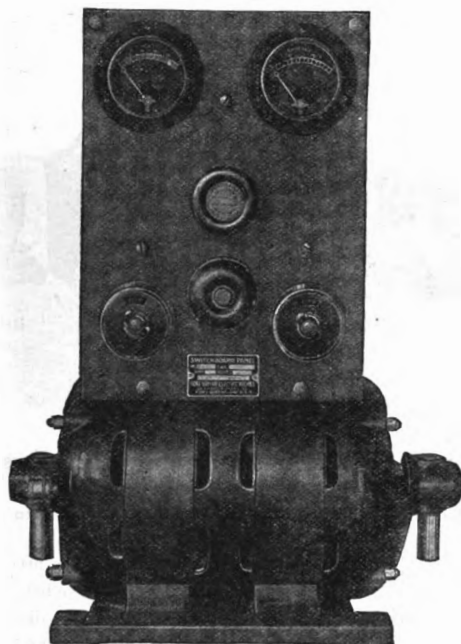
Cut Showing Hold-down
Automobile and Ignition Supplies

List No.	*List Price
1650	\$0.06
2090	.20
1647	.14
1638	.27
1642	.10

HOLD-DOWN
For Securing Battery to Car

List No.	*List Price per Pair
875	\$1.74
876	1.34
874	.14
*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.	

Western Electric **SMALL BATTERY CHARGING OUTFITS**



Small Battery Charging Outfit

Small Battery Charging Outfits

FOR CHARGING IGNITION AND LIGHTING BATTERIES

The Western Electric Small Battery Charging Outfit consists of a standard Western Electric motor generator set, on which is mounted a switchboard specially constructed for this class of work.

The motor generator is of unusually compact design, having only two bearings, which require only an occasional oiling to insure perfect operation of the set. The construction of the end brackets is such as to allow ready access to the brushes and commutator for inspection.

The switchboard is rigidly mounted on top of the motor generator.

The switchboard is equipped with either a 10 ampere or a 40 ampere ammeter for reading the battery charging current; a 15 volt, or a 30 volt voltmeter for reading the battery voltage; a rheostat for adjusting the battery charging current to its proper amount; a push button switch to be pressed when voltmeter reading is to be taken; a snap switch for closing and opening the battery circuit and a snap switch in line circuit for stopping and starting the set.

The field rheostat will reduce the voltage of any set low enough to charge one 6 volt cell, but the charging rate used must not exceed the ampere rating marked on the generator name plate.

The Following Prices and Data Apply 12-18 OR 24 VOLTS For 60 Cycle Alternating Current Service

Watts	Approximate Ampere			Voltage of Motor	List Price of Complete Set
	At 12 Volts	At 18 Volts	At 24 Volts		
175	14.6	9.7	7.3	110	\$157.00
250	20.8	13.9	10.4	110	231.00
175	14.6	9.7	7.3	220	159.00
250	20.8	13.9	10.4	220	233.00
For Direct Current Service					
175	14.6	9.7	7.3	110	\$151.00
250	20.8	13.9	10.4	110	221.00
175	14.6	9.7	7.3	220	153.00
250	20.8	13.9	10.4	220	223.00

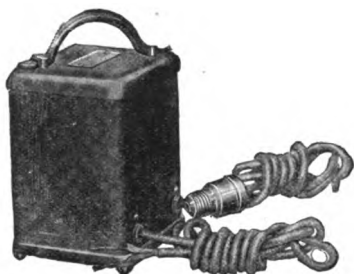
Prices of other ratings on application.

Delivery F. O. B. Factory, Fort Wayne, Ind.

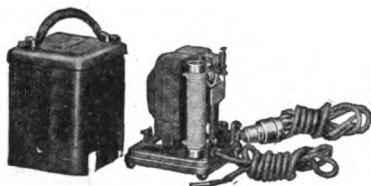
For warehouse deliveries write nearest house.

MECHANICAL RECTIFIERS

FOR CHARGING IGNITION BATTERIES



Rectifiers



Rectifiers

Type "V R" Mechanical Rectifiers

For transforming 60 Cycles-105-120-Volt Alternating Current into 7.5 Direct Current

The universal application of electrical apparatus to automobiles has necessitated the equipment of practically every automobile with a storage battery. Inasmuch as these batteries have to be recharged frequently with direct current, there is a large demand, in localities where direct current is not available, for an economical, efficient and reliable rectifier for changing the alternating current of standard voltage into direct current of the voltage of the storage battery.

The type "VR" Rectifier was designed and manufactured after much experimenting and extensive study of this problem. The principal characteristics of this rectifier are its reliability, high efficiency and compact mechanical construction.

The rectifier is provided with two (2) sets of leads, one set having an EDISON plug which may be connected to any convenient lamp socket, and the other set provided with terminals, one of which is painted red and should be connected to the positive (or+) pole of the storage battery and the other should be connected to the negative (or-) pole. In order to charge any storage battery, all that is necessary is to make the above connection and turn the key in the lamp socket when the rectifier will start and operate without further attention. If the supply of voltage fails, the rectifier will simply stop operating and the battery will not discharge: when the supply of voltage returns, the rectifier resumes operation automatically.

The automobilists who experience the greatest trouble with their storage batteries are those who allow them to become discharged too far. This not only reduces the capacity of the battery but also considerably shortens the life, and a careful car owner watches the condition of his battery closely to see that this condition never exists.

The compact construction of the "VR" Rectifier allows it to be carried conveniently in the tool box of the automobile while touring, and it is so simple in operation that it can be operated by anyone.

List No.		DC Amp.	DC Volts	AC Volts	AC Frequency	Net Wgt.	Ship. Wgt.	List Price Each
148952.....	Form C "VR" Type Rectifiers	5-6	715	105+120	58-62 Cyc.	12 lb.	22	\$42.00

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Rectifiers, Storage Batteries and Lighting Plants 2-2

EDISON ALTERNATING CURRENT RECTIFIER



Fig. 1-AC Rectifier
Size B4; 10 Volts, 16 Amperes
With controller and ammeter in use charging batteries

DESCRIPTION

Long and persistent experiments at the Edison laboratories have resulted in this device—a most reliable and efficient means of charging a storage battery from alternating current.

While the Edison Alternating Current Rectifier is made in the smaller size (C1) for charging three storage battery cells, it is particularly pointed out that the higher capacity of the larger size (B4) fills another size not heretofore covered—that of charging several batteries at one time in public garages.

The motor car owner using three storage battery cells may charge them over-night without attention after connecting the Rectifier to any lamp socket (supplying 100 to 120 volts—60 cycles alternating current) and the binding posts to the battery.

The public garage employing the Rectifier of 16 amperes capacity may connect four ordinary 40 ampere hour batteries in multiple and charge over-night in the same manner. If lead cells requiring varying currents are to be charged, the controller panel is desirable.

Rectifiers for other uses can be supplied up to 380 watts direct current output in various combinations of voltage or current. Within this capacity the Edison Rectifier will be found a more convenient and economical device than any other means of rectifying alternating current. Having no revolving or wearing parts requiring lubrication it may replace the rotary converter in many instances. It has been exhaustively tested and adopted for charging storage batteries in telephone work, replacing the smaller size mercury arc rectifier. Innumerable other uses await its application in which the manufacturers offer their advice and assistance.

Advantages: No flexible springs liable to require adjustment and loss of tension. Large carbon and copper contacts avoid troubles of all-metal contacts. Controller connections for variations of current if desired. Non-sparking over wide range of Alternating Current frequency. Passed and tested by Underwriters' Laboratories as safe—electrically and with gasoline vapor.

List Prices and Data

List No.	A.C. Volts	Cycles	D.C. Volts	D.C. Amperes	*List Price Each
C1 Less Chg. Panel	110	60	7½	8	\$49.00
C1 With Chg. Panel	110	60	2 to 7½	3 to 8	77.00
B4 Less Chg. Panel	110	60	10	16	112.00
B4 With Chg. Panel	110	60	2 to 10	6 to 16	140.00

For 200 volts add 10 per cent.

Prices on special rectifiers are dependent upon construction and will be furnished on application.

*Delivery F. O. B. Factory, Orange, N. J. For warehouse deliveries write nearest house.

MERCURY ARC RECTIFIERS



Fig. 1

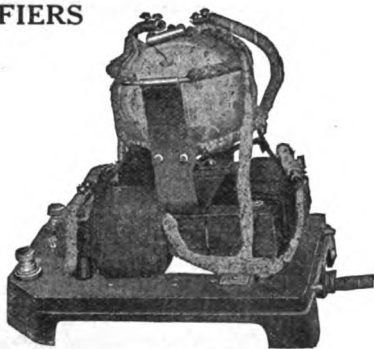


Fig. 2

For Small Battery Charging Sets

This rectifier is a modification of the ignition battery set with the idea of making it portable. It may be carried around in the garage (not intended for carrying in automobiles), plugged in at any convenient receptacle, and charge batteries in gasoline automobiles. It is appreciated that most gasoline automobiles are now equipped with self starters and generators for charging batteries. However, a battery will give longer life and better results if given a soaking charge monthly, even though it is charged regularly on the machine. The soaking charge removes any sulphate that may be carried on the plates, cuts down the internal resistance of the battery, and thus gives better service and longer life. Many cars are still unequipped with generators for charging, and have gas headlights. If owners of these cars had a rectifier at home where they could charge them once a week, many of them would put on electric lights and a storage battery of about 80 ampere-hours capacity which could be charged generally during the night. An owner of such a car could better afford to equip it with electric lights than to buy a generator and attach it to his engine.

DESCRIPTION

The rectifier consists of a metal base, on which are mounted the main reactance and a series alternating current reactance; and just above these, a tube holder containing a new type of rectifier tube, which is clearly shown in Fig. 2. The whole outfit is covered with a sheet metal cover. The alternating current supply is connected by means of a flexible lead and a separable attaching plug. The direct current is connected to two binding posts, distinctly marked (+) and (-).

The rectifier is designed for charging a maximum of 6 cells of battery from 110 volts alternating current. It is particularly designed for charging, starting, lighting and ignition batteries used in gasoline automobiles. The ignition and lighting batteries are generally of 3 cells, and starting batteries are generally of 3 or 6 cells. This means that one 3 cell, two 3 cell, or one 6 cell may be charged at a time. The rectifier has a characteristic of very nearly constant current. It may, in fact, be connected to a single cell of battery, and will charge it at a rate of approximately 6 amperes from a 110 volt supply. This rectifier can be furnished for 60, 50, 40, 30 or 25 cycle, 110 volt circuits. It can be used on voltages up to 130 volts and the current characteristics will be the same, only the current will increase as the alternating current voltage increases for a given number of cells.

The approximate dimensions of the rectifier are:

Frequency	Length	DIMENSIONS IN INCHES		Width
		Height		
60	9 1/2	10 1/4		6 1/4
40	9 1/2	10 1/4		6 1/4
30	9 1/2	11 1/4		6 1/4
25	9 1/2	11 1/4		6 1/4

EFFICIENCY AND COST OF CHARGING

The following table gives the watts input, direct current amperes and watt efficiency of the rectifier under various conditions. It should be particularly noted that on short circuit the rectifier delivers only 6.5 amperes, so that there is very little chance of a customer having trouble due to excessive current.

Number of Cells	A.C. Volts	A.C. Watts	D.C. Amperes	Per Cent. Efficiency
0	110	130	6.5	2.5
1		128	6.0	13.6
2		130	5.6	22.4
3		132	5.1	29.0
4		132	4.75	34.7
5		128	4.43	41.5
6		128	4.05	45.0

It will be noted from this table that the watts input under all conditions is about 130. At 10 cents a kilowatt hour this means 1 1/2 cents per hour; or for an all night charge of 10 hours, 13 cents. If two 6 volt batteries are charged the cost would be 6 1/2 cents per battery. Ordinarily, the charge at a public garage for charging such a battery is about 50 cents for a 6 volt, 3 cell, or 75 cents for a 12 volt, 6 cell battery. In some cases it is higher.

OPERATION

Figure 3 shows the rectifier connected to a 6 volt, 3 cell battery, with the alternating current line connected, and indicates also the method of starting. After the connections are made the rectifier is tipped slightly, as shown by means of the handle at the top. The rectifier should then require no further attention.

Where two 3 cell batteries are charged, they are connected in series; or if two small batteries, such as ignition batteries, and a charging rate of only 2 or 3 amperes is required, they should be connected in multiple.

D.C. AMPERES 5—D.C. VOLTS MAXIMUM 15
Will Charge 1 to 6 Cells of Lead Battery

List No.	A.C. Volts	Frequency	Net Weight in Lbs.	Ship	*List Price
171005	110	60	15	25	\$50.00
171006	110	40	18	30	60.00
171007	110	30	21	35	60.00
171008	110	25	23	35	60.00
171010	110	25-60	9 oz.	2 lbs.	\$15.00

RECTIFIER TUBE (SEE NOTE)

*Tubes are shipped to customers by parcel post.

NOTE: This tube is suitable only for the rectifiers listed on this page and cannot be used on any other rectifier. Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

ELECTRIC VULCANIZERS



No. 138187

Westinghouse Tire Vulcanizer

This type is especially adapted for vulcanizing cuts and tears in the inner tube and also sand pockets, blisters and tears in the outer casing, the average process requiring from 15 to 30 minutes. Repairs can be made in the shoe casing without removing the tire from the wheel. The complete outfit consists of the vulcanizer, fifteen feet of flexible cord, an attachment plug, a fifteen step rheostat attached to the clamping board, a clamp, two canvas attachment straps and a thermometer.

List No.	Voltage	Maximum Watts	*List Price Each
138187	100-112	200	\$22.76
138188	113-125	200	22.76

Renewal Parts

136619	Thermometer.....	\$1.30
158480	Attachment Strap (each).....	.66



Type D—Repairing Casings



Type D—Repairing Inner Tubes



Type D—Table for Vulcanizing two Tubes

Shaler Electric Vulcanizer

MOTORISTS' MODEL TYPE D—PORTABLE

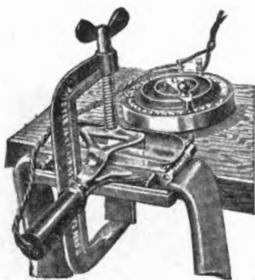
Current Consumption 70 Watts

This vulcanizer derives its heat from the most economical and convenient source, by attaching to any lamp socket. The exact vulcanizing temperature is maintained by a thermostat which automatically makes and breaks the circuit. The heating unit, which completely fills the interior of the vulcanizer, conducts the heat equally to all parts of a repair, insuring a uniform cure. The flat face of the heater, used in combination with an asbestos inlaid metal shelf, shortens the vulcanizing time by preventing radiation of heat. A concave, kidney-shaped face (see regular and rim plate), as illustrated on following page, fits on side of tread of any size casing while inflated on wheel. The self-adjustable universal clamp insures uniform pressure all over a repair and makes application to the tire easy and quick. Vulcanizing surface, $7\frac{1}{4} \times 3\frac{1}{2}$ inches, on which two tubes can be vulcanized as quickly as one, furnished with 10 feet of conducting cord, U. S. Government tested heat gauge. Para rubber, cement and full set of directions. Type D83 works on both direct and alternating current.

List No.	Type	†List Price Each
83	D	\$18.76
	D. C. or A. C. polished nickel.....	

*Delivery F. O. B. Factory, Pittsburgh, Pa. †Delivery F. O. B. Factory, Waupun, Wis. For warehouse deliveries write nearest house.

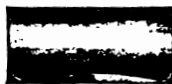
SHALER ELECTRIC VULCANIZERS



Type "B" Repairing Tube



Regular and Rim Plate



Special Tread Plate



Repairing Thread Cut

Garage Model Type B—Portable

Current Consumption 70 Watts

This vulcanizer is identical with Type D with the following exceptions: The temperature is controlled by a rheostat. In addition to the regular plate a special tread plate for attachment to flat side of heater gives additional surface for large tread repair. It is furnished with twenty feet of conducting cord.

List
No.

B-51 D. C. or A. C. polished nickel.....

*List
Price
Each
\$30.00

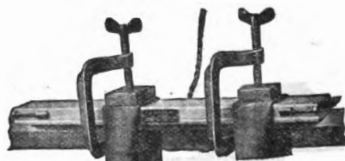
NOTE: When ordering state voltage of current and whether it is direct or alternating.



Not in Operation



In Operation



Type E or Gang

Casing Blowout Type C Vulcanizer

Current Consumption 80 Watts

This type will repair any blow-out or tear in any casing that it is practicable to mend and will fit any size casing. It uses the original wrapped thread method. Instead of cutting away a lot of expensive rubber and fabric and building up the patch from the outside a reinforcement of heavy fabric is built up inside the casing and the hole through the rubber is filled with Para gum.

List
No.

Type

71 C Thermostat heat control A. C. only.....
72 C Rheostat heat control D C. or A. C.....

*List
Price
Each
\$30.00
37.50

Type E or Gang Outfit

This type is 24 inches long and will vulcanize six tubes at a time or will mend a two foot slit at one setting. Furnished with four patent clamps and four blocks for different size repairs.

List
No.

Type

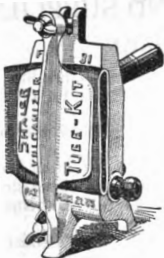
91 E Thermostat control A. C. only.....
92 E Rheostat control A. C. or D. C.....

*List
Price
Each
\$37.50
45.00

NOTE: When ordering state voltage of circuit and whether it is direct or alternating.

*Delivery F. O. B. Factory, Waupun, Wis. For warehouse deliveries write nearest house.
Automobile and Ignition Supplies

SHALER VULCANIZERS



Type F No. 31



Safety Vul-Kit No. 32



Safety Vul-Kit No. 32

Tube-Kit for Tubes

The Tube-Kit, which is intended to be carried in the tool box of a car for emergency repairs, mends all tube injuries quickly and permanently.

The correct amount of heat is produced by a lamp which burns gasoline or alcohol without smoke, soot or dangerous exposed flame. The fuel is contained in the lamp in such a way that accidental tipping over of the vulcanizer while in use would not cause trouble. A measure, graduated to give the proper fuel charge to cure every repair exactly right, is furnished with the vulcanizer so that no watching or regulating is necessary. The largest tube can be mended without pinching the edges. Vulcanizing surface 10 square inches. The handle is detachable and the outfit is packed in a small strong box for carrying with car.

List No.

List Each

31 Type F Shaler Tube-Kit, weight 4 lbs., with repair material, nickel plated. \$2.50

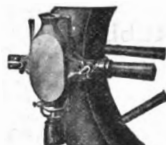
Safety Vul-Kit Complete for Casings and Tubes

Besides making every practical kind of tube repairs, the Safety Vul-Kit has a $3\frac{1}{2} \times 4$ inch surface curved to fit any sized tire for mending casing injuries. As this vulcanizer produces no exposed blaze it can be used close under a fender without scorching the paint. The lamp, which burns either gasoline or alcohol, contains the fuel in such a way that it is impossible to spill blazing liquid even if the vulcanizer were accidentally upset. The fuel supply is limited to that required for perfect vulcanization. You can't overcure or undercure a repair. Tube repairs are cured on an asbestos inlaid plate, $3\frac{1}{2}$ inches in diameter, which is swiveled so that uniform pressure is automatically applied to all parts of the repair. The Vul-Kit is nicked and polished, packed with repair material in strong box for carrying in tool box of car. Weight 5 lbs.

32 Type G Safety Vul-Kit. \$4.50



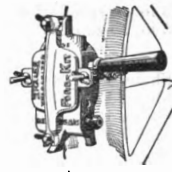
Type S or J
Repairing Inner Tube



Repairing Casing while
on Wheel



Ford-Kit



Ford-Kit

Steam Heated Model

Unlike cheap vulcanizers designed for superficial repairs it maintains the vulcanizing temperature automatically as long as desired so that a deep casing repair requiring a long cure can be made as perfectly as a thin tube repair requiring only a few minutes. This is done automatically by a thermostatic damper which regulates the intensity of the alcohol flame. This damper and the safety valve, which is an additional precaution against overheating, make the Shaler the only reliable portable steam vulcanizer. Vulcanizer heats while you prepare a repair and needs no watching or regulating while on the tire. The patented handle saves time when making several repairs in succession by allowing the hot vulcanizer to be moved from one repair to another. Flat side of heater mends all sized tube injuries on a metal shelf inlaid with asbestos to retain the heat and prevent pinching the tube. The opposite side is concave to fit on any sized casing while on rim. Vulcanizing surface 3×5 inches. Larger repairs made by resetting vulcanizer.

22 Type S Steam Vulcanizer, polished nickel, weight 13 lbs. \$18.76
11 Type J Stitch-In-Time, nicked, weight 11 lbs. Same as type S except heated by alcohol,
no steam used. 15.00

The Ford-Kit

For Mending Ford Casings and Tubes

Especially designed to fit 3 inch and $3\frac{1}{2}$ inch Ford tubes and casings. Tubes are mended exactly the same as with the Tube-Kit shown above. Complete with repair material.

33 Type H Ford-Kit, nickel plated, weight 5 lbs. \$3.50

Cycle-Kit

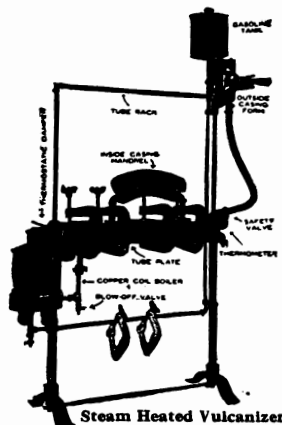
For repairing all sizes of motorcycle tubes and casings. Identical with Ford-Kit.

35 Type K. \$3.50

Delivery F. O. B. Factory, Waupun, Wis. For warehouse deliveries write nearest house.

GARAGE STEAM HEATED VULCANIZERS AND SUPPLIES

Steam Heated Plant



Covers every requirement of garage or repair shop, handling every practicable sort of tube and casing repairs. Tube plate $4\frac{1}{2} \times 30$ inches vulcanizes six tubes at once.

Casing repair forms use the wrapped tread method described on previous page.

Temperature controlled automatically. No attention required after lighting the burner. The boiler, a copper coil, raises steam in about twenty minutes and holds it there indefinitely, a thermostatic damper automatically regulating the flame.

Specify whether gas or gasoline burner is desired. Gasoline burning equipment regularly furnished.

No. 41 Type NPR. Complete garage outfit as shown..... List Price \$90.00

Includes 6 clamps and blocks for tube work, bead strips for rim cuts, casing clamps, tape for wrapping treads, thermometer, steam gauge and safety valve. Weight 180 lbs.

List Price

No. 41 Type N. Same as above, but equipped for tube work only, weight 140 lbs..... List Price \$52.50

Vulcanizing Tool-Kit

This kit of 8 especially designed tools is a great assistance in tire repairing. Consists of roller, plug pliers, probe, rubber roughener, cement brush, shear, knife, stitcher and chase leather containing roll.

List No. Vulcanizing tool kit..... List Price Each \$3.76

Casing Mandrel

Casing mandrel..... List Price \$3.00

Tube Clamps

Tube clamps..... List Price \$1.14

Soft Rubber Bead Strips

Soft rubber bead strips..... List Price per Pair \$0.76

Shaler Thermometers

3 in. as supplied with Type: B, D, E, J, S, N, and NPR..... List Price Each \$0.76

5 in. as supplied with Type C..... 1 50

Vulcanizing Rubber

Shaler Para Rubber, per sq. ft.....	List Price	\$1.14
Shaler Para Rubber, 5 lb. roll.....		10.14
Shaler Para Rubber (thin), per sq. ft.....		.76
Shaler Para Rubber, tread stock, per sq. ft.....		1.14
Shaler Para Rubber, tread stock, per 5 lb. roll.....		9.00
Shaler Para Rubber, one side cured, per sq. ft.....		1.14
Shaler Para Rubber, one side cured, 5 lb. roll.....		11.26

Vulcanizing Cement

It is put up in friction air-tight cans in the following sizes:

$\frac{1}{4}$ pint.....	List Price	\$0.38	$\frac{1}{2}$ quart.....	List Price	\$1.14
$\frac{1}{2}$ pint.....		.54	$\frac{1}{2}$ gallon.....		2.04
1 pint.....		.76	1 gallon.....		3.76

Vulcanizing Canvas—For Blow Outs

First quality Sea Island fabric. Packed 4 sq. ft. in air-tight tube.

Para coated on one side, per sq. ft.....	List Price	\$0.76
Para coated on both sides, per sq. ft.....		.90

Quick Cure Rubber

$\frac{1}{2}$ sq. ft. Quick Cure Rubber.....	List Price	\$0.60	1 sq. ft. Quick Cure Rubber.....	List Price	\$1.14
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Waxed Paper

Package for 200 repairs.....	\$0.15	Package for 1000 repairs.....	\$0.38
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Motorist Quick Cure Repair Material Assortments

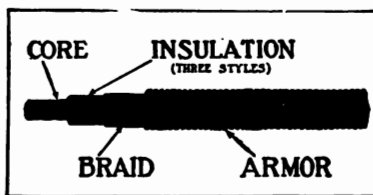
These assortments are put up complete in heavy screw top containers.

No. 1 assortment rubber cement waxed paper.....	List Price	\$1.14
No. 2 assortment rubber cement waxed paper.....		1.50

Delivery F. O. B. Factory, Waupun, Wis. For warehouse deliveries write nearest house.

Automobile and Ignition Supplies

PACKARD ARMORED CABLE
FOR IGNITION, STARTING, LIGHTING



Armored Cable, Double Protection

Packard Armored Cable

For Use on Automobiles, Motor Trucks and Motor Boats

The core of the armored cable consists of strands of soft-drawn tinned copper wire laid in reverse layers, making the core flexible and round in cross-section. As many strands are employed as is practicable without introducing the danger of individual strands breaking when cable is sharply bent.

By this construction the highest possible factor of conductivity consistent with mechanical strength is obtained.

In the schedule of specifications, size refers to the gauge of the core and ranges in single conductor cables from No. 18 to 00; in twin conductor from No. 18 to No. 8.

Insulating Covers. These are made in three combinations, determined by limitations of diameter and the service required of the cable. Enough material is put on to guarantee perfect insulation with a generous factor of safety.

The term style is used to indicate what materials are placed between the core and the braid.

The Braid. Over the insulating material there is placed a layer of braid, the thread of which is made exclusively for the manufacturer under their own specifications. It is tough and hard and strong. When tightly woven it furnishes a partial armor against abrasion and also serves as a net to carry the enamel.

The Enamel. An elastic enamel having the peculiar property of being oilproof is applied and being of very light consistency it fills and closes every pore of the braid, successive coats being added until the insulating material is sealed in the enamel, thus becoming a sheath of flexible "skin" which effectually keeps oil out. This is one part of the double protection.

The Armor. Protection against mechanical injury, abrasion, vibration and other factors that conspire to kill cable is added after the braid has been oilproofed. This is an all metal covering, a ribbon wound on in a very close-fitting coil, which armors the cable and at the same time leaves it flexible.

Brass, plain or nicked, is used; also a special rustproof steel.

Width and thickness of ribbon vary with cable size and service required.

In our specifications the numerals, 1, 2 and 3 are employed to designate which metal the armor is made of.

This is the other part of the double protection.

Packard Armored Cable Specifications

Sizes	Style	Armor
Single conductor, all sizes from No. 18 to 00, inclusive.	A—Cotton wrapping, braid—Packard enamel.	No. 1—Nickel brass.
	C—Cotton wrap, cloth, braid—Packard enamel.	No. 2—Plain brass.
Twin conductor, all sizes from No. 18 to No. 8, inclusive.	E—Rubber, braid—Packard enamel.	No. 3—Rustproof steel.

Core Size, No. of Conductors, Style and No. completely describes any cable.

Any size core may have Style A, C or E insulation and any one of the styles of the three kinds of armor.

PACKARD ARMORED CABLE

List Price No. 14 Per 100 Feet			List Price No. 12 Per 100 Feet		
Style	Single Conductor	Twin Conductor	Style	Single Conductor	Twin Conductor
A-1	\$5.92	\$14.74	A-1	\$7.06	\$17.48
A-2	5.48	13.74	A-2	6.60	16.40
A-3	4.02	10.38	A-3	5.04	12.82
C-1	6.86	17.34	C-1	8.08	19.58
C-2	6.36	16.12	C-2	7.54	18.42
C-3	4.68	12.06	C-3	5.80	14.60
E-1	6.48	16.78	E-1	7.90	19.20
E-2	5.98	15.50	E-2	7.28	17.84
E-3	4.28	11.36	E-3	5.22	13.20

AUTOMOBILE WIRING ACCESSORIES



Box Connector for Auto Steel Flex and Auto Brass Flex



Terminals for Ediswan Type Fittings



Box Connector for Autoflex Tube

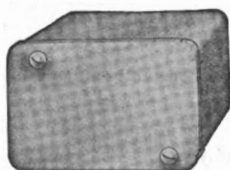
Box Connectors for Auto Steel Flex and Auto Brass Flex

For Size Tubing Inches	Complete Box Connectors for Auto Steel and Brass Flex Tube			Ferrules Only for Auto Steel and Brass Flex Tube			Complete Box Connectors for Autoflex Tube		
	List No.	Std. Pkg. Wt.	List Price	List No.	Std. Pkg. Wt.	List Price	List No.	Std. Pkg. Wt.	List Price per 100
$\frac{3}{8}$	.....	..	.....	.....	..	.....	1827	25	\$7.48
$\frac{1}{4}$	1928	24	\$7.74	1948	8	\$5.07	1828	27	7.74
$\frac{1}{2}$	1930	26	8.21	1950	9	5.47	1830	29	8.21
$\frac{3}{4}$	1932	28	8.69	1952	10	5.79	1832	31	8.69
$\frac{1}{2}$	1934	30	9.17	1954	11	6.13	1834	33	9.17
$\frac{1}{2}$	1936	32	9.65	1956	12	6.52	1836	35	9.65
$\frac{5}{8}$	1938	34	10.62	1958	14	7.10	1838	29	10.62
$\frac{3}{4}$	1940	38	11.59	1960	16	7.74	1840	43	11.59

Unit package equals 100. Standard package equals 1000.

Terminals for Ediswan fittings for autoflex tube, special flex tube, auto steel and brass flex tube, single or double point, list each, \$0.63.

These are secured to tubing without soldering, by the collet style inner sleeves and compression outer sleeves. (Unit package, 50; standard package, 500; standard package weight, 225.)



No. 1850



No. 1860 Cover Removed



No. 1860 Cover On

Autoflex Junction Boxes

For Use With Autoflex Tube, Auto Steel Flex and Auto Brass Flex

List No.	Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	Inside Measurements		List Price Each
				Size	Depth	
1850	10	100	30 lbs.	$2\frac{1}{2} \times 1\frac{1}{8}$ ins.	$1\frac{1}{2}$ ins.	\$0.37
1851	10	100	40 lbs.	$2\frac{3}{4} \times 2\frac{3}{4}$ ins.	$1\frac{1}{2}$ ins.	.41
1852	10	100	20 lbs.	$1\frac{3}{4} \times 1\frac{1}{8}$ ins.	$\frac{1}{2}$ ins.	.25

Prices include boxes and covers with outlet opening.

Autoflex Switch and Fuse Box

List No.		Unit Pkg.	Std. Pkg.	St. Pkg. Wt.	List Price Each
*1860	Straight dash type.....	1	100	80 lbs.	\$3.38
**1861	Cowl board type (box only).....	1	50	80 lbs.	1.45
**1861A	Cowl board type (aluminum cover).....	1	50	30 lbs.	2.03
**1861B	Cowl board type (stamped steel cover).....	1	50	30 lbs.	1.45
†1862	Under seat type.....	1	50	50 lbs.	1.74

*Box, $1\frac{1}{2}$ inches deep, $3\frac{1}{2}$ inches wide and $3\frac{1}{2}$ inches long. ** $2\frac{1}{2}$ inches deep, $5\frac{1}{2}$ inches wide and $4\frac{1}{2}$ inches high, and will accommodate push switches and fuses to control headlights, side lights, tail lights and horn. †2 inches deep, $3\frac{1}{2}$ inches wide and 8 inches long.

Delivery F. O. B. Factory, Economy, Pa. For warehouse deliveries, write nearest house.

PACKARD AUTOMOBILE CABLES

For High and Low Tension Ignition

Packard Cable is constructed so as to withstand the continuous presence of heat, grease and oils. These are the arch-enemies of rubber in all forms. These cables are hermetically sealed from every deteriorating influence.



Combination High Tension Cable

This cable is suitable for all forms of severe high tension service. Color is Packard brown with double red striping.

Combination High Tension Magneto Cable

This cable is designed for magnetos with small terminal. Color is Packard brown with double red striping.



Plain High Tension Cable

This cable has four (4) layers highest grade rubber. Made for those who desire a plain, unprotected cable. Color, natural rubber gray.

Combination Low Tension Cable, 1-Strand

This cable is standard for all kinds of low tension service. Color is Packard brown with double red striping.



Combination Low Tension Cable 2-Strand

This cable is round in form and is particularly adapted to single and two cylinder engines. Replaces two single cables. Colors of conductors are red and black; completed cable is Packard brown with double red striping.

Combination Low Tension Cable, 3-Strand

This is an excellent cable for two cylinder engines; also for wiring a double set of batteries. Made with filler so as to be round in form. Colors of conductors are red, black, green; completed cable is Packard brown with double red striping.

Combination Low Tension Cable, 4-Strand

The 4-strand cable is adapted to wiring four (4) cylinder engines from coil to timer. Made with filler so as to be round in form. Colors of conductors are red, black, green, brown; completed cable is Packard brown with double red striping.

Combination Low Tension Cable, 5-Strand

The 5-strand cable is very convenient for wiring a four (4) cylinder engine when a ground or neutral wire is desired. Round in form. Colors of conductors are red, black, green, brown, red-black; completed cable is Packard brown with double red striping.

Combination Low Tension Cable, 6-Strand

The 6-strand cable is for a 6 cylinder engine. Used from coil to timer. One cable is easier to install, is much neater and the individual conductors are doubly protected. Round in form. Colors of conductors are red, black, green, brown, red-black, red-green; completed cable is Packard brown with double red striping.

Description	Outside Dimensions		Lbs. per 1000 Ft.	List
	Single Strand	Finished Cable		
Comb. High Tension Cable.....	1 1/4 in.	(12.3 MM.)	170	\$30.40
Comb. High Tension Magneto Cable.....	1 1/4 in.	(9.1 MM.)	85	30.40
Plain High Tension Cable.....	1 1/4 in.	(7.2 MM.)	75	24.32
Comb. Low Tension Cable, 1-Strand.....	1 1/4 in.	(6.0 MM.)	40	15.20
Comb. Low Tension Cable, 2-Strand.....	1 1/4 in.	(11.2 MM.)	90	33.44
Comb. Low Tension Cable, 3-Strand.....	1 1/4 in.	(12.3 MM.)	125	50.00
Comb. Low Tension Cable, 4-Strand.....	1 1/4 in.	(13.5 MM.)	170	68.00
Comb. Low Tension Cable, 5-Strand.....	1 1/4 in.	(15.5 MM.)	210	84.00
Comb. Low Tension Cable, 6-Strand.....	1 1/4 in.	(16.3 MM.)	250	102.00
Comb. Low Tension Cable, 7-Strand.....	1 1/4 in.	(16.3 MM.)	285	118.00

PACKARD AUTOMOBILE CABLE

For Electric Lighting and Starting Systems

While good ignition cable is important and necessary to the successful working of any car, yet the wiring of electric lighting and starting systems is even more important. The reasons are as follows: 1st. The cables are concealed and in inaccessible places. 2d. They are subjected to more abrasion and vibration. 3d. They are exposed to more dust, water and mud. 4th. Possible damage to storage batteries. 5th. Danger by fire due to short-circuits.

Packard Lighting Cables are made after the general style and of the same construction that characterizes Packard Ignition Cables. Each single conductor is protected by a double braid and the usual Packard finish. These single conductors are then stranded and made round in cross-sections by filling material. The assembly is then covered by a double braid of characteristic brown with double red striping and finished in the usual manner. These cables are as small in diameter as is consistent with absolute reliability.

The Combination Lighting Cable No. 8, both 1 and 2-strand, is used almost exclusively for wiring electric starters. General construction, colors, etc., same as the other sizes except the 2-strand is oval instead of round in cross sections.



Combination Lighting Cable No. 14, 1-Strand

This cable is recommended for wiring tail-lamps. Color is Packard brown, with double red striping.



Combination Lighting Cable No. 14, 2-Strand

This is a round form cable and is recommended for wiring tail-lamps. Color of conductors is red and black. Completed cable is Packard brown with double red striping.

Combination Lighting Cable No. 12, 1-Strand

This cable is recommended for wiring side and head-lamps. Color is Packard brown with double red striping.

Combination Lighting Cable No. 12, 2-Strand

This cable is recommended for wiring side and head-lamps. Made with filler so as to be round form. It is a popular style and size. Color of conductors is red and black. Completed cable is Packard brown with double red striping.

Combination Lighting Cable No. 10, 1-Strand

This cable is recommended for wiring from generator to battery and from battery to switches. Also for wiring large head-lamps. Color is Packard brown with double red striping.

Combination Lighting Cable No. 10, 2-Strand

This is a round form cable and is recommended for wiring from generator to battery and from battery to switches. Also used to wire head-lamps which are of large size. Color of conductors is red and black. Completed cable is Packard brown with double red striping.

Description	Outside Dimensions		Lbs. per 1000 Ft.	List 100 Ft.
	Single Strand	Finished Cable		
Comb. Lighting Cable No. 14, 1-Strand.....		$\frac{1}{4}$ in. (6.0 MM.)	40	\$15.20
Comb. Lighting Cable No. 12, 1-Strand.....		$\frac{1}{4}$ in. (6.4 MM.)	50	16.72
Comb. Lighting Cable No. 10, 1-Strand.....		$\frac{3}{8}$ in. (7.2 MM.)	65	18.24
Comb. Lighting Cable No. 8, 1-Strand.....		$\frac{1}{2}$ in. (7.5 MM.)	80	19.76
Comb. Lighting Cable No. 14, 2-Strand.....	$\frac{1}{2}$ in. (4.8 MM.)	$\frac{1}{2}$ in. (11.5 MM.)	85	33.44
Comb. Lighting Cable No. 12, 2-Strand.....	$\frac{1}{2}$ in. (5.2 MM.)	$\frac{3}{4}$ in. (11.9 MM.)	105	36.48
Comb. Lighting Cable No. 10, 2-Strand.....	$\frac{1}{2}$ in. (6.0 MM.)	$\frac{3}{4}$ in. (13.1 MM.)	135	39.52
Comb. Lighting Cable No. 8, 2 Strand.....	$\frac{1}{2}$ in. (6.4 MM.)	$\frac{3}{4}$ in. x $\frac{1}{2}$ in. (9.9 MM. x 15.5 MM.)	200	44.00
Comb. Lighting Cable No. 14, 3-Strand.....	$\frac{1}{2}$ in. (4.8 MM.)	$\frac{3}{4}$ in. (12.3 MM.)	125	50.00
Comb. Lighting Cable No. 12, 3-Strand.....	$\frac{1}{2}$ in. (5.2 MM.)	$\frac{3}{4}$ in. (12.7 MM.)	190	56.00
Comb. Lighting Cable No. 10, 3-Strand.....	$\frac{1}{2}$ in. (6.0 MM.)	$\frac{3}{4}$ in. (14.3 MM.)	265	60.00
Comb. Starting Cable No. 6, 1-Strand.....		$\frac{1}{4}$ in. (9.9 MM.)	160	21.28
Comb. Starting Cable No. 4, 1-Strand.....		$\frac{1}{4}$ in. (11.5 MM.)	230	25.84
Comb. Starting Cable No. 3, 1-Strand.....		$\frac{1}{4}$ in. (12.7 MM.)	300	30.40
Comb. Starting Cable No. 2, 1-Strand.....		$\frac{1}{4}$ in. (14.3 MM.)	350	35.96
Comb. Starting Cable No. 1, 1-Strand.....		$\frac{1}{4}$ in. (16.3 MM.)	450	48.00
Comb. Starting Cable No. 0, 1-Strand.....		$\frac{1}{4}$ in. (17.1 MM.)	530	58.00
Comb. Starting Cable No. 00, 1-Strand.....		$\frac{1}{4}$ in. (17.9 MM.)	625	70.00

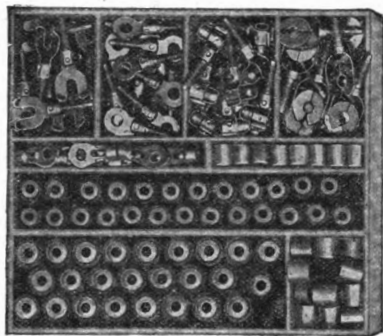
NOTE: Slight changes, such as number of braids, different colors, number of conductors, size of conductors, etc., can be furnished on special order. Prices on application.

We recommend that regular cables be ordered, as these are carried in stock for immediate shipment.

TERMINALS



Sectional View of
Solderless Terminal



Box Complete



Type with
Posts

Slot Type



Eyelet Type

Spring Clip
Type

Champion Solderless Terminals FOR SPARK PLUGS

These screw terminals are for use on secondary high tension cables only. The illustration above shows the hollow screw terminal after it has been screwed into the cable with the rubber insulation cut open to see just how the wire strands enter the hole in the screw to make electrical contact. To fasten the screw terminals take the end in one hand and the terminals in the other, moisten the screw and press the point of the screw into the end of the cable so that the wires will enter the terminal. Then screw the terminal up to the shoulder. If brass ferrules or fiber sleeves are used the ferrules or fibers are first placed on the cable and the screw is threaded into the cable through the hole in the ferrule or fiber.

Description	Std. Pkg.	List Price
Spring clip terminals	50	per box \$4.60
Post terminals	50	per box 4.60
Slot terminals	50	per box 3.30
Eyelet terminals	50	per box 3.30
Screw eye terminals	100	per box 4.00
Primary terminals	100	per box 2.70
Fiber sleeves	...	per 100 4.00

Note: All terminals complete with brass ferrules for 7 MM. cable. Will furnish 9 MM. brass ferrules at same price.

Special Box Assortment. 25 of each type terminals, 25 each of fiber sleeves for 9 MM. and 7 MM. cable, 25 each brass ferrules for 9 MM. and 7 MM.; 25 primary terminals packed securely in box.

Contents, special box assortment..... \$10.00

J-D Terminals

These spring terminals are a marked improvement over any similar terminal on the market. They are made in one piece, therefore much stronger and more compact; have a superior spring action as the spring brass has a torsional bend at the vertical part, which results in more resiliency.

This construction gives a greater range of movement, also insures greater permanency. Made in slip and ring types in all of the above sizes. Wing type terminal can be used universally. Price, each 5 cents; per dozen \$0.50

J-D TERMINAL ASSORTMENT

These assortments are carefully selected and packed in a reinforced box with each division labeled with a terminal number. A necessity in every garage as it will always give the purchaser a stock of terminals for which there is a demand. The size of slip terminals is figured in thousands.

No. 1 Box J-D ASSORTED TERMINALS

Consisting of 130 terminals, as follows:

25 F-G Magneto	25 .300 Slip
15 .360 Slip	25 .200 Slip
15 Wing Slip	25 .200 Ring

No. 2 Box J-D ASSORTED TERMINALS

Consisting of 235 terminals, as follows:

50 .200 Slip	30 .360 Slip
40 .200 Ring	35 Slip
50 .300 Slip	30 Magneto

No. 3 Box J-D Assorted Terminals

Consisting of 505 terminals, as follows:

90 Superior Primary	37 .325 Slip	35 .360 Slip
75 F-G Magneto	25 .420 Slip	38 .315 Slip
35 .200 Slip	30 .510 Slip	65 .200 Ring
40 .300 Slip	35 Wing Slip	

List No.		Box Contains	List Price per Box
1	J-D Terminal Assortment.....	130	\$5.00
2	J-D Terminal Assortment.....	235	8.00
3	J-D Terminal Assortment.....	505	16.00



J-D Terminals

AUTOMOBILE SUPPLIES



No. 4 Terminal



Hook Terminal



B. C. Terminal

No. 1 Spring Terminal

For temporary Connection

List
No.

Spring Terminal.....

Jaws
Open
3/8 in.List
Price
Each
per 100
\$4.90

Hook Terminal

For Spark Plug Service

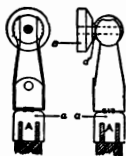
List Price
Each
\$0.16

Type R Hook Terminal.....

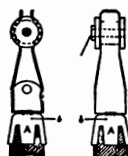
B. C. Wire Terminals

Made from sheet copper with clips to fold over both the insulation of wire or cable.

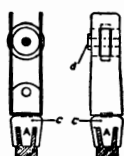
List No.	Clips	B & S Gauge	Eye	Outside Diameter of Wire	Outside Diameter of Ring	Length Over All	List Price per 1000
00	Short	26	3/16 in.	1/8 in.	1/2 in.	1 1/4 in.	\$6.24
9	Short	26	3/16 in.	1/8 in.	1/2 in.	1 1/4 in.	8.32
0	Long and short	25	3/16 in.	1/8 in.	1/2 in.	1 in.	9.10
7	Short	22	3/16 in.	1/8 - 3/16 in.	1/2 in.	3/4 in.	10.40
OX	Long and short	22	3/16 in.	1/8 in.	1/2 in.	1 in.	12.48
96A	Long and short	22	3/16 in.	1/8 - 1/16 in.	1/2 in.	1 1/8 ins.	18.20
96A	Long and short	18	3/16 in.	1/8 - 1/16 in.	1/2 in.	1 1/8 ins.	23.40
1/2 Spec.	Long and short	22	3/16 in.	1/8 in.	1/2 in.	1 1/8 ins.	12.48
8	Long and short	18	3/16 in.	1/8 in.	1/2 in.	1 1/8 ins.	20.80
1	Short	18	1/4 in.	3/16 in.	1/2 in.	1 1/8 ins.	23.40
3	Long and short	22	1/4 in.	1/2 - 3/8 in.	1/2 in.	1 1/2 ins.	20.80
6	Long and short	18	1/4 in.	1/2 - 3/8 in.	1/2 in.	1 1/2 ins.	33.28
4	Long and short	20	1/4 in.	1/2 - 3/8 in.	1/2 in.	1 3/4 ins.	37.70
5	Long and short	20	1/4 in.	1/2 in.	5/8 in.	1 5/8 ins.	33.80
				5/8 in.	5/8 in.	1 5/8 ins.	46.80



Style 1



Style 2

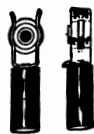


Style 3

Secondary Terminals



Style 5



Style 6

Primary Terminals

Secondary and Primary Terminals and Nuts

For Sparking Plugs, Timers, Etc.

These terminals are made in three styles; 1, 2 and 3. They can be used with any size cable. The regular nuts are tapped 3/8", but nuts tapped 1/4" or 1/2" can be furnished if specified.

In ordering specify whether primary or secondary terminals are wanted.

Primary or secondary terminals and nuts, assembled.....
Put up 100 in a package.

Automobile and Ignition Supplies

List
Price
per 100
\$9.00

"AMERICAN BEAUTY" AUTOMOBILE ACCESSORIES



Cigar and Pipe Lighter

Automobile Cigar and Pipe Lighter

This new device is made for battery circuit only and can be attached to any 6 volt storage battery such as is used on the majority of gasoline automobiles, motor boats, etc. The heating element is arranged in a small spiral coil, which grows red hot in a few seconds after the current is turned on and is practically indestructible. The casing is finished in polished nickel and the handle is of wood with ebony finish. Furnished complete with green silk cord, either single or double point Edison standard automobile plug for use on grounded or two-wire systems and a nickel-plated protector sleeve or holder. This sleeve protects the lighter from being accidentally turned on when not in use and can be fastened to the body of the car, thus making a convenient receptacle for the device.

The lighter is very neat in appearance, takes up little room, will not "drain" the battery and will add greatly to the equipment of the finest and most luxurious of cars.

List No.		List Price
330927	Automobile Cigar and Pipe Lighter	\$2.40



No. 3915



No. 3920

**Electric Heaters
FOR ELECTRIC COUPÉS**

No. 3915 type heater is generally installed in the electric coupé below the seat near the floor; thus it is out of the way and in a place where heat is most effective. These heaters are connected to the battery of the electric car and can be turned on and off at will. The body of these heaters is made of perforated steel and finished in black japan. Frame and end pieces finished in polished nickel.

List No.		List Price
330915	Electric Heater	\$8.00

No. 3920 type heater can be placed on the floor of the car as a foot warmer and car heater or can be permanently installed on the floor with a cord connection to the storage battery.

These heaters can be furnished in any voltage above 32. The usual voltages are 40, 48, 64 and 80. Voltage should be specified when ordering.

List No.		List Price
330920	Electric Heater	\$9.60

"PRESTO" CIGAR LIGHTERS AND ACCESSORIES


 No. 252 Complete Combination
 Cord Winder

 Cigar Lighter No. 202
 and Holder

 No. 200 Combination "Presto"
 Cigar Lighter and Lamp

Automatic Cord Winder

This winds up the cord automatically and can be placed under the seat or at the side of car, or behind the dash; can be used to wind up the cord on any "Presto" cigar lighter or inspection lamp.

List No.		List Price Each
240	Automatic Cord Winder (only).....	\$3.34
250	Automatic Cord Winder, combination "Presto" No. 200, complete with holder.....	8.00
252	Automatic Cord Winder, with cigar lighter No. 202, and holder.....	6.68
202	Complete with regular terminals and pure platinum tip.....	3.34
220	Holder for cigar lighter, combination cigar lighter or inspection lamp.....	.34
253	Automatic Cord Winder, with Cigar Lighter De Luxe No. 203.....	9.34
254	Automatic Cord Winder, with cigar lighter No. 204.....	6.68
255	Automatic Cord Winder, with cigar lighter No. 205.....	6.68

Combination "Presto" Cigar Lighters and Lamps

New design, handle of rosewood finish, nickel-plated cigar lighter tip and reflector. Polished ivory finish push buttons. Furnished with 10 feet of silk cord.

List No.		List Price Each
200	Complete with regular terminals.....	\$4.68



No. 205 "Presto Star" Cigar Lighter



Cigar Lighter and Holder



No. 204 "Presto Ford" Cigar Lighter

"Presto Star" Cigar Lighter

Constructed same as the Presto Ford, except that they are designed to be used on all other makes of cars and are furnished with 6 volt cigar lighter tips unless otherwise specified.

List No.		List Price Each
205	Complete with holder.....	\$3.34

"Presto Ford" Cigar Lighters

Designed specially for the Ford Car, get their power direct from the magneto. Equipped with a lighter tip which is specially suited to the Ford Magneto and is marked "Ford Special." Equipped with 10 feet of silk cord.

Nickel-plated holder is furnished with each cigar lighter, which can be attached anywhere in the car. The cigar lighter case is made of polished wood, ebony finish. Metal parts heavy nickel plated.

List No.		List Price Each
204	Complete, with holder.....	\$3.34

Extra Platinum Cigar Lighter Tips

List No.		List Price Each
206	6 volt.....	\$1.34
208	8 volt.....	1.68
212	12 volt.....	2.00
214	"Ford Special".....	1.34
...	Extra for Edi-Swan Plug Terminals.....	.68

PORTABLE HAND LAMPS



No. 19



No. 20



No. 23

No. 19 Portable Hand Lamp

List No.		*List Price Each
19	Black ebony handle, nicked guard and reflector, 6 v. 4 c.p. lamp, 10 feet silk cord, spring terminals.....	\$2.00
19E	Same as above with Ediswan socket and plug.....	2.34

No. 20 Portable Hand Lamp

20	Handle, guard, 6 v. 4 c.p. lamp, 10 feet cotton cord, copper terminals.....	\$1.68
----	---	--------

No. 23 Inspection Lamp

For Cylinders, Etc.

23	For batteries, 6 v. 4 c.p. lamp complete.....	\$2.68
23A	For full current 110 v. 8 c.p. lamp, complete.....	2.68



No. 31



No. 22



No. 24

No. 31 Hand Lamp

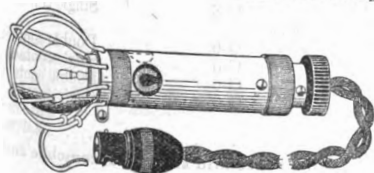
List No.		*List Price Each
31	Nickel plated guard, socket and handle, 10 feet silk cord, 6 v. 4 c.p. Ediswan bulb and plug with cap.....	\$2.68

No. 22 Portable Hand Lamp

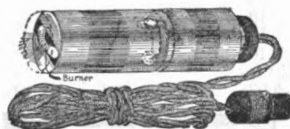
22	Handle, socket and guard, 6 volt, 4 c.p. lamp, 10 feet silk cord, copper terminal.....	\$1.68
22E	Same as above with Ediswan socket and plug.....	1.88

No. 24 Portable Hand Lamp

24	Black ebony handle, polished nicked socket and guard, 6 volt 4 c.p. lamp, 10 feet silk cord, twin copper terminals.....	\$2.00
24E	Same as above with Ediswan socket and plug.....	2.34



No. 60



No. 58

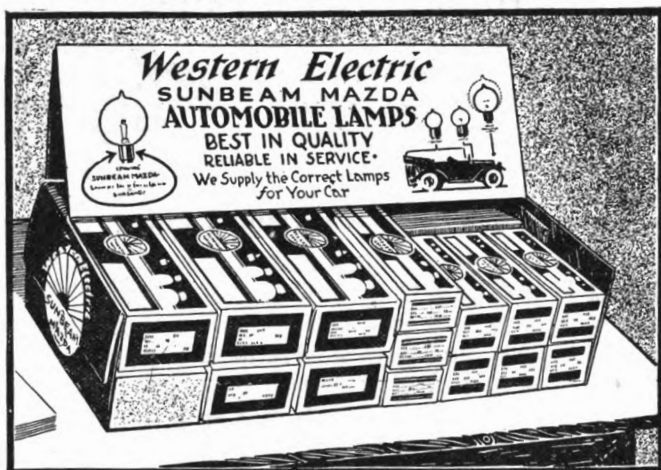
**The No. 60 Combination
Trouble Lamp and Cigar Lighter**

List No.	Description	*List Price Each
60	Outfit complete with three point switch to light, light cigar or turn all out.....	\$4.90

No. 58 Cigar Lighter

58	Lighter complete.....	\$2.80
59	Lighter with switch.....	3.50

*Delivery F. O. B. Factory, Boston, Mass. For warehouse deliveries write nearest house.

AUTO LAMPS AND DISPLAY CABINET


Dealers' Cabinet

Dealers' Display Cabinet

This display cabinet contains 100 of the well-known national Mazda automobile lamps. This stock enables you to make renewals on practically all types of American made cars. The stock is carefully selected from the wide range of national Mazda lamps. It includes ten of the widely talked of Mazda C gas filled headlight lamps. This cabinet itself is a convenient counter display and container for the lamp stock. Each cabinet is supplied with sales literature and the National Guide to the proper lamps for 1913, 1914 and 1915 automobiles.

LAMPS WHICH COMPRISE STOCK

Unit Pkg. No. of Lamps	Volts	Amperes	Description of Lamps		Base Bayonet Type
			Approx. Candle Power	Size Bulb	
HEADLIGHTS					
5	6-7	3.5	21	G-16½	Double contact
5	6-7	3.5	21	G-16½	Single contact
5	6-7	2.5	15	G-16½	Double contact
5	6-7	2.5	15	G-16½	Single contact
5	6-7	2.5	21	G-12	Double contact
Mazda C					
5	6-7	2.5	21	G-12	Single contact
FOR 1915 MODEL FORD CARS					
5	9	2.0	15	G-16½	Double contact
FOR 1912, 1913 AND 1914 FORD CARS					
5	6-7	2.0	12	G-12	Double contact
SIDELIGHTS					
10	6-7	.84	4	G-8	Double contact
10	6-7	.84	4	G-8	Single contact
REAR AND METER LAMPS					
10	6-7	.42	2	G-6	Double contact
10	6-7	.42	2	G-6	Single contact
10	3-3½	.84	2	G-6	Double contact
10	3-3½	.84	2	G-6	Single contact
List No.					List Price
330938	Display Cabinet and Lamps				\$31.86

*For prices on various types and sizes of automobile and low voltage Mazda bulbs, see page No. 632.

Owners' Chest

This chest protects lamps from breakage, and if a light on your car fails while you are on the road it will take you but a minute to replace it with a new one from the lamp chest. Each lamp chest, as illustrated, contains two headlights, two sidelights, a rear lamp and a meter lamp. Chest can be furnished to carry lamp to meet any requirements.

*List

No.

330939

Lamp Chest only.....

30-A

List

Price

\$0.2



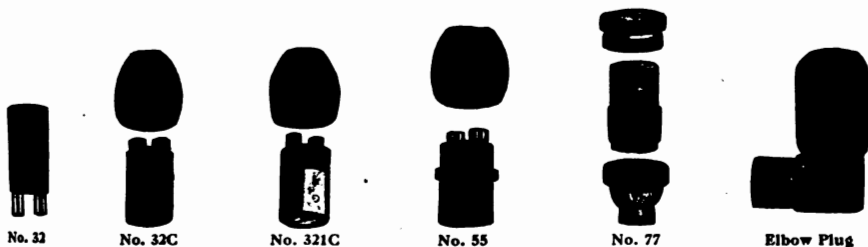
Owners' Chest

Incandescent Lamps

AUTOMOBILE ELECTRIC LIGHTING SUPPLIES

GENERAL

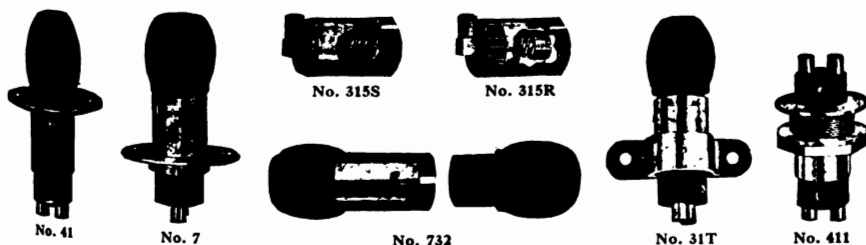
The universal success of the hold-fast connectors for all automobile wiring is due to their scientific design and construction. This line of connectors is the result of years of experience in the automobile field. The higher grade of seamless brass tubing and hard rubber is used in the manufacture and expert workmanship insures a practically indestructible product.



Connector Plugs

The line of connector plugs is most complete; all are interchangeable and can be used with all sockets and receptacles of standard manufacture. Most of these plugs are illustrated in connection with the sockets shown below.

List No.		*List Price Each
32	Plain rubber. Furnished standard with all connectors unless otherwise specified.	\$0.24
32C	A 32 plug threaded and furnished with a molded composition cap which conceals the terminals.	.36
321C	A 32 plug for changing one wire to a two wire system. For use with a trouble lamp on a two wire system.	.50
55	Capped plug, hard rubber, screw cap. Single or double contact.	.50
77	Separable plug. For use with flexible metal tubing, but can be used with unarmored fittings. No threads on the rubber part to strip or loosen.	.70
Elbow plug, long cap.	For side lamp connections.	1.20
Elbow plug, short cap.	For side lamp connections.	.90



Connectors

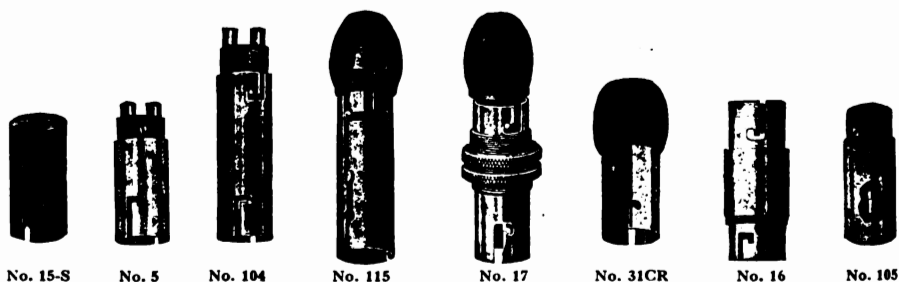
All connectors are furnished with positive contacts, always under pressure, the tension being furnished by heavy coiled music wire springs which are rustproof. Heavy brass inserts are used, insuring perfect contact points and a maximum conductivity.

List No.		*List Price Each
41	$\frac{5}{8}$ in. diam, drawn flange, for use on wooden dashboard. Receptacle only.	\$0.50
	*List Price Each	
	With No. 32 plain plug.	\$0.74
	With No. 55 capped plug (as illus.).	1.00
7	$\frac{5}{8}$ in. diam, soldered flange. For use where flush type is not desirable. Receptacle only.	.50
	With No. 32 plain plug.	\$0.74
315S	Connector, for single wire systems.	1.00
315R	Connector, for single wire systems, interior removable.	.70
732	Used on bodies of convertible design.	.70
31T	$\frac{5}{8}$ in. diam., with metal bracket. For rear end of chassis of car as tail lamp connection. Receptacle only.	1.40
	With No. 32 plain plug.	.70
	With No. 55 capped plug (as illus.).	1.20
411	$\frac{5}{8}$ in. diam. For use on metal bodies and dashboards. Receptacle only.	.50
	With No. 32 plain plug (as illus.).	\$0.74
	With No. 55 capped plug.	1.00

*Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.

Automobile and Ignition Supplies

AUTOMOBILE ELECTRIC LIGHTING SUPPLIES



Lamp Sockets

The bayonet slot type of socket is universally accepted as standard by car and lamp manufacturers. The sockets illustrated are those most generally used by manufacturers throughout the country. They are carefully made, and will take any of the standard make of bulbs.

List No.		*List Price Each
15-S	Sockets, for use in reflector terminals, concealed	\$0.40
5	Socket, for use in reflector, made with set screw terminal	.40
104	With No. 32 plain plug (as illustrated)	.64
104	With No. 55 capped plug	.90
104	Receptacle only	.40
115	With No. 32 plain plug	.74
115	With No. 55 capped plug	1.00
115	Receptacle only	.50
17	With No. 32 plain plug	.94
17	With No. 55 capped plug	1.20
17	Receptacle only	.70
31CR	For use on end of trouble lamp extension cord	.70
16	With No. 32 plain plug	.94
16	With No. 55 capped plug	1.20
105	Receptacle only (as illustrated)	.70
105	Receptacle (as illustrated)	.70

No. 15-S type, wires enter from the side, used in short coupled lamp where space is limited.

No. 104 type, to be used in both sides and tail oil lamps permitting the choice of either kind of illumination.

No. 115 type. For use in tail lamps; removable interior permitting the soldering of the shell into the lamp.

No. 17 type. For use in both side and tail oil lamp. No solder necessary, held in place by means of nuts.

No. 31CR type. For use on the end of a trouble lamp.

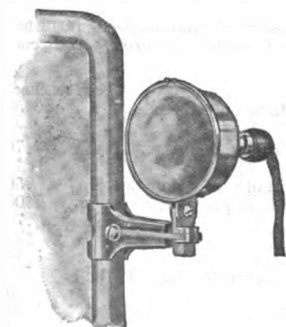
No. 16 type. Same use as type 104, except socket has threaded outer sleeve. Sleeve soldered in the body of lamp, permitting the removal or replacement of the socket at will.

No. 105 type. Designed to take the bulb on trouble lamp extension cord; to be used in connection with a one-wire system.

Searchlight

The C-S Searchlight is designed to meet a demand for a powerful searchlight of small size and weight. This lamp is 3 inches in diameter, is constructed throughout of brass, is highly polished, has a high-grade lens and is furnished with an 8 C.P. Helical Coil Tungsten bulb. It is also furnished with a focusing device so that with the aid of a Helical coil bulb, a very strong spot light is secured; one that will allow the reading of number signs at 200 feet. The lamp is also furnished with a self-contained switch which enables the operator to turn it off at will, and eliminates all necessity of installing an additional switch on the instrument board.

The lamp is fastened to a very substantial bracket which is so designed that it can be clamped to the edge of any wind shield (see illustration). This bracket is provided with a double swivel joint so that the light may be thrown in any direction and at any angle.



C-S Searchlight

List No.	*List Price Each
C-S Searchlight complete with bulb, bracket, extension cord and attachment plug	\$3.50

*Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.
 Automobile and Ignition Supplies

AUTOMOBILE ELECTRIC LIGHTING SUPPLIES



Style "C" Trouble Lamp

Style "C" Trouble Lamp

This lamp has been adopted by several car builders as standard equipment. It is furnished complete with a 6 C.P. bulb, any standard, voltage, a ten-foot flexible extension cord and bayonet locking attachment plug.

Style C Trouble lamp (Model 1915)..... *List Price Each \$2.60

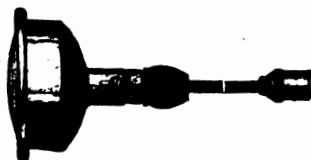


Style "L" Trouble Lamp

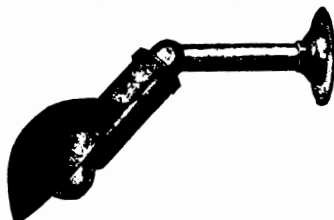
Style "L" Trouble Lamp

This lamp is made of the strongest and best of materials so that all the rough usage a trouble lamp may be subjected to this style will stand up against.

Style L Trouble lamp complete with 6 V.P. either single or double contact any standard voltage.. *List Price Each \$3.50



Style C-S Hand Lamp



Style C-S Gauge Lamp

"C-S" Hand Lamp

This lamp is heavily nickel plated and is provided with a clear lens 3 inches in diameter. With each lamp is furnished a ten-foot extension cord, an attachment plug, and a 6 V. 8 C.P. concentrated filament tungsten bulb.

Style C-S Hand lamp (1915 model)..... *List Price Each \$3.50

"C-S" Gauge Lamp

This lamp is a very handy lamp for the instrument board. The distance from the center of the lamp to the face of the instrument board is 5 inches.

Style C-S Gauge lamp, 2 or 4 volt C.P. bulb..... *List Price Each \$2.10



Style N Cowl Lamp



Style C-S Cowl Lamp

Style "N" Cowl Lamp

This lamp is made of the best grade brass, heavily nickel plated. This lamp is furnished with either a 2 or 4 C.P. bulb, single or double contact.

Style N Cowl lamp (in any standard voltage)..... *List Price Each \$2.10

"C-S" Cowl Lamp

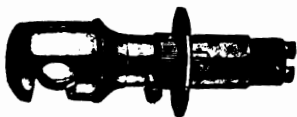
Designed for use in the cowl of an automobile. Construction is very rugged; it is made of high-grade brass, heavily nickel plated.

Style C-S Cowl lamp 2 or 4 C.P. bulb, single or double contact..... *List Price Each \$2.10

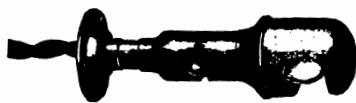
*Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.

Automobile and Ignition Supplies

AUTOMOBILE ELECTRIC LIGHTING SUPPLIES



Combination Lamp Style "D"



Dash Lamp Style "E"

Style "D" Combination Lamp

Combination dash and trouble lamp constructed of the best materials, made entirely of metal and fitted with a knurled nut, so that when in use as a dash lamp it can be locked tightly in place.

Style		*List Price Each
D	Combination lamp. 2 or 4 C.P. bulb, single or double contact, any standard voltage, 10 foot extension cord.....	\$3.50

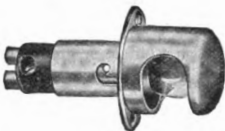
Style "E" Dash Lamp

This is a good substantial dash lamp at a medium price. It has a straight shank and can be furnished in various lengths ranging from 2¼ inches to 4 inches.

Style		*List Price Each
E	Dash lamp complete with 2 C.P. bulb (any standard voltage).....	\$1.75



Style "G" Dash Lamp



Style "S" Dash Lamp



Bull Dog Lamp

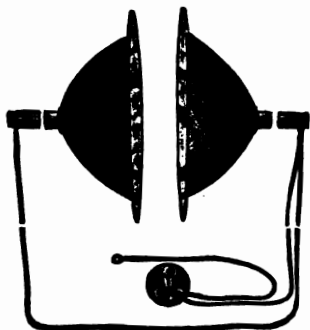
Style "G" Dash Lamp

Style G. This lamp is designed for a metal dash, constructed throughout of brass. Furnished in either single or double contact.

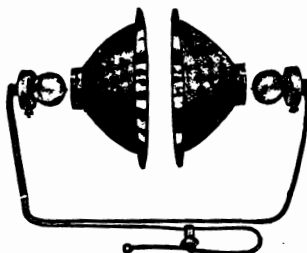
Style S. A very efficient type of lamp for the instrument board, designed for use on wood dash.

Bull Dog Lamp. Is designed with the idea of making a lamp that would be in harmony with the large instrument boards furnished on many cars.

Style		*List Price Each
G	Dash lamp, 2 or 4 C.P. bulb, in any standard voltage.....	\$1.61
S	Dash lamp, 2 or 4 C.P. bulb, in any standard voltage.....	1.61
	Bull dog lamp with either 2 or 4 C.P. bulb, single or double contact.....	1.75



No. 2 Ford Lighting Outfit



C-S Headlight Reflector

No. 2 Ford Lighting Outfit

No. 2 Ford Lighting Outfit. Designed to meet the demand for a high-grade Ford lighting outfit of a one piece reflector outfit.

Lighting Outfit. Operates directly from the Ford magneto and is furnished with the patented improved C-S headlight reflectors. It is of brass and is heavily silver plated over burnished nickel.

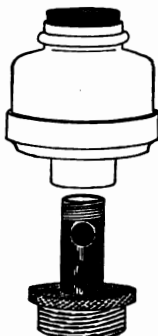
Style		*List Price Each
2	Ford Lighting Outfit.....	\$4.20
C-S	Ford Outfit.....	7.00

*Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.

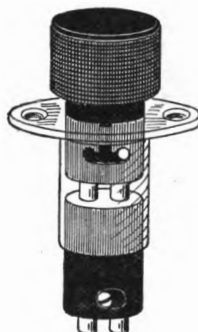
AUTOMOBILE APPLIANCES



**No. 56
Electrifier**



**No. 55
Converter**



**No. 928
Plug Switch**

Electrifier

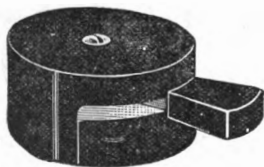
List No.		List Price
56	Style G, for oil or gas burner, with $\frac{5}{8}$ in. fibre socket.....	\$0.24
56	Style G, for oil or gas burner, with Ediswan socket.....	.48

Converter

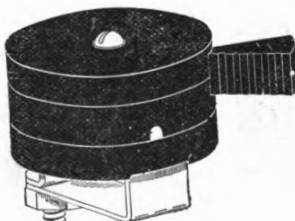
List No.		List Price
55	Converter only.....	\$0.18
..	Fibre socket $\frac{5}{8}$ in., 6 in. leads.....	.15
..	Fibre socket $\frac{5}{8}$ in., 18 in. leads.....	.18
..	Fibre socket $\frac{5}{8}$ in., security 6 in. lead.....	.18

Turn Button Plug Switch

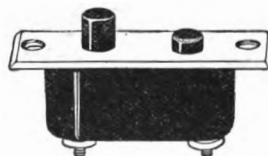
List No.		List Price
928	Turn button plug switch.....	\$0.67



Style 905



Style 906



Style 901

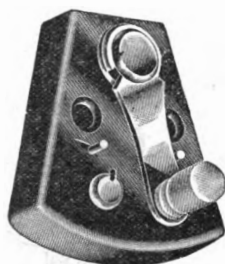
Harwood Two Point Switch

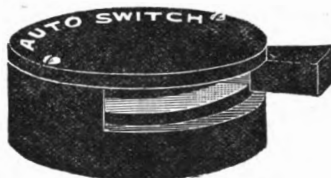
Style No.		List Price
905	2 point switch, on and off, hard rubber case.....	\$0.60
906	Jost Horn Switch.....	.90
907	Jost Horn Switch, with 10 ft. cord.....	1.20

Flush Push Button Switch

Style No.	Hard rubber base with rounded ends, nicked, polished brass, old brass, gun metal and Bauer Barff Interchangeable plates.	List Price
901	Single gang.....	\$0.72
902	Two gang.....	1.44
903	Three gang.....	2.16
904	Four gang.....	2.88

SWITCHES AND PUSH BUTTONS


 Style N-1 Lever Switch
 No. 921

 Style No. 1 Puritan Switch
 No. 917

 Style Y Auto Switch
 No. 912

Type N Lever Switches

List No.	Style		List Price Each
921	N-1	One point lever switch.....	\$0.24
922	N-2	Two point lever switch.....	.28
923	N-3	Three point lever switch.....	.30

Puritan Switches

List No.	Style		List Price Each
917	1	Ignition switch.....	\$1.08
918	2	Lighting switch.....	1.08
919	3	Ignition, 1 contact left, 2 contacts right. Push button for motor.....	1.60
920	4	Tail and side.....	1.08

Auto Switch

2 Point, 2 1/4 Inch Diameter

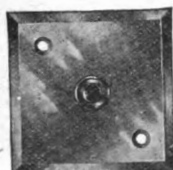
List No.	Style		List Price Each
912	Y	Hard rubber switch.....	\$0.78


 Style W Lighting Switch
 No. 911

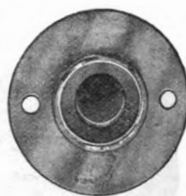

No. 97



No. 973



No. 971



No. 974

Lighting Switch

Telltale lamp wired in series with tail lamp.

List No.	Style		List Price Each
911	W	Hard rubber, 8 point switch with detachable handle.....	\$3.60

Push Buttons

List No.		List Price Each
97	Regular push fits 1/2-inch hole.....	\$0.43
973	One button regular push.....	.54
971	One button regular push, 1 1/2 x 1 1/2 x 1/8 inch plate.....	.68
974	One button regular push, 1 1/8 inch diameter.....	.54

Standard finishes, nickel, old or polished brass.

Automobile and Ignition Supplies

IGNITION SWITCHES



No. 205

Western Electric Pittsfield Ignition Switch

The Western Electric Pittsfield Ignition Switch has been designed especially for ignition work on automobiles, motorboats and all places exposed to moisture.

The base is constructed of the best grade hard rubber. The spring lever insures a positive contact. The lever is removable, so that when the operator leaves his automobile or motorboat he can very easily block the ignition system by removing the switch lever.

List No.		Width	Height	List Price Each
205	2 point Ignition Switch.....	2½ ins.	2½ ins.	\$0.90



No. 16353



No. 2114

Ignition Switch Lever

Will fit either type of Manhattan ignition switches.

List No.		List Price Each
16353	Ignition Switch Lever.....	\$0.20

Detachable Lever Switch

For Battery Circuits

This switch can be used in ignition or any battery circuit where it is desirable to detach the switch lever from the base.

It is smaller and lighter than the Manhattan Ignition Switches of similar design listed above, but in many cases can be used for the same purpose.

List No.		Base Width	Height	List Price Each
2112	Detachable Lever Switch, one point.....	1⅞ in.	1½ ins.	\$0.50
2113	Detachable Lever Switch, two point.....	1⅞ in.	1½ ins.	.56
2114	Detachable Lever Switch, three point.....	1⅞ in.	1½ ins.	.64
2115	Detachable Switch, only.....	1⅞ in.	1½ ins.	.20

PERKINS AUTOMOBILE SWITCHES

Push Button Type

Schedule "H"

No. 2441
(1/4 Full Size)

Style A with Flush Plate—Single Pole

List No.		Plate Dimensions Height Length	Carton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2441	Single.....	2 1/8 x 1 1/8 in.	10	100*	20	\$0.72
2442	2-Gang.....	2 1/8 x 1 3/4 ins.	5	50*	20	1.44
2443	3-Gang.....	2 1/8 x 2 1/2 ins.	1	30*	15	2.16
2444	4-Gang.....	2 1/8 x 3 1/4 ins.	1	25*	20	2.88

When mounted in gangs, switches are spaced 3/4 inch on centers.

Style B with Flush Plate—Single Pole

2551	Single.....	2 1/8 x 1 in.	10	100†	20	\$0.94
2552	2-Gang.....	2 1/8 x 1 1/4 ins.	5	50†	20	1.88
2553	3-Gang.....	2 1/8 x 2 1/4 ins.	1	30†	15	2.81
2554	4-Gang.....	2 1/8 x 3 1/4 ins.	1	25†	20	3.75

Style B with Flush Plate—Three-Point

2575	Single.....	2 1/8 x 1 in.	10	100†	20	\$1.08
2576	2-Gang.....	2 1/8 x 1 1/4 ins.	5	50†	20	2.16
2577	3-Gang.....	2 1/8 x 2 1/4 ins.	1	30†	15	3.24
2578	4-Gang.....	2 1/8 x 3 1/4 ins.	1	25†	20	4.32

With Sunken Plate and Flush Buttons—Single Pole

2488	Single.....	2 1/8 x 1 in.	10	100†	20	\$1.08
2516	2-Gang.....	2 1/8 x 1 1/4 ins.	5	50†	20	2.16
2517	3-Gang.....	2 1/8 x 2 1/4 ins.	1	30†	15	3.24
2518	4-Gang.....	2 1/8 x 3 1/4 ins.	1	25†	20	4.32

With Sunken Plate and Flush Buttons—Three-Point

2583	Single.....	2 1/8 x 1 in.	10	100†	20	\$1.23
2584	2-Gang.....	2 1/8 x 1 1/4 ins.	5	50†	20	2.45
2585	3-Gang.....	2 1/8 x 2 1/4 ins.	1	30†	15	3.68
2586	4-Gang.....	2 1/8 x 3 1/4 ins.	1	25†	20	4.90

Rotary Surface Type

Schedule "S"

2463	Indicating Automobile Switch.....	10	100	25	\$1.15
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This switch operates as follows:

First turn: Rear and side lights.

Second turn: Rear and head lights.

Third turn: Rear, side, and head lights.

Fourth turn: All off.

Cover entirely conceals porcelain base.

Standard finish is polished nickel or polished brass.

Outside diameter of base is 1 1/4 inches.

Holes for supporting screws are spaced 1 3/8 inches on centers.

No. 2488
(1/2 Full Size)No. 2463
(3/8 Full Size)

Dashboard Switches

Schedule "H"

2593	Dashboard Switch.....	1	10	15	\$2.88
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First turn: Side and rear lights.

Second turn: Head and rear lights.

Third turn: Head, side and rear lights.

Fourth turn: All off.

2594	Dashboard Switch.....	1	10	15	2.88
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First turn: Rear lights.

Second turn: Rear and side lights.

Third turn: Rear, side and head lights.

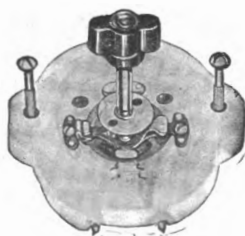
Fourth turn: All off.

Outside diameter of base is 2 1/4 inches.

Holes for supporting screws are spread 2 3/8 inches on centers.

* The equivalent of 200 switches, assorted single and gang, is also a standard package.

† The equivalent of 100 switches, assorted single and gang, is also a standard package.

No. 2593
(1/2 Actual Size)

CUTLER HAMMER BATTERY SWITCHES

For Automobile Lighting



No. 7160 or 7170
With Plate No. 7161



No. 7172 With No. 7162
Gang Flush Plate



No. 7184
Switch With
No. 7185 Plate

Push and Pull Battery Switches 10 Amperes, 80 Volts

List No.	Switches Without Plates	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7160	Single.....	20	100	20	\$0.64
7172	2-Gang, horizontal.....	10	50	20	1.27
7173	3-Gang, horizontal.....	6	30	20	2.11
7174	4-Gang, horizontal.....	5	25	20	2.57
7184	2-Gang, tandem.....	10	50	20	1.27
7186	3-Gang, tandem.....	6	30	20	2.11
7188	4-Gang, tandem.....	5	25	20	2.57

Three Point Battery Switch 6 Amperes, 40 Volts—3 Amperes, 80 Volts

7170	Single.....	20	100	20	\$1.14
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Standard package discounts allowed on an assortment (in unbroken cartons) equivalent to 100 single switches.

Standard finishes: Polished brass, brush brass, polished nickel, gun metal. Specify finish desired.

Struck Up Switch Plate In One Horizontal Row

List No.	Description	Dimensions Height Width	Std. Pkg.	List Price Each
7161	For one switch.....	2 $\frac{1}{2}$ x $\frac{1}{4}$ in.	100	\$0.14
7162	For two switches.....	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ ins.	50	.28
7163	For three switches.....	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ ins.	30	.41
7164	For four switches.....	2 $\frac{1}{2}$ x 3 $\frac{1}{2}$ ins.	25	.55

Standard finishes: Polished brass, brush brass, polished nickel, gun metal. Specify finish desired.

Solid Switch Plates (Tandem) In One Vertical Row

7185	For two switches.....	3 $\frac{1}{2}$ x $\frac{1}{4}$ in.	50	\$0.28
7187	For three switches.....	5 $\frac{1}{4}$ x $\frac{1}{4}$ in.	30	.41
7189	For four switches.....	6 $\frac{1}{2}$ x $\frac{1}{4}$ in.	25	.55

Standard package discount allowed on assortment of plates aggregating holes for 100 switches.

Standard finishes: Polished brass, brush brass, polished nickel, gun metal. Specify finish desired.

Door Switch FOR AUTOMOBILE DOOR

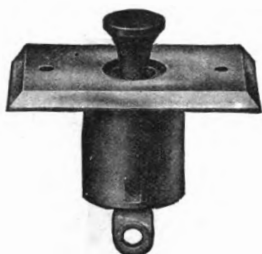
With finished brass plate 2 $\frac{1}{4}$ inches high and $\frac{1}{4}$ inch wide, and with round striking plate 1 inch in diameter.

List No.	Description	Carton Quantity	Std. Pkg.	List Price Each
7195	10 amperes, 80 volts.....	20	100	\$1.14
7196	Three point, 6 ampere, 40 volts.....	20	100	1.23

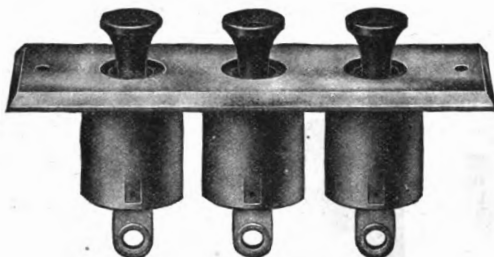
Standard finishes: Black oxidized. Dull black or polished nickel furnished as specified.



No. 7195
Door Switch

SWITCHES AND TUBE CONNECTIONS


No. 951



No. 953

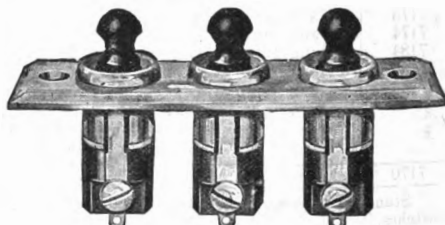
"Sta-Rite" Switches

Will stand any amperage or voltage required for automobiles.
 Separate interchangeable plates. Finish, bright or black nickel, polished or old brass.

List No.	List Price Each	List No.	List Price Each
951 1 button.....	\$1.14	953 3 buttons.....	\$3.38
952 2 buttons.....	2.26	954 4 buttons.....	4.50



No. 983



No. 985

Pullrite Switches

Plates bright or black nickel, polished or old brass.

List No.	List Price Each	List No.	List Price Each
981 1 button, oblong.....	\$0.76	982 2 buttons.....	\$1.50
983 1 button, oval.....	.76	985 3 buttons.....	2.26
984 1 button, round.....	.76	986 4 buttons.....	3.00



Style No. 70



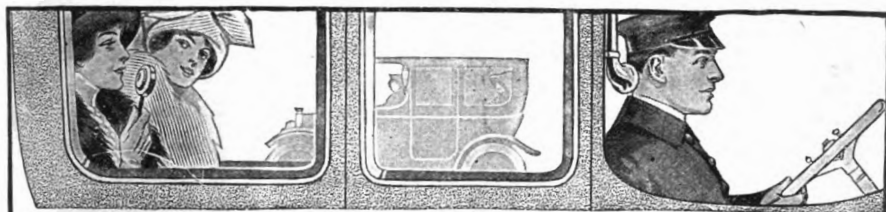
Style No. 74

Flexible Tube Connections

List No.	Length	Finish	List Price Each
70 Flexible tube connection, single.....	12 in.	Nickel	\$0.98
71 Flexible tube connection, single.....	16 in.	Nickel	1.12
72 Flexible tube connection, single.....	20 in.	Nickel	1.26
73 Flexible tube connection, single.....	24 in.	Nickel	1.40
74 Flexible tube connection, double.....	12 in.	Nickel	1.40
75 Flexible tube connection, double.....	16 in.	Nickel	1.54
76 Flexible tube connection, double.....	20 in.	Nickel	1.68
77 Flexible tube connection, double.....	24 in.	Nickel	1.82

Western Electric

CHAU-PHONE



Western Electric Chau-Phone



A Telephone for Limousines

The Western Electric Chau-Phone is a telephone equipment designed for automobiles of the Limousine and Landaulet types. It meets the demand for an efficient means of communication between the occupants of a closed car and the chauffeur and is intended to replace the unsatisfactory and old-fashioned speaking tube.

The Chau-Phone consists of a hand transmitter for the car occupants which is connected to a megaphone-shaped receiver placed at the chauffeur's ear. The design of this talking combination is such that orders spoken in an ordinary conversational tone are delivered—with the tone volume magnified—loud and clear, above all wind and street noises, no matter how fast the car may be going.

This eliminates the trouble encountered in the use of the speaking tube in transmitting orders from passenger to chauffeur. With a speaking tube it is necessary for the latter to drive to the curb and stop the car or else the passenger must open the door and shout, with the attendant risk of injury from passing cars.

The Chau-Phone can be installed as readily on old as on new cars, and the wires may be concealed. The regular car batteries—6 to 8 volts—will operate it. The current required is so small as to be negligible. The transmitter is light, compact and durable, and no current is consumed while it is not in use. The receiver may be used for either right or left hand drive. The megaphone shape of the horn increases the sound volume, and insures clear enunciation. The entire instrument is weatherproof, and there are no moving parts to get out of order. The standard finish is black.

The high standard of design and workmanship displayed in every one of the 8,000,000 Bell telephones is maintained throughout in the Western Electric Chau-Phone. Each Chau-Phone is put up in a substantial package containing wire and everything else necessary to install it, including complete illustrated directions. The use of the Chau-Phone by a large number of leading car and body builders is conclusive proof of its excellent qualities. It completes the luxury and comfort of the closed car.

List
No.

1384-A

Western Electric Chau-Phone.....

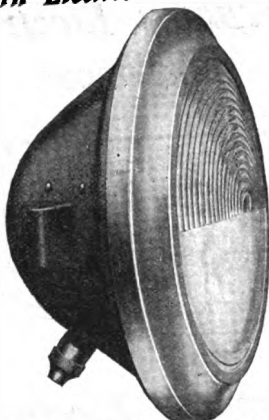
List Price
Each

\$40.00

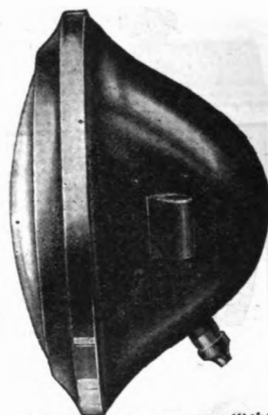
Automobile and Ignition Supplies

Western Electric HALL LAMPS

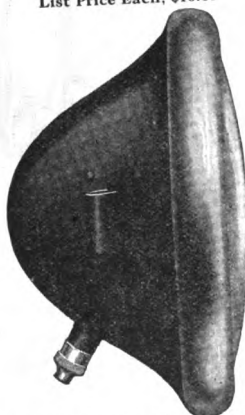

Model 398. Electric Headlight
 $8\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$13.70
 Model 399. Electric Headlight
 $9\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$16.60



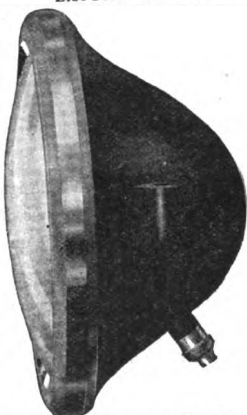
Model 708. Electric Headlight
 $8\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$9.40



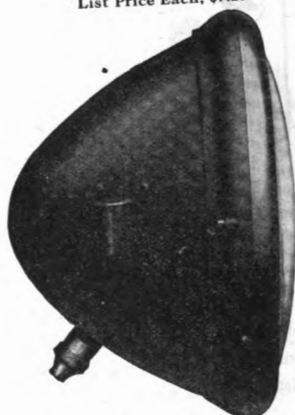
Model 608. Electric Headlight
 $8\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$7.20



Model 407. Electric Headlight
 7 Inch Bracket Center.
 List Price Each, \$5.40
 Model 408. Electric Headlight
 $8\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$7.20



Model 808. Electric Headlight
 $8\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$7.20



Model 378. Electric Headlight
 $8\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$8.70
 Model 379. Electric Headlight
 $9\frac{1}{4}$ Inch Bracket Center.
 List Price Each, \$8.70



Model 6. Electric Tail Light.
 List Price Each, \$3.60
 Designed to Match Models
 398 and 399



Model 410. Electric Dash Lamp
 with Side Glass.
 List Price Each, \$10.10
 Model 411. Electric Dash Lamp
 without Side Glass.
 List Price Each, \$9.40



Model 403. Electric Tail Light.
 with Side Glass.
 List Price Each, \$3.30
 Designed to Match Models
 608 and 609

Finish: Black enamel.

Delivery F. O. B. Factory, Detroit, Mich.

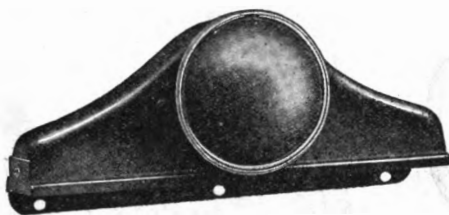
Automobile and Ignition Supplies

Designed to Match Models 608 and 609
 For warehouse deliveries, write nearest house.

Western Electric HALL LAMPS



Model 711. Electric Tail Lamp. List Price Each, \$2.20



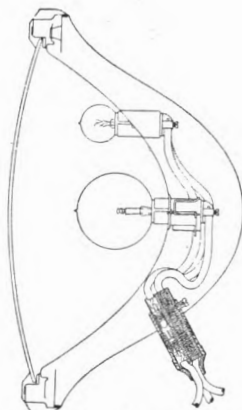
Model 313. Electric License Tail Lamp
List Price Each, \$3.60



Model 411 W. P. Electric Motorcycle Headlight
List Price Each, \$4.70



Model 398A. Headlight $8\frac{1}{4}$ Inch Bracket Center
List Price Each, \$19.50
Model 399A. Headlight $9\frac{1}{4}$ Inch Bracket Center
List Price Each, \$22.40



Type B. Can be incorporated in any Model Headlight at \$2.20 Per Lamp Extra



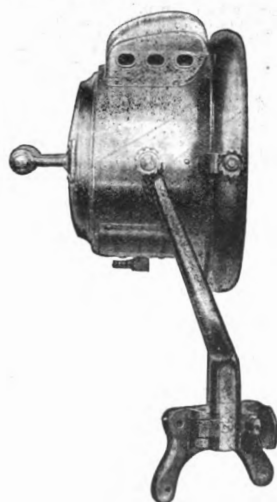
Model 186. Acetylene Gas Headlight
6 inch Mirror. List Price Each, \$10.80



Model 223. Pillar Lamp
List Price Each, \$31.70
Finish: Black enamel.
Delivery F. O. B. Factory, Detroit, Mich.



Model 398S. Electric Searchlight
List Price Each, \$21.60



Model 186S. Acetylene Gas Searchlight. List Price Each, \$19.50

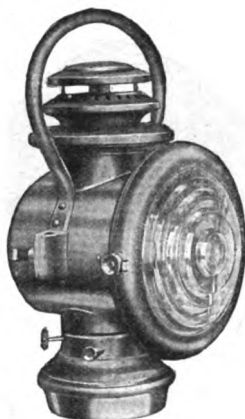
For warehouse deliveries, write nearest house.

Automobile and Ignition Supplies

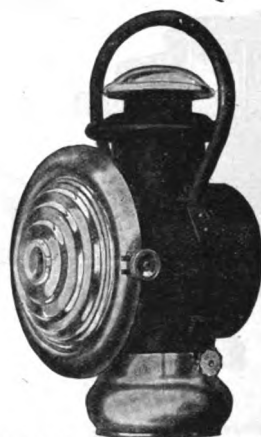
Western Electric HALL LAMPS



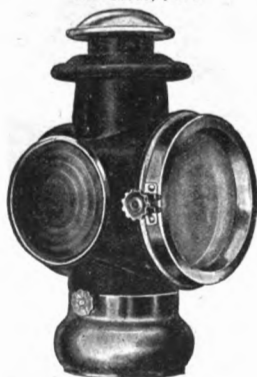
Model 121. Oil only.
List Price, \$5.40
Model 121E. Oil and Electric
List Price, \$7.90



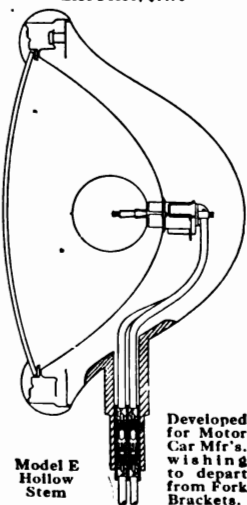
Model 115. Oil only. List Price, \$16.60
Model 115E. Oil and Electric.
List Price, \$21.60



Model 204. Oil only. List Price, \$12.60
Model 204E. Oil and Electric.
List Price, \$17.70



Junior Tall Lamp. Model 123.
Oil only. List Price, \$5.40
Model 123E. Oil and Electric
List Price, \$7.90



Model E
Hollow
Stem

Developed
for Motor
Car Mfr's
wish in g
to depart
from Fork
Brackets.

Delivery F. O. B. Factory, Detroit, Mich. For warehouse deliveries, write nearest house.
Automobile and Ignition Supplies

DIMENSION TABLE

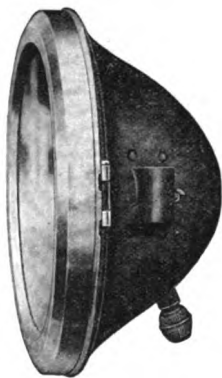
MODEL	Height Over all (Inches)	Diam. of Front Glass (Inches)	Diam. of Mirror (Inches)	Depth Over all (Inches)	Diam. of Side Glass (Inches)	Diam. of Ruby Signal Glass (Inches)	Size of Gas Burner (Feet)	Bracket Centers (Inches)	Prop. Opening for Round Irons (Inches)	Prop. Opening for Flat Irons (Inches)	Electric Globe Voltage	Electric Globe Candle Power	Electric Globe Size (Inches)	Electric Globe Style	Size of White Glass (Inches)
398	11 1/4	8 3/4	7 3/4				8 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
399	12 3/4	9 3/4	8 3/4				9 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
608	10 3/4	8 3/4	6 3/4				8 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
378	11 3/4	9 3/4	7				8 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
379	11 3/4	9 3/4	7				9 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
708	10 3/4	8 1/4	6 3/4				8 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
808	10 3/4	9 3/4	6 3/4				8 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
407	9 3/4	8 3/4	5 3/4				7	3/4			6 1/2	2 1/2	C 16 3/4		
408	10 3/4	8 3/4	6 3/4				8 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
Auxil'y	4 3/4	3 3/4	3 3/4	1 3/4 x 2 1/4							6	4 1/2	C 8		
398-A	11 1/4	8 3/4	7 3/4				8 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
Auxil'y	4 3/4	3 3/4	3 3/4	1 3/4 x 2 1/4							6	4 1/2	C 8		
399-A	12 3/4	9 3/4	8 3/4				9 3/4	3/4			6 1/2	2 1/2	C 16 3/4		
Main	4 3/4		3 3/4	1 3/4 x 2 1/4							6	2 1/2	C 6		
410	5 3/4	4 3/4	3 3/4	2 x 2 1/4							6	4 1/2	C 8		
411	5 3/4	4 3/4	3 3/4								6	4 1/2	C 8		
411WP	5 3/4	4 3/4	3 3/4				4 3/4	3/4			6	4 1/2	C 8		
403	4 3/4		2 3/4	1 3/4 x 2 1/4							6	2 1/2	C 6		
711	3 3/4		3 3/4	1 x 2 1/4							6	2 1/2	C 6		
313	4 3/4		3 3/4								6	2 1/2	C 6		
186-S	11	8 3/4	6 7/8				5 3/4	8 3/4			6	6 1/2	S 8		
398-S	11 3/4	8 3/4	7 3/4				8 3/4				6 1/2	2 1/2	C 16 3/4		
223	10 3/4	2 1/4 x 7	5 3/4	2 1/4 x 7							6	6 1/2	S 8		
186	11	8 3/4	6 7/8				5 3/4	8 3/4			6	6 1/2	S 8		
204	9 3/4	4 3/4	6 3/4								6	4 1/2	C 8		
204-E	9 3/4	4 3/4	6 3/4								6	4 1/2	C 8		
123	9 3/4		5 3/4	4 3/4	3 3/4						6	2 1/2	C 6		
123-E	9 3/4		5 3/4	4 3/4	3 3/4						6	2 1/2	C 6		
121	10		5 3/4	4 3/4	3 3/4						6	2 1/2	C 6		
121-E	10		5 3/4	4 3/4	3 3/4						6	2 1/2	C 6		
115	11 3/4	6 3/4	8				6 3/4				6	4 1/2	C 8		
115-E	11 3/4	6 3/4	8				6 3/4				6	4 1/2	C 8		

Height over all Models 3988 takes in lamp only. With Bracket 18 inches. Height over all Models 223 takes in lamp only. With Bracket 12 1/4 inches. Height over all Models 204 and 204E takes in lamp only. With Bracket 10 1/4 inches. Height over all Models 115 and 115E takes in lamp only. With Bracket 13 3/4 inches.

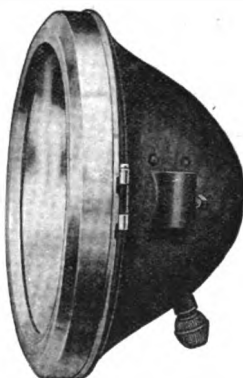
VICTOR AUTOMOBILE LAMPS

The Victor Automobile Lamps have been designed and constructed with the idea of producing a light-unit, the prime characteristics of which would be serviceability and beauty of design. Nothing but high grade materials are employed in the construction of these lamps, and all parts are fitted together so as to be taken apart and put together by the most inexperienced hand.

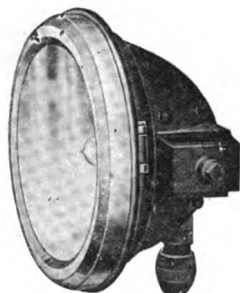
Among the salient features of this line of lamps are: The stamped steel body with 3 coats enamel baked on; parabolic reflector, heavily silver plated; stamped brass door, nickel plated; hard rubber connectors, properly insulated; props riveted, not soldered; clear crystal glass; bulbs any voltage or C.P.; double or single contacts with focusing device.



No. 114 Electric Headlight

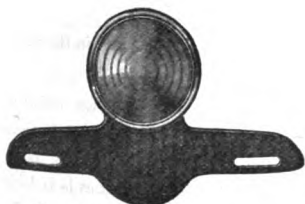


No. 115 Electric Headlight



No. 113 Electric Sidelight

List No.	Type	Between Props	Front Diam.	Depth	Diam. Reflector	Finish	Furnished With	List Price Each
114	Headlight	8½ ins.	11 ins.	6½ ins.	8 ins.	Black and nickel	16 C.P. bulb	\$5.70
115	Headlight	7 ins.	10 ins.	5½ ins.	7½ ins.	or	12 C.P. bulb	4.50
113	Side lamp	{ Comb. for round or flat bkt. }	6½ ins.	3½ ins.	.....	Black and brass	6 C.P. bulb	3.00



No. 112 Electric Tail Lamp

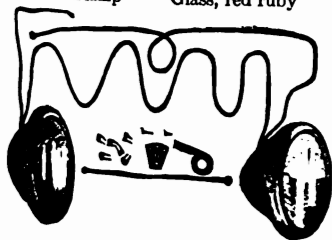


No. 111 Electric Tail Lamp



No. 117 Electric Tail Lamp

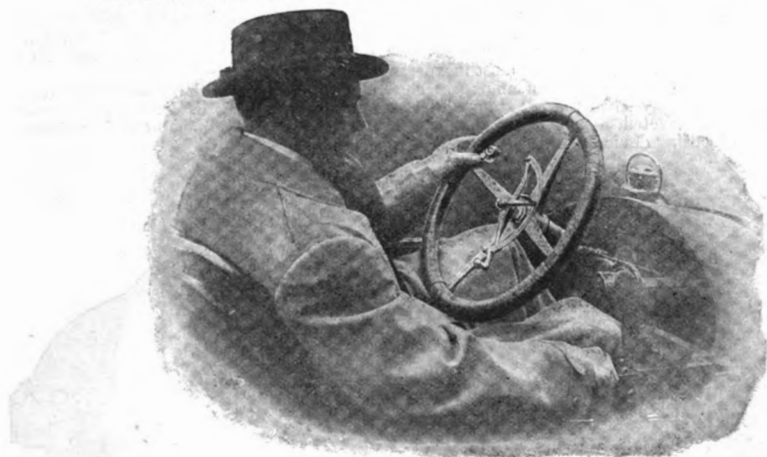
List No.	Type	Prop	Front Diam.	Finish	Furnished With	List Price Each
112	Tail lamp	Glass, red ruby	3½ in. diam.	Dull black	2 C.P. bulb	\$1.60
111	Tail lamp	Glass, red ruby	3½ in. diam.	Black and nickel	2 C.P. bulb	1.20
111	Tail lamp	Glass, red ruby	3½ in. diam.	or	2 C.P. bulb	1.20
117	Tail lamp	Glass, red ruby	3½ in. diam.	Black and nickel	2 C.P. bulb	2.40



Electric Headlight

List No.	Type	Finish	Furnished With	List Price Each
330855	Ford Electric Headlight, completely assembled.....	Black and nickel	(2) 12 C.P. bulb	\$9.50
330856	Ford Electric Headlight, completely assembled.....	Black and brass	(2) 12 C.P. bulb	9.50

LOOK-OUT AUTOMOBILE REAR SAFETY SIGNAL



Trade Mark Reg. U. S. Patent Office
 Patents Pending

Rear Safety Signal

The present method of signalling when it is necessary to slow down or stop is for the driver to put out his arm and wave his hand. To thus signal he must take his hand off the wheel. On rainy days, with rain curtains down, he cannot do this; neither can he from a closed car. If he drives on the right hand side of the car, and the man in the rear drives on the left, his signal cannot be noticed. The greatest objection to holding out the hand is the fact that one hand ought to be at the wheel and the other hand at the lever; thus the driver holds out his hand either too soon or too late, and his signal is of no avail.

Special attention is called to the push button with a lamp combined attached to the driving wheel of the automobile. It is exactly where the driver has his thumb.

At the rear of the automobile is the Look-out Signal. This may be attached anywhere in the rear of the car, on the mud guard, in the center of the body or wherever convenient.



If the driver wishes to turn, slow down or stop, he presses the push button with his thumb, and as long as he has his thumb at the push button the "Look-out" hand is waving up and down just as he is doing when he holds out his hand to tell the driver in the rear to "Look out." The little lamp next to the push button flashes every time the look-out hand waves; thus telling the driver that his rear signal is working properly. At night, in addition to the waving hand, a purple light intermittently flashes its warning rays at the driver in the rear.

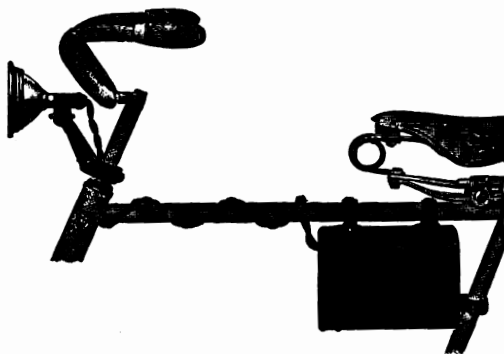
The Baer "Look-out" rear safety signal is the only day and night signal. It is the one signal that does exactly what the driver is expected to do; waves its hand at the driver in the rear, warning him to "Look out."

List Price
 Each

Safety Signal
 Trade Mark Reg. U. S. Patent Office Patents Pending
 *Delivery F. O. B. Factory, Philadelphia, Pa.
 Automobile and Ignition Supplies

Baer Look-out Automobile Rear Safety
 Signal. \$20.00
 For warehouse deliveries write nearest house.

AUTOMOBILE AND MOTORCYCLE ACCESSORIES



Bicycle and Motor Lighting Outfit

Victor Bicycle and Motorcycle Lighting Outfit

Outfit consists of battery box made of steel with removable lid, finished in black japan, baked on. Box is insulated at end to prevent short circuiting, clips are riveted to box and three heavy leather straps are used to attach box to bicycle under seat, as illustrated. From battery box extends 24 inches of weatherproof cable, running to nickel-plated electric head lamp 4 1/4 inches in diameter, which is fitted with switch turn light on or off at will. This head lamp has glass front to protect electric bulb and keep parabolic automobile type reflector from losing high polished finish. An adjustable bracket is furnished to fit lamp to any machine. Will burn continually 40 to 44 hours. Intermittently 3 to 4 months. Operates on two ordinary dry cells. Costs one third of a cent an hour to burn one hour.

*List Price Each \$2.00 *List Price per Dozen \$21.00

Victor Bicycle and Motorcycle lighting outfit.....



22 and 24 Inch Box with Suitcase Latches



Size 18 to 20 Inches

Victor Battery and Tool Boxes

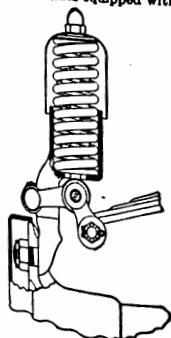
List No.	Dimensions Inches Deep	Boxes in Carton	*List Price Each
812	12 x 8 x 9 1/4	6	\$2.50
814	14 x 8 x 9 1/4	4	2.80
816	16 x 8 x 9 1/4	4	2.70
818	18 x 8 x 9 1/4	4	2.80
820	20 x 8 x 9 1/4	4	2.90
822	22 x 9 x 9 1/4	4	3.10
824	24 x 10 x 9 1/4	3	3.50

22 and 24 inch boxes with suitcase latches.
All boxes equipped with Yale lock.

Ford Special Boxes

List No.	Dimensions Inches Deep	Boxes in Carton	*List Price Each
618	18 x 8 x 7 1/4	6	\$2.70
620	20 x 8 x 7 1/4	6	2.80
622	22 x 9 x 7 1/4	4	2.90
624	24 x 10 x 7 1/4	4	3.50

22 and 24 inch boxes with suitcase latches.



Shock Absorber

Temco Shock Absorber

A shock absorber for Ford cars. A real mechanical device of perfect balance, stable, high-grade construction. Two spiral springs—one working within the other—are used in each cylinder. These springs are made of crucible vanadium steel, and represent 50 to 75 per cent. greater cost and efficiency than those found in other shock absorbers.

Temco Shock Absorber (set of 4 complete).....
†List Price \$22.50

*F. O. B. Factory, Cincinnati, O. †F. O. B. Factory, Leipsic, O. For warehouse deliveries write nearest house.

AUTOMOBILE SUPPLIES
Master Garage Pump
MODEL "P"

The equipment consists of a two-cylinder pump mounted on a frame and driven by a $\frac{1}{2}$ H.P. motor. With each outfit is furnished 20 feet of best reinforced rubber air hose, with pressure gauge attached and 20 feet of lamp cord with plug.

A small nozzle is furnished to fit on the end of the hose, so that the outfit may be used as a compressed air cleaner. It is very handy as such for blowing the dust out of various obscure parts of the upholstery and the little nooks and corners in a car which are hard to reach with a brush or otherwise.

List No.

P-A.C.	Master Garage Pump, with regular alternating current motor.....	\$120.00
P-D.C.	Master Garage Pump, with regular direct current motor.....	110.00

*List Price

NOTE: When ordering, state current conditions.

Model "W" Garage Pump

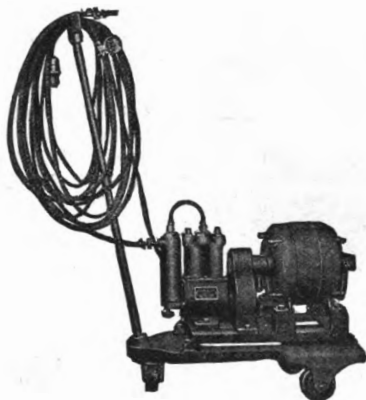
Consists of a sturdy, efficient, 2 cylinder pump (bore $1\frac{1}{4}$ inches, stroke 2 inches) driven by a $\frac{1}{2}$ H.P. motor.

List No.

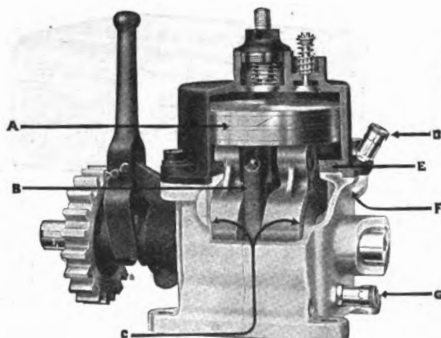
W-A.C.	Master Garage Pump, with regular alternating current motor.....	\$210.00
W-D.C.	Master Garage Pump, with regular direct current motor.....	200.00

*List Price

Model "P" Garage Pump


Kellogg Single Cylinder Engine Driven Tire Pump
MODEL 101

Made of metal throughout. Finest gray iron cylinders, piston fitted with four metal rings, shaft drop forged and bearings of finest phosphor bronze. The oiling system is very simple. Pour oil through one cup only. Furnished complete with rubber tubing, gauge and attachments carefully fitted and easily installed on practically all 1914 and 1915 cars and many other models. A, metal piston ring; B, piston guide; C, two bronze connecting rods; D, one oil cup which supplies lubrication for piston and cylinder walls; F, Baffel plate, which prevents oil from splashing into piston and cylinder walls; G, oil level drain.



Cutout Section of Model 101

List No.	101	Single cylinder engine driven tire pump	\$21.00
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†List Price

NOTE: In ordering, be sure to give name of car, year of manufacture and model.

Kellogg Four-cylinder Engine Driven Tire Pump

List No.		List Price		†List Price
34	With rubber tubing and gauge (air cooled head).....	\$25.20	With standard attach....	\$33.60
44	With rubber tubing and gauge (water cooled head)....	28.00	With chain driven attach.	49.00
84	With rubber tubing and gauge (water cooled head)...	26.60	With chain driven attach.	49.00
94	With rubber tubing and gauge (for tire inflation).....	25.20	With standard attach....	33.60

Kellogg Engine Driven Tire Pump
FOR THE FORD MODEL T

The new Kellogg Pump is built expressly for the Ford car. The cylinder is of the finest close grained, gray cylinder iron, and piston is fitted with ground steel rings. The crank shaft is a drop forging. The connecting rod and all bearings are phosphor bronze. Attachments are carefully fitted and easily installed in 20 minutes. No holes to bore, simply tighten up two bolts. Gears are strong and chamfered, so pump can be started while motor is running. Rubber tubing long enough to reach all four wheels, and a gauge to indicate pressure in the tire while it is being inflated are furnished with each outfit.

List No.

T	Kellogg Engine Driven Tire Pump (complete).....	\$15.20
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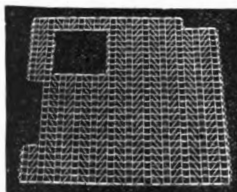
†List Price

Including rubber tubing, gauge and all parts necessary for installing.

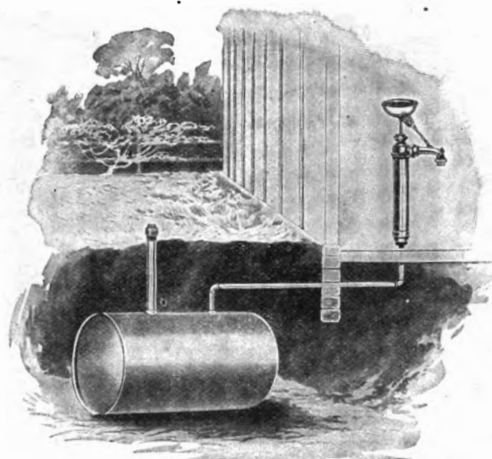
*F. O. B. Factory, Hartford, Conn. †F. O. B. Rochester, N. Y. For warehouse deliveries, write nearest house.

Automobile and Ignition Supplies

AUTOMOBILE ACCESSORIES



Motor Car Mat



Gasoline Storage Outfit

Acme Motor Car Mat

The Acme Flexible Steel Motor Car Mat is made of galvanized flat cold-rolled steel, and is practically indestructible. It fits any Ford car, hugs the floor, is sanitary, self-cleaning, and is more economical than the cheap rubber mat generally used. It is weatherproof, wearproof, cooler in summer and cleaner in winter. It will outwear a dozen rubber mats.

List No.		*List Price per Dozen
330919	Acme Flexible Steel Motor Car Mat	\$42.00

"Perfection" Gasoline Storage Outfits

The tanks furnished with these outfits are of welded steel construction, are galvanized both inside and outside, and further protected by a coating of rustproof paint. These welded tanks have almost twice the strength of the old steel riveted tanks of the same thickness of material. The absence of rivet holes removes the principal cause of leaks. They cannot leak, as they are subjected to both hydraulic and air pressure tests. These welded tanks are fitted inside with a galvanized dip pipe, to which the suction line is attached. There is supplied for the suction line two pieces of $\frac{3}{4}$ inch galvanized iron pipe, each 36 inches long, and two $\frac{1}{4}$ inch elbows. This enables the placing of the storage tank 3 feet under ground and outside of the building. The fill pipe is a 2 inch galvanized pipe, 36 inches in length with a ventilating brass cap.

The suction pump is built especially for gasoline; it is made entirely of brass except the iron handle. The cylinders are seamless brass, 2 inches in diameter. The brass padlock and chain furnish an important feature, preventing children and unauthorized persons from tampering with the gasoline.

List No.	Description	Size	Gauge	†List Price Each
330920	60 gallon outfit, complete	24 x 31 ins.	No. 16	\$40.80
330921	110 gallon outfit, complete	30 x 36 ins.	No. 14	49.30
330922	165 gallon outfit, complete	30 x 54 ins.	No. 14	61.20
330923	225 gallon outfit, complete	30 x 70 ins.	No. 12	73.10
330924	275 gallon outfit, complete	30 x 87 ins.	No. 12	91.80
330925	385 gallon outfit, complete	30 x 120 ins.	No. 10	120.70
330926	550 gallon outfit, complete	42 x 91 ins.	No. 10	168.30
1	Suction pump, 9 ins. long, $\frac{1}{2}$ pint stroke			10.20
2	Suction pump, 18 ins. long, 1 pint stroke			13.60

Gasoline hose, per foot, \$1.36.

Note: Above prices include No. 1 pump, spigot, lock and chain, tank dip, suction and full pipes with brass cap ready for installation.

*Delivery F. O. B. Factory, Chicago, Ill. †Delivery F. O. B. Factory, Montclair, N. J. For warehouse deliveries, write nearest house.

DRY BATTERIES
 For Intermittent Service

 Blue Label
 Regular

 Blue Label
 Combination
 Screw Top

 Blue Label
 Straight
 Screw Top

Blue Bell Cells
 BLUE LABEL

This battery is particularly recommended for telephone transmitter work, to meet the needs of a reliable, highly efficient and long-lived cell. It is furnished in three styles of tops: standard binding post top, combination screw top and binding post and straight screw top. The two latter types are for use in Patterson Battery Sets.

List No.	*Sizes of Zinc Cans	Description	Wt. per Cell	Std. Pkg.	Std. Pkg. Lbs.	—List Price— Each	Per Bbl.†
340383†	2½ x 6 ins.	Standard binding post top.....	2 lbs.	125	300 lbs.	\$0.70	\$60.00
340384	2½ x 6 ins.	Combination screw top and binding post	2 lbs.	125	300 lbs.	.78	70.00
340385	2½ x 6 ins.	Screw top, (no binding posts).....	2 lbs.	125	300 lbs.	.76	67.50


 Red Label Regular
 Round Carton

 Red Label Regular
 Square Carton

 Red Label
 Combination
 Screw Top

 Red Label
 Straight
 Screw Top

Red Label Blue Bell Cells
 RED LABEL

This cell is designed for a wide range of service; it is a general purpose battery that may be successfully used for all classes of intermittent service, such as door bell annunciators, railway train dispatching, ignition, etc. The two latter types are for use in Patterson Battery Sets.

List No.	*Sizes of Zinc Cans	Description	Wt. per Cell	Std. Pkg.	Std. Pkg. Lbs.	—List Price— Each	Per Bbl.
340386	2½ x 6 ins.	Standard binding post top (round carton)	2 lbs.	125	300 lbs.	\$0.70	\$60.00
340380	2½ x 6 ins.	Standard binding post (square carton) . .	2 lbs.	125	300 lbs.	.70	60.00
340387	2½ x 6 ins.	Combination screw top and binding post	2 lbs.	125	300 lbs.	.78	70.00
340388	2½ x 6 ins.	Screw top (no binding posts).....	2 lbs.	125	300 lbs.	.76	67.50

* Add 1 inch to the height of cells having extended carbon plugs, and ½ inch for other styles of connection.

†Note: Fahnestock clips will be furnished when specified without extra charge.

‡Delivery F. O. B. Cleveland, Cincinnati, Brooklyn and New York. For warehouse deliveries write nearest house.

Batteries and Accessories

COLUMBIA DRY BATTERIES

For Intermittent Service



**Columbia
Regular**



**Columbia Regular
Combination
Screw Top**



**Columbia Regular
Straight
Screw Top**

Columbia Cells

REGULAR

List No.	*Sizes of Zinc Cans	Description	Wt. per Cell	Std. Pkg.	Std. Pkg. Lbs.	Std. Pkg. Each	—List Price— Per Bbl.
4	1½ x 4 ins.	†Standard binding post top.....	9 oz.	400	250	\$0.40	\$35.00
5	2 x 5 ins.	†Standard binding post top.....	1½ lbs.	250	300	.50	37.50
6	2½ x 6 ins.	†Standard binding post top.....	2 lbs.	125	300	.70	60.00
6	2½ x 6 ins.	Combination screw top and binding post.....	2 lbs.	125	300	.78	70.00
6	2½ x 6 ins.	Screw top (no binding posts).....	2 lbs.	125	300	.76	67.50
8	3½ x 8 ins.	†Standard binding post top.....	5 lbs.	50	315	1.50	62.50

RED LABEL COLUMBIA

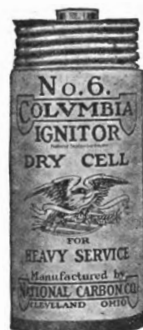
6	2½ x 6 ins.	Standard binding post.....	2 lbs.	125	300	.70	60.00
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**Columbia
Ignitor**



**Columbia Ignitor
Combination
Screw Top**



**Columbia Ignitor
Straight
Screw Top**

IGNITOR

List No.	Sizes of Zinc Cans	Description	Wt. per Cell	Std. Pkg.	Std. Pkg. Lbs.	Std. Pkg. Each	—List Price— Per Bbl.
6	2½ x 6 ins.	Standard binding post top.....	2 lbs.	125	300	\$0.70	\$62.50
6	2½ x 6 ins.	Combination screw top and binding post.....	2 lbs.	125	300	.78	72.50
6	2½ x 6 ins.	Screw top (no binding posts).....	2 lbs.	125	300	.76	70.00
8	3½ x 8 ins.	†Standard binding post top.....	5 lbs.	50	315	1.60	67.50

*Add 1 inch to the height of cells having extended carbon plugs, and ½ inch for other styles of connections.

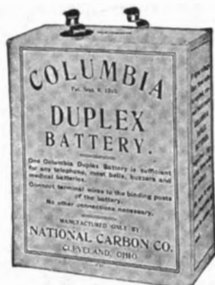
†Note: Fahnestock clips will be furnished when specified without extra charge.

‡Delivery F. O. B. Cleveland, Cincinnati, Brooklyn and New York. For warehouse deliveries write nearest house.

Western Electric COMPANY DRY BATTERIES For Intermittent Service



Rectangular



Duplex Battery



Oval Type

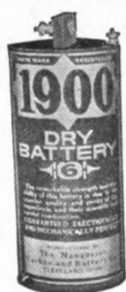
Columbia Cells RECTANGULAR TYPE

List No.	Overall Dimensions *Not Including Connections	Weight		Std. Pkg. Bbl.	Std. Pkg. Wt.	List Price	
		per Cell	per 100 Packed			Each	Per 100
R-1	1 x 1½ x 3¼ ins.	7 ozs.	55	400	210	\$0.50	\$30.00
R-2	1 x 1¾ x 3¼ ins.	8¼ ozs.	62	400	230	.50	30.00
R-3	1¼ x 1½ x 3¼ ins.	8¼ ozs.	62	400	230	.50	30.00
R-4	1¼ x 1¾ x 4 ins.	11¼ ozs.	83	400	250	.50	30.00
R-5	1¼ x 2¼ x 4 ins.	14½ ozs.	115	300	295	.60	32.00
R-6	1¾ x 1¾ x 4½ ins.	12¾ ozs.	100	300	265	.60	32.00
R-7	1½ x 2 x 4¾ ins.	1 lb. 3 ozs.	145	250	290	.60	32.00
R-8	1½ x 2½ x 4¾ ins.	1 lb. 10 ozs.	197	200	350	.70	34.00
R-9	1½ x 2½ x 5 ins.	17 ozs.	130	300	350	.70	34.00
R-10	1¾ x 2¼ x 5½ ins.	1¾ lbs.	207	150	450	.70	34.00
R-11	2 x 2½ x 6 ins.	2½ lbs.	288	125	340	.80	40.00
R-12	2¼ x 2¾ x 6½ ins.	3½ lbs.	390	100	375	1.00	60.00
R-13	2¼ x 2¾ x 7 ins.	3 lbs. 10 ozs.	415	75	300	2.00	100.00
R-347	3 x 4 x 7 ins.	6¾ lbs.	754	50	370	3.00	140.00
Duplex	6¾ x 5½ x 2½ ins.	4½ lbs.	480	50	240	1.30	106.00

*Add ¾ inch to height for total height to include connections.
Types R-11 to R-347 will be furnished with Fahnestock Connectors when so ordered.

OVAL TYPE

List No.	Size of Zinc Cans	Weight per Cell	Weight Lbs. per 100 Packed	\$0.50	\$36.00
O-4	1¼ x 2¼ x 4 ins.	11¼ ozs.	80		



"1900"



Rapid Fire



Red Seal



Eveready

Miscellaneous Cells

340413	1900	Regular	2½ x 6 ins.	2 lbs.	125	300 lbs.	\$0.70	\$60.00
340414	Rapid Fire	Ignition	2½ x 6 ins.	2 lbs.	125	300 lbs.	.70	60.00
340415	Rapid Fire	Ignition	3½ x 8 ins.	5 lbs.	50	315 lbs.	1.60	67.50
340416	Red Seal	Regular	3½ x 6 ins.	2 lbs.	125	300 lbs.	.70	60.00
340417	Red Seal	Regular	3½ x 8 ins.	5 lbs.	50	315 lbs.	1.50	62.50
340584	Hi-up	Ignition	2½ x 6 ins.	2 lbs.	125	300 lbs.	.70	62.50
340585	Hi-up	Ignition	3½ x 8 ins.	5 lbs.	50	315 lbs.	1.60	67.50
340418	Eveready	Ignition	2½ x 6 ins.	2 lbs.	125	300 lbs.	.70	62.50
340419	Eveready	Ignition	3½ x 8 ins.	5 lbs.	50	315 lbs.	1.60	67.50

†Delivery F. O. B. Cleveland. ††Delivery F. O. B. Cleveland, Cincinnati, Brooklyn and New York.

For warehouse deliveries write nearest house.

Batteries and Accessories

COLUMBIA "HOT SHOT" IGNITION BATTERY



"Hot Shot" Battery

Columbia "Hot Shot" Battery

The Columbia "Hot Shot" is a unit battery containing from three to ten specially made cells connected in combinations to meet all requirements from $4\frac{1}{2}$ volts to 9 volts.

The battery is designed especially for automobile ignition, for electric horns, for motor boat and gas engine ignition, for operating carriage electric lamps, for mine signals, for household service, and for electric toys—in fact, for every place where a reliable dry battery is needed.

The containing case is weatherproofed fiber paper. The top is sealed with hard sealing-wax. Brass binding posts and cord handles are provided which makes the outfit easy to carry. The type number designates the number of cells and method of connecting them.

The first figure designates the number of sets of cells and if more than one, these sets are connected in multiple; the second number, the number of cells in series; the third number, the size of the cells, and the last number shows whether cells are arranged in one or two rows. Number 2462 means two sets of cells in multiple, four cells in series in each set, and number 6 cells, two rows.

List No.	Voltage	Length	Width	Height	Weight Lbs. Each	Std. Pkg.	Std. Pkg. Wgt. Lbs.	*List Price Each
1361	$4\frac{1}{2}$	8	$2\frac{3}{4}$	$7\frac{1}{2}$	7	35	315	\$1.98
1461	6	$10\frac{3}{8}$	$2\frac{3}{4}$	$7\frac{1}{2}$	9	25	290	2.64
1462	6	$5\frac{3}{8}$	$5\frac{3}{8}$	$7\frac{1}{2}$	9	25	290	2.64
2261	3	$10\frac{3}{8}$	$2\frac{3}{4}$	$7\frac{1}{2}$	9	25	290	2.64
2262	3	$5\frac{3}{8}$	$5\frac{3}{8}$	$7\frac{1}{2}$	9	25	290	2.64
1561	$7\frac{1}{2}$	$13\frac{3}{4}$	$2\frac{3}{4}$	$7\frac{1}{2}$	11	20	284	3.30
†1561-S	$7\frac{1}{2}$	$12\frac{3}{4}$	$2\frac{3}{4}$	$7\frac{1}{4}$	11	20	284	3.60
1562	$7\frac{1}{2}$	8	5	$7\frac{1}{2}$	11	20	274	3.30
1661	9	15	$2\frac{3}{4}$	$7\frac{1}{2}$	13	17	290	3.96
1662	9	8	$5\frac{3}{8}$	$7\frac{1}{2}$	13	17	290	3.96
2361	$4\frac{1}{2}$	$15\frac{3}{4}$	$2\frac{3}{4}$	$7\frac{1}{2}$	13	17	290	3.96
2362	$4\frac{1}{2}$	8	$5\frac{3}{8}$	$7\frac{1}{2}$	13	17	290	3.96
2462	6	$10\frac{3}{8}$	$5\frac{3}{8}$	$7\frac{1}{2}$	18	12	280	5.28
4262	3	$10\frac{3}{8}$	$5\frac{3}{8}$	$7\frac{1}{2}$	18	12	280	5.28
2562	$7\frac{1}{2}$	$13\frac{3}{4}$	$5\frac{3}{8}$	$7\frac{1}{2}$	22	9	256	6.60
5262	3	$13\frac{3}{4}$	$5\frac{3}{8}$	$7\frac{1}{2}$	22	9	256	6.60
2662	9	$15\frac{3}{4}$	$5\frac{3}{8}$	$7\frac{1}{2}$	..	7	235	7.92
2663	9	$10\frac{3}{8}$	$8\frac{1}{8}$	$7\frac{1}{2}$	..	7	235	7.92
3462	6	$15\frac{3}{4}$	$5\frac{3}{8}$	$7\frac{1}{2}$	..	7	235	7.92
3463	6	$10\frac{3}{8}$	$8\frac{1}{8}$	$7\frac{1}{2}$	..	7	235	7.92

†Made especially for Stearns car.

*Delivery F. O. B. Factory, Cleveland, Ohio. For warehouse deliveries write nearest house.

COLUMBIA MULTIPLE BATTERIES



Multiple Battery

Multiple Batteries

The Columbia Multiple Battery is a unit proposition. Only two connections have to be made. Inside the hermetically sealed box the cells are separated by wooden pieces and then are held in place and entirely covered by a solid, waterproof insulating compound, which absolutely prevents any motion of the separate cells. The connections are not temporarily made to the binding posts by light wires, but are permanently soldered copper strip, so that the resistance between each pair of cells is practically nothing.

This battery represents the latest developments in primary battery manufacture and combines maximum efficiency and reliability with simplicity. Its uses can be classified under three heads: (a) Motor Ignition, (b) Lighting, (c) Miscellaneous.

(a) **Motor Ignition.** On automobiles, trucks, motor boats, launches, gas, gasoline, etc.

(b) **Lighting.** On automobiles, such lights as tail, side, limousine, etc., and for exploration or trouble lamps on extension cord. On power boats, for running lights and the lights used in lockers or cabins, etc.

(c) **Miscellaneous.** Under this division may be listed a number of uses. Among them are mine signals, blasting equipments, transmitter circuits of telephone train dispatching systems, vibrating and massage machines, electric horns and sirens.

How to Select It. If you know the voltage for which your apparatus was built, you can figure the proper battery by the following rule: To obtain the approximate voltage of a multiple battery, multiply the second digit in its number by $1\frac{1}{4}$. Example: 356 Multiple Battery. $5 \times 1\frac{1}{4} = 6\frac{1}{4}$ volts. It is therefore evident that a 356 should be used on 6 volt equipment.

In General. Where 3 dry cells are used in series, get Type 536 Columbia Multiple Battery. Where 4 dry cells are used in series, get Type 346 Columbia Multiple Battery. Where 5 dry cells are used in series, get Type 356 Columbia Multiple Battery. Where 6 dry cells are used in series, get Type 266 Columbia Multiple Battery.

How to Connect. Place the battery in the position it is to occupy in service. Scrape the ends of the wires clean and bright, connect to the binding posts and screw the cap down tight.

List Prices and Data METAL CASE, MULTIPLE BATTERIES

List No.	Voltage	Length	Width	Height Over All	Wgt. Lbs. Each	List Price Each
146	6	11	3	8 $\frac{1}{4}$	16	\$2.88
226	3	11	3	8 $\frac{1}{4}$	16	2.88
246	6	11	5 $\frac{1}{2}$	8 $\frac{1}{4}$	25	5.76
426	3	11	5 $\frac{1}{2}$	8 $\frac{1}{4}$	25	5.76
346	6	11	8 $\frac{1}{8}$	8 $\frac{1}{4}$	37	8.64
436	4 $\frac{1}{2}$	11	8 $\frac{1}{8}$	8 $\frac{1}{4}$	37	8.64
266	9	11	8 $\frac{1}{8}$	8 $\frac{1}{4}$	37	8.64
156	7 $\frac{1}{2}$	13 $\frac{3}{4}$	3	8 $\frac{1}{4}$	17	3.60
256	7 $\frac{1}{2}$	13 $\frac{3}{4}$	5 $\frac{1}{2}$	8 $\frac{1}{4}$	34	7.20
526	3	13 $\frac{3}{4}$	5 $\frac{1}{2}$	8 $\frac{1}{4}$	34	7.20
356	7 $\frac{1}{2}$	13 $\frac{3}{4}$	8 $\frac{1}{8}$	8 $\frac{1}{4}$	50	10.80
536	4 $\frac{1}{2}$	13 $\frac{3}{4}$	8 $\frac{1}{8}$	8 $\frac{1}{4}$	50	10.80
166	9	8 $\frac{1}{8}$	5 $\frac{1}{2}$	8 $\frac{1}{4}$	20	4.32
326	3	8 $\frac{1}{8}$	5 $\frac{1}{2}$	8 $\frac{1}{4}$	20	4.32
236	4 $\frac{1}{2}$	8 $\frac{1}{8}$	5 $\frac{1}{2}$	8 $\frac{1}{4}$	20	4.32

WOOD CASE, MULTIPLEX BATTERIES

List No.	Voltage	Length	Width	Height Over All	Wgt. Lbs. Each	List Price Each
146	6	11 $\frac{1}{8}$	3 $\frac{3}{8}$	8	14	\$2.88
226	3	11 $\frac{1}{8}$	3 $\frac{3}{8}$	8	14	2.88
246	6	11 $\frac{1}{8}$	6 $\frac{1}{8}$	8	22	5.78
426	3	11 $\frac{1}{8}$	6 $\frac{1}{8}$	8	22	5.76
346	6	11 $\frac{1}{8}$	8 $\frac{1}{8}$	8	31	8.64
436	4 $\frac{1}{2}$	11 $\frac{1}{8}$	8 $\frac{1}{8}$	8	31	8.64
266	9	11 $\frac{1}{8}$	8 $\frac{1}{8}$	8	31	8.64
156	7 $\frac{1}{2}$	14 $\frac{1}{4}$	3 $\frac{3}{8}$	8	16	3.60
256	7 $\frac{1}{2}$	14 $\frac{1}{4}$	6 $\frac{1}{8}$	8	28	7.20
526	3	14 $\frac{1}{4}$	6 $\frac{1}{8}$	8	28	7.20
356	7 $\frac{1}{2}$	14 $\frac{1}{4}$	8 $\frac{1}{8}$	8	44	10.80
536	4 $\frac{1}{2}$	14 $\frac{1}{4}$	8 $\frac{1}{8}$	8	44	10.80
166	9	8 $\frac{1}{8}$	6 $\frac{1}{8}$	8	18	4.32
236	4 $\frac{1}{2}$	8 $\frac{1}{8}$	6 $\frac{1}{8}$	8	18	4.32
326	3	8 $\frac{1}{8}$	6 $\frac{1}{8}$	8	18	4.32

Delivery F. O. B. Factory, Cleveland, O. For warehouse deliveries, write nearest house.
 Batteries and Accessories

PATTERSON BATTERY SETS

(Patented U. S. and Foreign Countries)

General Description

The fundamental principle of a Patterson Battery Set is a Screw Top Battery Cell which, without wires or binding posts, screws into a solid hard rubber plate, automatically making all connections. Loose connections, bad contacts, or loss of power from bad contacts, are impossible. The renewal of a cell is as easy as the renewal of an incandescent lamp. Simply screw the cell into the receptacle.

A Patterson Battery Holder will not only maintain a set of batteries at much higher amperage than the old method of installation, but will in a few years save its entire cost by greatly increased life of the cells. Individual cells in Holder may be tested with an ammeter without removing the same from the outfit, or a test of the complete bank of cells may be made at the terminals.

The Battery Holder will last a lifetime, as every part is made of the best material and designed to give the user an outfit which will be a constant source of satisfaction year in and year out. Screw-cups are renewable if necessity ever demands. Heavy contact springs of genuine phosphor-bronze make absolute, positive contact with the brass-capped carbon electrode of the cell; the contacts automatically clean themselves every time a battery is screwed in or out of the Holder and the heavy pressure of the phosphor-bronze center contact spring acts as a locking device on the cell, making it impossible for the same to become loose.

An Automatic Bridge in each cell receptacle (except Multiple Outfits) permits the removal of one or more cells from the set without opening the circuit; and also provides a quick test for a weak cell without an ammeter.

When the circuit wires are once connected to the battery they never have to be disconnected or re-connected. Any predetermined change of circuit connections may be made to take care of specific conditions; that is, any voltage or any ampere capacity may be arranged for, providing the number of units is sufficient to so do; if not, additional units may be put in and the outfit built up to any capacity voltage or amperage desired.

Screw Top Batteries

The opposite illustrations show types of standard dry cells such as are required for use in the Patterson Battery Holders. It will be noted that one type is strictly a cartridge-cell unit that can only be used in a battery holder, while the other is provided with binding posts so that the cell may be connected up the same as any dry cell, or by removing the binding posts may be used with perfect satisfaction in the battery holder, the top being threaded for this purpose.

These cells are universally available in the Blue Bell and Red Label Blue Bell; also in Columbia and all the principal brands of the National Carbon Company's make.



MODEL DESIGNATION

Patterson Battery Sets may be classified in three general types: series, multiple-series and four-circuit reserve.

The scheme of model designation is as follows:

- "B" indicates type of Holder
- "M" indicates Multiple circuit connections
- "S" indicates Series circuit connections
- "U" indicates Universal circuit connections, i. e., four-circuit reserve
- "W" indicates W. E. Co. circuit standards

- "C" indicates Cabinet mounting
- "B" indicates Box mounting
- "R" indicates Backboard mounting

The first numeral after letters in model-number indicates the number of rows of cells; the numeral following indicates the number of cells in a row.

For example, a model "BMC-36" is an outfit made up of "B" holders with "Multiple" connections in "Cabinet" form, 3 rows of 6 cells. If the same outfit was made up with 2 rows of 4 cells it would be designated as a "BMC-24." If the outfit were connected in "Series" instead of "Multiple" the letters used for the model designation would change from "BM" (Multiple) C to "BS" (Series) C. If the outfit was a 4-Circuit Reserve it would be a "Universal" (not Multiple or Series); therefore, the outfit would be designated as "BUC."

It is always necessary to designate by plain description whether the cabinets are to be flush steel, flush oak, surface steel or surface oak.

"Split-Circuit" Sets are designated exactly the same as above, with the exception that the split is shown by a plus (+) between the figures, signifying the number of cells in each split; for example, a "B" Strip Type Holder of 8-cell capacity, having a split of 3 cells for one circuit, and 5 cells for another circuit is designated as a "B-3+5"; if for W. E. Co. telephone apparatus "BW-3+5."

The line was primarily designed for standard $2\frac{1}{2} \times 6$ inch Columbia Cartridge Cell Units, but recently, there has been added to the line complete units for $1\frac{1}{2}$ inch cells, the usual height of which is 4 inches. We are also prepared to furnish special Battery Sets taking the following size cells: $\frac{3}{4} \times 2\frac{1}{4}$ inches, $1 \times 2\frac{1}{4}$ inches and $1\frac{1}{4} \times 3\frac{3}{4}$ inches.

PATTERSON BATTERY SETS

Series Strip Types Models "A" and "B"



Strip Type Model "A"

SERIES STRIP TYPE MODEL "A"

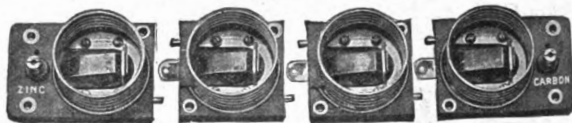
Solid Hard Rubber

These holders are designed for mounting on ceiling, under side of shelf, or any similar place where holders may be screwed up solid. They are furnished with galvanized hinged brackets so that they may be mounted against a side wall. If a split of the Battery Set is desired, provision can be made for this if specified in advance. For every "split" three inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system, 5 cells for "ringing" circuit or for annunciator, bells, etc., or a total of 8 cells in the Battery Set. When so specified, any split circuit arrangement can be furnished.

List No.	No. Cells Capacity	Operative Voltage	Initial Amp. Capacity	Approx. Length	Over All Dimen. Width	*List Price Each
A-2.....	2 in row	2	25	8½ ins.	3 ins.	\$5.40
A-3.....	3 in row	3	25	11½ ins.	3 ins.	8.10
A-4.....	4 in row	4	25	14½ ins.	3 ins.	10.80
AS-4.....	4 in 2 rows of 2	4	25	8½ ins.	6 ins.	10.80
A-5.....	5 in row	5	25	17½ ins.	3 ins.	13.50
A-6.....	6 in row	6	25	20½ ins.	3 ins.	16.20
AS-6.....	6 in 2 rows of 6	6	25	11½ ins.	6 ins.	16.20



Strip Type Model "B"



Strip Type Model "B"—Showing Sectional Construction

SERIES STRIP-TYPE MODEL "B"

Skeleton-Hard Rubber Base

These holders are designed for mounting on ceiling, under side of shelf or any similar place where holders may be screwed up solid. They are made sectional unit construction, except the 2 and 3 cell, which are in one piece. Steel mounting straps are furnished with all sectional units, equivalent to the number of units ordered. In ordering sectional units, size mounting irons must be specified. For example, in ordering 100 sectional units, mounting irons equivalent to the number of units ordered, to make up 4-No., 5-No., 6-No., or any size strip holder must be specified.

Holders will be furnished either "knocked down" or assembled; unless otherwise specified they are furnished assembled on mounting irons ready for installation. They are made in all sizes from 2 cell up to any size desired at \$1.50 list per unit.

If a "split-up" of the Battery Set is desired, provision can be made if specified in advance. For every "split" three inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system, 5 cells for "ringing" circuit or for annunciator, bells, etc., or a total of 8 cells in the Battery Set. When so specified, this or any "split-circuit" arrangement can be furnished.

List No.	No. Cells Capacity	Operative Voltage	Initial Amp. Capacity	Approx. Length	Over All Dimen. Width	*List Price Each
B-2.....	2 in row	2	25	8½ ins.	3 ins.	\$3.00
B-3.....	3 in row	3	25	11½ ins.	3 ins.	4.50
B-4.....	4 in row	4	25	14½ ins.	3 ins.	6.00
BS-4.....	4 in 2 rows of 2	4	25	8½ ins.	6 ins.	6.00
B-5.....	5 in row	5	25	17½ ins.	3 ins.	7.50
B-6.....	6 in row	6	25	20½ ins.	3 ins.	9.00
BS-6.....	6 in 2 rows of 3	6	25	11½ ins.	6 ins.	9.00
B-8.....	8 in row	8	25	26½ ins.	3 ins.	12.00
BS-8.....	8 in 2 rows of 4	8	25	14½ ins.	6 ins.	12.00

List No.

Sectional Units

List Price Each

BM	Middle Section Battery Holder Unit.....	\$1.50
BZ	Zinc Terminal End Section.....	1.50
BC	Carbon Terminal End Section.....	1.50

Above sectional parts are packed separately in individual cartons. When ordering, specify size mounting irons desired with units 3-No., 4-No., 5-No., 6-No., 8-No., etc. No battery cells are included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS



Model "BR-4"—Showing Holder Raised to Screw in Cells

Series, Side-Wall Type

MODEL BR

These Outfits, as shown in above cut, are designed for side-wall installations; they consist of a standard Series-Type "B" Strip with the addition of a metal-faced backboard on which stationary binding-post terminals for circuit wires are mounted; on the same base are mounted the knife-switch jaws with which copper blades, carried by Holders, make contact when cells are screwed in and Holder is dropped into place.

Automatic bridge in each cell-receptacle permits the removal of one or more cells from the set without opening the circuit; and also provides a quick test for a weak cell without the use of an ammeter.

In Model "BR" circuit wires once connected to the terminal binding posts never have to be disconnected or reconnected, no matter how many times the battery may be renewed.

These Series-Type Sets should never be used where the current demand is heavy.

"BR" Battery Holders are regularly made in all sizes from 2 cell up to 12 cell—special sizes to order.

If a "split-up" of the Battery Set is desired, provision can be made for this if specified in advance. For every "split" three inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system—6 cells for "ringing" circuit or for annunciators, bells, etc.—or a total of 9 cells in the Battery Set. When so specified, this or any "split-circuit" arrangement can be furnished.

List Prices and Data

List No.	Battery Holder No.	No. Cells Capacity	Operative Voltage	Initial Amp. Capacity	Approx. Height	Over-All Width	Over-All Depth	*List Price Each
BR-2.....	B-2	2	2	25	6 ins.	8½ ins.	3¾ ins.	\$4.50
BR-3.....	B-3	3	3	25	6 ins.	11½ ins.	3¾ ins.	6.10
BR-4.....	B-4	4	4	25	6 ins.	14½ ins.	3¾ ins.	7.70
BR-5.....	B-5	5	5	25	6 ins.	17½ ins.	3¾ ins.	9.40
BR-6.....	B-6	6	6	25	6 ins.	20½ ins.	3¾ ins.	11.00
BR-8.....	B-8	8	8	25	6 ins.	26½ ins.	3¾ ins.	14.20
BR-10.....	B-10	10	10	25	6 ins.	32½ ins.	3¾ ins.	17.40
BR-12.....	B-12	12	12	25	6 ins.	38½ ins.	3¾ ins.	20.60

No batteries are included in above prices.

Solid hard rubber Model "A" Strip in place of skeleton will be furnished when so ordered at an advance of \$1.20 list per cell-unit.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

Batteries and Accessories

PATTERSON BATTERY SETS



Model "BB-4"



Model "BB-4"

Series, Steel Box-Type

MODEL "BB"

These Outfits consist of the standard "B" Series-Type Strip mounted in a pressed steel case—finished in black japan—with solid bronze padlock and two keys.

They are suitable for all installations where the current requirements are not so heavy as to make desirable the use of the Multiple-Service Outfits.

They have self-locking cases, the front automatically locking under the top flange when pushed up into position.

Stationary Binding-Post Terminals for circuit wires are mounted on backboard of box; on same base are mounted the knife-switch jaws with which copper blades, carried by Holders, make contact when cells are screwed into Holder, automatically dropping into place. Insulated bushings are set-in back for introduction of circuit wires; metal cleats hold box $\frac{1}{2}$ inch from wall, giving ample space for running of circuit wires.

These Sets are regularly made in all sizes from 2 cell up to 12 cell, as listed below; special sizes to order.

If a "split-up" of the Battery Set is desired, provision can be made if specified in advance. For every "split" three inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system, 5 cells for "ringing" circuit or for annunciators, bells, etc., or a total of 8 cells in the Battery Set. When so specified, this or any "split-circuit" arrangement can be furnished.

List Prices and Data

List No.	Uses Battery Holder No.	Operative Voltage	Initial Amp. Capacity	Approx. Over-All Dimen.			*List Price Each
				Height	Width	Depth	
BB-2.....	B-2	2	25	8 ins.	10½ ins.	6½ ins.	\$6.00
BB-3.....	B-3	3	25	8 ins.	13½ ins.	6½ ins.	7.80
BB-4.....	B-4	4	25	8 ins.	16½ ins.	6½ ins.	9.60
BB-5.....	B-5	5	25	8 ins.	19½ ins.	6½ ins.	11.70
BB-6.....	B-6	6	25	8 ins.	22½ ins.	6½ ins.	13.80
BB-8.....	B-8	8	25	8 ins.	28½ ins.	6½ ins.	17.80
BB-10.....	B-10	10	25	8 ins.	34½ ins.	6½ ins.	21.80
BB-12.....	B-12	12	25	8 ins.	40½ ins.	6½ ins.	25.80

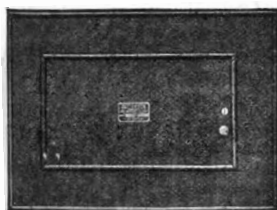
No battery cells are included in above prices.

Prices include bronze padlock with two keys.

Solid hard rubber Model "A" Strips in place of skeleton will be furnished when ordered, at an advance of \$1.20 list per cell unit.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.
 Batteries and Accessories

PATTERSON BATTERY SETS



Model BSC-6
Flush Steel Cabinet, Door Closed



Model BSC-6
Flush Steel Cabinet, Door Open

Series, Wall-Cabinet Types

MODEL "BSC"

These Battery Sets are designed for the smaller high-class residence, where demands upon the Battery Set are comparatively light. Single-series set will, for this light service, often meet the requirements. They are regularly made in sizes from 3 to 12 cells in flush steel, flush oak, surface steel, and surface oak.

The setting up or renewal of batteries in the above sets is as easy as the renewal of an incandescent lamp and, although done quickly even by an inexperienced person, cannot be done wrong. Circuit wires never have to be disconnected; automatic bridges in each cell-receptacle permit the removal of a cell without opening the circuit. Battery strips themselves are of hard rubber with heavy phosphor-bronze contacts, etc.

Flush sets are particularly recommended for new installations, for the advantage of a flush-setting cabinet can hardly be overestimated.

If a "split-up" of the Battery Set is desired, provision can be made for this if specified in advance. For every "split" three inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system, 5 cells for "ringing" circuit or for annunciators, bells, etc., or a total of 8 cells in the Battery Set. When so specified, this or any "split-circuit" arrangement can be furnished.

Standard finish is black enamel for steel sets, dull rubbed varnish for oak sets.

Dimensions given below are "over-all" dimensions of boxes; dimensions of trim in flush steel sets are always 3 inches greater than dimensions of box—1½ inches on each side; dimensions of trim in flush oak sets are always 5 inches greater than dimensions of box—2½ inches on each side. Depth of box in flush sets only 3½ inches.

List Prices and Data

List No.	No. of Bat. in Row	Operative Voltage	Initial Amp. Capacity	*List Price Each			
				Flush Steel	Surface Steel	Flush Oak	Surface Oak
BSC-3.....	3	3	25	\$14.88	\$12.40	\$27.00	\$22.50
BSC-4.....	4	4	25	17.76	14.80	30.96	25.80
BSC-5.....	5	5	25	20.76	17.30	35.16	29.30
BSC-6.....	6	6	25	23.88	19.90	39.60	33.00
BSC-8.....	8	8	25	30.24	25.20	48.96	40.80
BSC-10.....	10	10	25	36.72	30.60	54.36	45.30
BSC-12.....	12	12	25	43.92	36.60	63.72	53.10

In ordering always specify whether surface steel, surface oak, flush steel or flush oak is desired.

Drop-front doors are regularly furnished on extra wide sets.

If double doors are wanted on extra wide sets add 15% to above list prices.

All cabinets are furnished with substantial cylinder locks and two keys.

Standard finish of wood is quartered oak, hand rubbed; of steel, black enamel.

No battery cells included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS

Multiple-Service Battery Sets

These Sets provide a battery power-plant that will do the most severe work—even up to that which has usually heretofore required a motor-generator or Storage Battery Set, at a cost of less than a third for installation and maintenance.

They provide an absolutely positive and easy way of installing a high-amperage Battery Set from which Battery Set every electrical device requiring battery current may be operated in the largest building under the most economical conditions.

All Sets (except Model "BM") have individual circuit-fuses, automatically protecting Battery Set in case of accidental short-circuit, without disturbing operation of apparatus other than on the circuit in trouble.

For Specifying in Advance of Construction, i. e., when Signal Apparatus Is to Be Installed on a New Job

First—To determine the voltage apparatus will require to satisfactorily operate, add to the maximum voltage required by the devices connected to line, sufficient additional voltage necessary to overcome line-resistance for length of circuit used; figure one cell for each volt and select a Battery Set with this number of cells in each row, or next higher. Don't make the mistake of figuring the total number of cells in the cabinet, for the voltage of a Multiple Service Set is the voltage of the cells in a row, not of the total number of cells in cabinet.

Second—To determine the ampere capacity of proper Battery Set, make accurate list of all electrical devices to be operated by the Battery Set, with the number of amperes required at the above determined voltage for the satisfactory operation of each device, adding same up so that you have as a total the maximum number of amperes required for all the apparatus.

For heavy frequently-used installations, multiply the total number of amperes as obtained by the above figuring by 25—this will give the ampere capacity of Multiple Service Battery Set best adapted for long service-life where the drain is frequent and severe; for example, if 2 amperes were required to operate all devices, multiplying $2 \times 25 = 50$, or a 50-ampere set would be the best capacity; if 4 amperes, $4 \times 25 = 100$, or a 100-ampere set; for less heavy and less frequent service, multiply by 20, 15, 10 or even by 5, as careful analysis of service conditions may seem to require.

For Specifying in Advance But After Signal Apparatus Has Been Installed on a New Job

First—Determine the voltage required to satisfactorily operate, by momentarily closing the circuit with all the apparatus in the building operating from a test battery, adding cells if the apparatus does not operate strong enough, taking off cell by cell if the apparatus operates too strong (or shows excessive sparking at contacts). Each cell of battery when circuit is closed and electrical devices are operating will give 1 volt and, therefore, if the installation requires 6 cells to operate satisfactorily from the test battery, select from the tables of the various models listed a Battery Set with a voltage-rating of 6; if 10, select a voltage-rating of 10, etc.

Second—To determine the ampere capacity Multiple Service Battery Set best suited to specific installation in a new building, where no service-life record of an old-style Battery Set is available, for heavy frequently-used installations, it is a safe rule to select a set with a capacity of 25 times the maximum amperes required to operate, but for less heavy and less frequently used installations, multiply by 20, 15 or even by 5, as careful analysis of service conditions may seem to require; the maximum amperes required to operate may be easily ascertained by momentarily closing the circuit and starting all apparatus working from a test battery of the voltage above determined between the terminals of one side, of which battery and one side of the circuit an accurate low-reading ammeter has been cut in; for example: if the ammeter connected as above shows the maximum ampere requirements to be 2 amperes when all apparatus is working, the Multiple Service Battery Set for a heavy frequently-used installation should be 25 times 2, or 50 amperes; if the ammeter shows 3 amperes, the set required should be 25 times 3, or 75 amperes, or, of course, the nearest to this made.

Where a Patterson Battery Set Is to Replace an Old Style Battery

First—To determine the voltage of Multiple Service Battery Set best suited to a specific installation where an old battery has been in, ascertain if the old-style battery, when first installed, operated the apparatus in the building satisfactorily and if so select a Multiple Service Battery Set with the same number of cells per row (not per outfit) as was installed in the old way.

Second—To determine the ampere capacity Multiple Service Patterson Battery Set best suited to a specific installation, where an old battery has been in, and the service-life record is available—figure that a 50-ampere set will operate four times as long as the old-style Battery Set; a 75-ampere set eight times; 100-ampere, 10 times, etc., but always being careful to remember not to figure beyond the limit-life of a Columbia Cartridge-Cell Unit, which is from two to three years; for example: if an old-style Battery Set in a building has given six months' service, and then requires renewal, put in a 50-ampere Multiple Service Set, which will give four times the service-life, and you have approximately the limit-life of the Columbia Cartridge-Cell Unit of two years, and a larger Battery Set would be of no practical advantage; if, however, the service-life of the old-style Battery Set was only three months, the wisest selection of a Multiple Service Outfit would be one that would give a service life of eight times three months, or twenty-four months, the average limit-life of a Columbia Cartridge-Cell Unit.

PATTERSON BATTERY SETS

Multiple-Service Types



Model "BM-25"



Model "BMR-26"

MULTIPLE-SERVICE TYPE, Model "BM"

This Outfit is designed for mounting on ceiling, under-side of shelf, or any similar place where holder may be screwed up solid. They are furnished with galvanized hinged-brackets, so they may be mounted against a side wall.

List No	No. of Rows	No. of Bat. Each Row	Operative Voltage	Initial Amp. Capacity	Approx. Size Over-All Height	Width	*List Price Each
BM-23.....	2	3	3	50	11½ ins.	4¼ ins.	\$9.00
BM-24.....	2	4	4	50	14½ ins.	4¼ ins.	12.00
BM-25.....	2	5	5	50	17½ ins.	4¼ ins.	15.00
BM-26.....	2	6	6	50	20½ ins.	4¼ ins.	18.00
BM-28.....	2	8	8	50	26½ ins.	4¼ ins.	24.00
BM-29.....	2	9	9	50	29½ ins.	4¼ ins.	27.00
BM-210.....	2	10	10	50	32½ ins.	4¼ ins.	30.00
BM-212.....	2	12	12	50	38½ ins.	4¼ ins.	36.00

MULTIPLE-SERVICE TYPE, Model "BMR"

This Outfit is equipped with backboard for mounting against side wall.

List No	No. of Rows	No. of Bat. Each Row	Operative Voltage	Initial Amp. Capacity	Approx. Size Over-All Height	Width	*List Price Each
BMR-23.....	2	3	3	50	22½ ins.	13½ ins.	\$15.20
BMR-33.....	3	3	3	75	30 ins.	13½ ins.	21.80
BMR-43.....	4	3	3	100	37½ ins.	13½ ins.	28.40
BMR-24.....	2	4	4	50	22½ ins.	16½ ins.	18.90
BMR-34.....	3	4	4	75	30 ins.	16½ ins.	27.10
BMR-44.....	4	4	4	100	37½ ins.	16½ ins.	35.30
BMR-54.....	5	4	4	125	45 ins.	16½ ins.	43.50
BMR-64.....	6	4	4	150	52½ ins.	16½ ins.	51.70
BMR-25.....	2	5	5	50	22½ ins.	19½ ins.	22.80
BMR-35.....	3	5	5	75	30 ins.	19½ ins.	32.70
BMR-45.....	4	5	5	100	37½ ins.	19½ ins.	42.60
BMR-55.....	5	5	5	125	45 ins.	19½ ins.	52.50
BMR-65.....	6	5	5	150	52½ ins.	19½ ins.	62.40
BMR-26.....	2	6	6	50	22½ ins.	22½ ins.	26.50
BMR-36.....	3	6	6	75	30 ins.	22½ ins.	38.00
BMR-46.....	4	6	6	100	37½ ins.	22½ ins.	49.50
BMR-56.....	5	6	6	125	45 ins.	22½ ins.	61.00
BMR-66.....	6	6	6	150	52½ ins.	22½ ins.	72.50

All Multiple-Service Battery Sets (except "BM") have individual circuit fuses, automatically protecting Battery Set in case of accidental short-circuit without disturbing operation of apparatus other than on the circuit in trouble.

Solid hard rubber Model "A" Strips in place of skeleton will be furnished when so ordered at an advance of \$1.20 list per cell unit.

No battery cells are included in the above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS


Model "BMC-36" Surface Steel
6 Volt—75 Amperes With Individual Circuit Fuse Plugs



Model "BMC-36" Flush Oak
**6 Volt—75 Amperes With Individual
 Circuit Fuse Plugs**

Batteries and Accessories



Model "BMC-24" Surface Oak
**4 Volt—50 Amperes With Individual
 Circuit Fuse Plugs**

PATTERSON BATTERY SETS

Multiple-Service Wall-Cabinet Types

SURFACE AND FLUSH TYPES, MODEL "BMC"

The Surface Type "BMC" Outfit is particularly adapted for installation in a finished building. Cabinets are made of polished quartered oak or black enameled steel, the steel cabinets being made in two grades: Grade "A," heavy $\frac{1}{8}$ inch steel with molding. Grade "B," $\frac{1}{4}$ inch sheet steel without molding.

The Flush Type Outfit is adapted for installation in a new building. Cabinet trims are polished quartered oak or black enameled steel, the steel trims being made in two grades: Grade "A," heavy $\frac{1}{8}$ inch steel with molding; Grade "B," $\frac{1}{4}$ inch sheet steel without molding.

Illustrations on opposite page shows clearly the detail of knife-switch jaws on backboard and blades carried by the hard-rubber holder, automatically throwing on to the side bus-bars the voltage and amperage of each row of cells.

These Multiple-Service Sets have individual circuit-fuses, automatically protecting Battery Set in case of accidental short-circuit, without disturbing operation of apparatus other than on the circuit in trouble; ample space is provided at top of cabinet for distribution of circuit wires and a sufficient number of terminal screws are provided, so that never more than one wire need be put under a single screw; each terminal is plainly numbered, so easy reference to various circuit connections can be made by consulting Circuit-Directory Frame on inside of cabinet door.

"BMC" Multiple-Service Cabinets of Surface Type or Flush Type are regularly made and carried in stock from sizes of 2 rows of 3 cells (3 volts, 50 amperes) up to 6 rows of 6 cells (6 volts, 150 amperes).

Surface oak, surface steel, flush oak, flush steel.

Larger sizes will be made to order at short notice and special cabinets with any combination of circuits required, both as to voltage and amperage, will be promptly made to order upon specification as to details.

If a "split-up" of the Battery Set is desired, provision can be made for this if specified in advance. For every "split" three inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system, 5 cells for "ringing" circuit or for annunciators, bells, etc., or a total of 8 cells per row in the Battery Set. When so specified, this or any "split-circuit" arrangement can be furnished.

List No.	No. of Rows	No. of Bat. Each Row	Operative Voltage	Initial Ampere Capacity	Surface Type			Flush Type		
					*List Price Each			*List Price Each		
					Pol. Oak Paneled Doors	Pressed Steel Grade A	Pressed Steel Grade B	Pol. Oak Paneled Doors	Pressed Steel Grade A	Pressed Steel Grade B
BMC-23.....	2	3	3	50	\$37.80	\$34.50	\$23.40	\$45.36	\$41.40	\$28.08
BMC-33.....	3	3	3	75	44.40	44.10	30.78	53.28	52.92	36.94
BMC-43.....	4	3	3	100	52.20	54.00	38.16	62.64	64.80	45.80
BMC-24.....	2	4	4	50	42.60	39.00	27.96	51.12	46.80	33.56
BMC-34.....	3	4	4	75	51.00	51.00	37.44	65.46	61.20	44.94
BMC-44.....	4	4	4	100	60.00	62.40	47.76	72.00	74.88	57.32
BMC-54.....	5	4	4	125	68.10	74.16	58.80	81.72	89.00	70.56
BMC-64.....	6	4	4	150	78.90	86.40	70.56	94.68	103.68	84.68
BMC-25.....	2	5	5	50	46.80	44.40	33.12	56.16	53.28	39.74
BMC-35.....	3	5	5	75	57.30	57.66	44.10	68.76	69.20	52.92
BMC-45.....	4	5	5	100	66.90	70.50	55.92	80.28	84.60	67.10
BMC-55.....	5	5	5	125	80.10	83.70	68.46	96.12	100.44	82.16
BMC-65.....	6	5	5	150	92.40	97.20	82.44	110.88	116.64	98.94
BMC-26.....	2	6	6	50	51.00	49.80	37.44	61.20	59.76	44.94
BMC-36.....	3	6	6	75	64.50	64.80	51.48	77.40	77.76	61.78
BMC-46.....	4	6	6	100	77.70	79.80	66.60	93.24	95.76	79.92
BMC-56.....	5	6	6	125	91.20	94.80	83.16	109.44	113.76	99.80
BMC-66.....	6	6	6	150	104.40	111.50	99.00	125.28	133.80	118.80

In ordering, always specify whether surface steel or surface oak, flush steel or flush oak is desired.

Drop-front doors will be regularly furnished on extra wide steel sets.

Double doors will be furnished on all oak cabinets.

All steel cabinets are furnished with substantial cylinder locks and two keys.

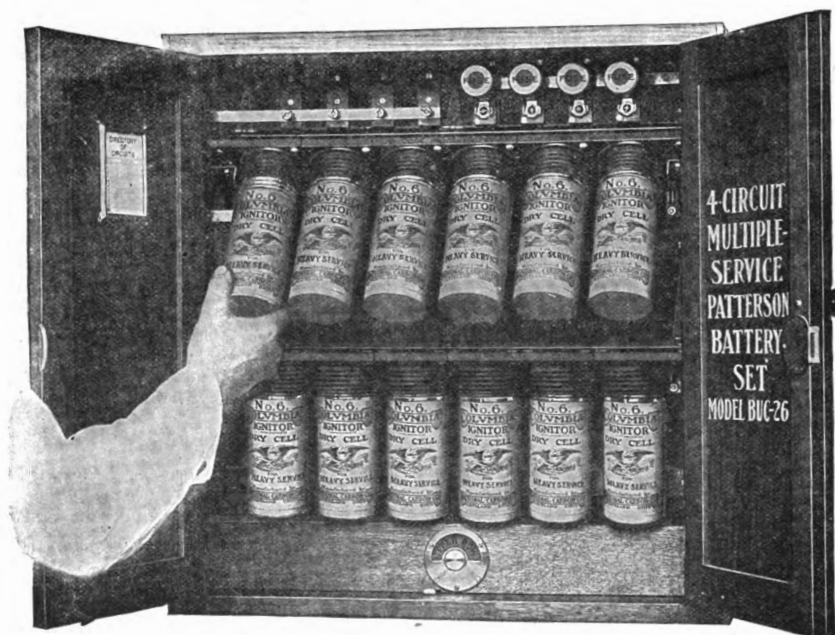
Standard finish of wood is quartered oak, hand rubbed; of steel, black enamel.

Special cabinets will be made to order at slight advance over regular prices shown above.

Solid hard-rubber Model "A" Strips in place of skeleton will be furnished in above Battery Sets, when so ordered, at an advance of \$1.20 per cell unit.

No battery cells are included in above prices.

*Delivery F. O. B., New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS


Model "BUC-26"

Wall-Cabinet Type Model "BUC"
4-Circuit Reserve Multiple-Service

These sets have a complete reserve battery, which may be thrown into circuit in any emergency. This reserve battery will operate all apparatus in a building which is connected to the battery outfit.

These sets are designed to permit, by simply turning a switch handle and reading dial of the switch, any combination of circuits that could possibly be required for the satisfactory operation of electrical apparatus in a building.

They are made in four types of cabinets: surface oak, surface steel, flush oak, flush steel.

All "BUC" Battery Sets have individual fuses, automatically protecting Battery Sets in case of accidental short-circuit without disturbing operation of apparatus other than on the circuit in trouble; also separate compartment for circuit wire distribution and connections as clearly shown in cut.

See following page for prices.
 Batteries and Accessories

PATTERSON BATTERY SETS

Wall-Cabinet Type, Model "BUC"

4-Circuit Reserve Multiple-Service

Single-Multiple Reserve Outfits, shown on previous pages, have not only the advantage of a complete reserve, available in case of necessity, but have in addition two (2) other "set-ups" which may in an instant be called into service, viz.: "Multiple-Series," "All-Series." These two "set-ups" are in addition to the Reserve feature; the complete range of battery "set-up" is as follows: "Upper Row in Circuit—Lower Row in Reserve," "Lower Row in Circuit—Upper Row in Reserve," "Multiple-Series," "All-Series."

The best connection for economical service in all these outfits is when the dial of the switch reads "Multiple-Series," and it is strongly recommended that the "Upper Row," "Lower Row" and "All-Series" connections be used only in case of emergency.

The "All-Series" connection is most advantageous when the Battery Set has been long neglected and the voltage of the same is down to a point where the electrical devices in a building are not operating satisfactorily; when such a condition exists, the switch should be turned to "All-Series," and with this "set-up" a lot of weak cells all connected together in series will give approximately normal voltage obtainable from the set at "Multiple-Series" when new.

When the "All-Series" connection becomes necessary, a new set of cells should be procured as promptly as possible.

List Prices and Data

TWO-ROW SETS—SINGLE-MULTIPLE RESERVE—WITH CONTROL SWITCH

List No.	No. of Cells	No. of Cells Each Row	Flush Type		Surface Type	
			Flush Steel Grade A	*List Price Each Flush Oak	Surface Steel Grade A	Surface Oak
BUC-24.....	8	4	\$75.60	\$79.92	\$63.00	\$66.60

"BUC-24" has the following combinations and capacities: 2 rows in multiple-series, 4 volts, 50 amperes; upper row in circuit, lower row in reserve, 4 volts, 25 amperes; lower row in circuit, upper row in reserve, 4 volts, 25 amperes; all in straight-series, 8 volts, 25 amperes.

BUC-25.....	10	5	\$82.08	\$84.96	\$68.40	\$70.80
BUC-26.....	12	6	88.56	90.00	73.80	75.00

"BUC-25" has same combinations as No. "BUC-24," except 5 volts. "BUC-26" has same combinations as No. "BUC-24," except 6 volts.

FOUR-ROW SETS—DOUBLE-MULTIPLE RESERVE—WITH CONTROL SWITCH

BUC-44½.....	16	4	\$103.68	\$100.80	\$86.40	\$84.00
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"BUC-44½" has the following combinations and capacities: 4 rows in multiple-series, 4 volts, 100 amperes; upper 2 rows multiple-series in circuit, lower 2 in reserve; lower 2 rows multiple-series in circuit, upper 2 in reserve; all in straight-series, 8 volts, 50 amperes.

BUC-45½.....	20	5	\$113.40	\$109.08	\$94.50	\$90.90
BUC-46½.....	24	6	124.56	122.04	103.80	101.70

"BUC-45½" has same combinations as No. "BUC-44½," except 5 volts; No. "BUC-46½" has same combinations as "BUC-44½," except 6 volts.

THREE-ROW SETS—TRIPLE-MULTIPLE RESERVE—WITH CONTROL SWITCH

BUC-34.....	12	4	\$90.00	\$90.00	\$75.00	\$75.00
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"BUC-34" has the following combinations and capacities: 3 rows in multiple-series, 4 volts, 75 amperes; upper and lower row in circuit, center row in reserve, 4 volts, 50 amperes; center and lower row in circuit, upper row in reserve, 4 volts, 50 amperes; center and upper row in circuit, lower row in reserve, 4 volts, 50 amperes.

BUC-35.....	15	5	\$98.00	\$97.56	\$81.66	\$81.30
BUC-36.....	18	6	106.56	106.20	88.80	88.50

"BUC-35" has same combinations as No. "BUC-34," except 5 volts; No. "BUC-36" has same combinations as "BUC-34," except 6 volts.

Battery Sets with circuit combinations to meet special requirements furnished to order.

In ordering, always specify whether surface steel or surface oak, flush steel or flush oak is desired.

No battery cells included in price.

*Delivery F. O. B., New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS

(Patented U. S. and Foreign Countries)

Intercommunicating Telephone Battery Sets

Intercommunicating Telephone installations require a "split-circuit" battery set, usually with 2, 3, 4, or 5 cells for talking, and 4, 5, and 6 or more cells for ringing. While this is a reasonably simple arrangement of circuits, still, in the old way of setting up batteries, a mistake was easily made. In a Patterson Battery Set, the renewal of the entire battery can be done by anybody, yet can only be done in one way, and that the right way, all without the slightest technical knowledge, and without tools.

Patterson Battery Sets, shown on the following pages, have the unique advantage, never possible before with the old-style battery sets, that once the circuit wires to "talking" and "ringing" circuits are connected, no necessity of ever disconnecting them can come up, and the renewal of the battery set is made just as easy as the renewal of a few incandescent lamps.

Inter-phone Patterson Battery Sets "BW-3-4-2," "BRW-3-4-2"

Patterson Battery Sets for W. E. Co. telephone apparatus should always be specified by adding letter "W" after the letters of model number.

"BW-3-4-2," "BSCW-3-4-2," "BMW-23-24-22," "BMRW-23-24-22," and "BMCW-23-24-22," are shown in detail in "Inter-phone and Accessory" Bulletin; they have in addition to "talking" and "ringing" battery combinations, "split" of 2 cells (in Multiple-sets, 4 cells), for operation of door-opener in apartment house work; it is suggested that careful reference to Inter-phone Bulletin be made for detail of Inter-phone Patterson Battery Sets.

The most generally used outfits are the models having 3 cells for "talking" and 5 cells for "ringing." For long lines, outfits with more cells for both "ringing" and "talking" are desirable, and for telephone installations where the use of system is frequent and severe, Multiple-Service Outfits are more economical. The following is a brief summary of Patterson Intercommunicating Telephone Battery Set Models, which are furnished "Series," "Multiple" and "Four-Circuit Reserve."

Series

Model "B-3+5," [W. E. No. "BW-3+5,"] 25-Ampere, without Box.

These and similar outfits are designed for mounting solid on ceiling or underside of shelf.

Model "BR-3+5," [W. E. No. "BRW-3+5,"] 25-Ampere, with Backboard.

These and similar outfits are furnished with backboards, having stationary circuit-wire terminals on the backboard. Illustration shows knife-blade contact arrangement permitting raising of holder for easy renewal of cells.

Model "BR-3+5," [W. E. No. "BRW-3+5,"] 25-Ampere, in Protecting Steel Box.

These and similar outfits are furnished with heavy steel cases for protecting the cells; they have bronze padlocks, and knife-blade contacts back of case, with stationary circuit-wire terminals.

Model "BSC-3+5," [W. E. No. "BSCW-3+5,"] 25-Ampere, in Cabinet.

These and similar models are cabinet outfits and are furnished in four styles of cabinets.

Multiple

"Multiple" outfits furnish 3 to 6 times the service of "Series" sets—4 to 8 times service old-style battery sets.

Model "BM-23+25," [W. E. No. "BMW-23+25,"] 50-Ampere, without Box.

These and similar outfits are designed for mounting solid on ceiling or under-side of shelf.

Model "BMR-23+25," [W. E. No. "BMRW-23+25,"] 50-Ampere, with Backboard.

These and similar outfits are mounted on a backboard with stationary knife-blade terminal contacts. They carry two independent sets of cells for "talking" and two independent set of cells for "ringing," three times the service of single-series sets. Both "talking" and "ringing" sets are protected by plug fuses.

Model "BMC-23+25," [W. E. No. "BMCW-23+25,"] 50-Ampere, in Cabinet.

These and similar outfits carry two sets of cells for "talking" and two independent sets of cells for "ringing," three times the service of single-series sets. Made also 75-ampere, giving six times the service of single-series sets. Both "talking" and "ringing" sets are protected by plug fuses.

Four-Circuit Reserve

Model "BUC-23+25," [W. E. No. "BUCW-23+25,"] 50-Ampere, in Cabinet.

These and similar outfits carry two sets of cells for "talking" and two independent sets of cells for "ringing," giving a complete, independent reserve equipment for both "talking" and "ringing," each protected by plug fuses. By simply turning handle of indicating-switch, the following changes of circuits can be made:

Upper row in circuit both "talking" or "ringing"—lower row in reserve.

Lower row in circuit both "talking" or "ringing"—upper row in reserve.

"Multiple-Series," three times the service of any other way—voltage of one row, but amperage of two rows.

"All-Series," emergency connection—will operate several weeks when possible with no other "set-up."

Model "BUR-23+25," [W. E. No. "BURW-23+25,"] 50-Ampere, with Backboard.

These outfits are similar to Model "BUC-23+25," described above, except that they are mounted on a backboard instead of in cabinet.

NOTE: Four-Circuit Combination Sets are furnished also with three rows of cells both for "ringing" and "talking"; capacity, 75 amperes. For detail of circuits see under "BUC-34."

PATTERSON BATTERY SETS

Series Strip-Type Models "B" and "BR"



Model "B-3+5"

MODEL "B" FOR INTER-PHONE SYSTEMS

These models are the simplest types of series outfits made. Although low in price, they have every electrical advantage of the simple series outfit. They are designed to be mounted solid on ceiling or under-surface of shelf.

Models "BW" for Western Electric inter-phone systems.

Models "B" for other makes Intercommunicating Telephones.

Models "BW" are the same as "B" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

List No.	No. Cells Each Row	Operative Voltage		Capacity Amperes	*List Price Each
		"Talking"	"Ringing"		
B-2+3.....	5	2	3	25	\$7.50
B-2+4.....	6	2	4	25	9.00
B-2+5.....	7	2	5	25	10.50
B-3+3.....	6	3	3	25	9.00
B-3+4.....	7	3	4	25	10.50
B-3+5.....	8	3	5	25	12.00
B-3+6.....	9	3	6	25	13.50
B-4+4.....	8	4	4	25	12.00
B-4+5.....	9	4	5	25	13.50
B-4+6.....	10	4	6	25	15.00

*Add letter "W" after initial letters of model number if set is to be used with W. E. Co. telephone apparatus.



Model "BR-3+5"

MODEL "BR" FOR INTER-PHONE SYSTEMS

These models have backboard so that the whole outfit may be mounted against a side-wall. Illustration shows full detail of the set, and nothing has been omitted to make the Model "BR" one of the best series outfits listed. Stationary terminals for circuit wires are mounted on backboard.

Models "BRW" for Western Electric inter-phone systems.

Models "BR" for other makes Intercommunicating Telephones.

Models "BRW" are the same as "BR" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

*List No.	No. Cells Each Row	Operative Voltage		Capacity Amperes	*List Price Each
		"Talking"	"Ringing"		
BR-2+3.....	5	2	3	25	\$12.50
BR-2+4.....	6	2	4	25	14.20
BR-2+5.....	7	2	5	25	15.70
BR-3+3.....	6	3	3	25	14.20
BR-3+4.....	7	3	4	25	15.70
BR-3+5.....	8	3	5	25	17.40
BR-3+6.....	9	3	6	25	18.90
BR-4+4.....	8	4	4	25	17.40
BR-4+5.....	9	4	5	25	18.90
BR-4+6.....	10	4	6	25	20.60

*Add letter "W" after initial letters of model number if set is to be used with W. E. Co. telephone apparatus.

No battery cells are included in above prices.

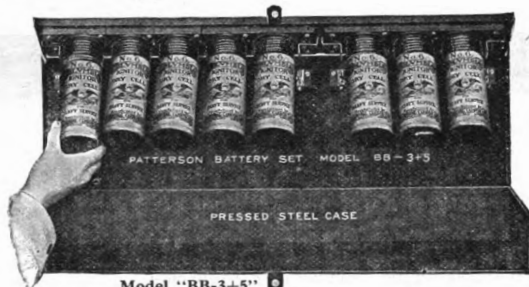
Solid hard-rubber Model "A" strips in place of skeleton will be furnished in above Battery Sets, when so ordered, at an advance of \$1.20 list per cell unit.

Larger outfits than listed above will be promptly furnished at proportionate prices.

*Delivery F. O. B., New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS

Series Box-Type, Models "BB" and "BSC"



Model "BB-3+5"

MODEL "BB" FOR INTER-PHONE SYSTEMS

"BB" outfits are provided with a substantial protecting-box of pressed steel, heavily japanned, bronze padlock, two keys, etc. These outfits are the best of the low-priced series models made. Models "BBW" for Western Electric inter-phone systems. Models "BB" for other makes Intercommunicating Telephones. Models "BBW" are the same as "BB" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

List No.	No. Cells Each	Operative Voltage "Talk- ing"	Capacity "Ring- ing" am- peres	*List Price Each
BB-2+3.....	5	2	3 25	\$15.30
BB-2+4.....	6	2	4 25	17.80
BB-2+5.....	7	2	5 25	19.30
BB-3+3.....	6	3	3 25	17.80
BB-3+4.....	7	3	4 25	19.30

List No.	No. Cells Each	Operative Voltage "Talk- ing"	Capacity "Ring- ing" am- peres	*List Price Each
BB-3+5.....	8	3	5 25	\$21.80
BB-3+6.....	9	3	6 25	23.30
BB-4+4.....	8	4	4 25	21.80
BB-4+5.....	9	4	5 25	23.30
BB-4+6.....	10	4	6 25	25.80



MODEL "BSC" FOR INTER-PHONE SYSTEMS

"BSC" outfits have well-made cabinets, provided with cylinder lock and two keys, and are furnished in both oak and steel, for surface or flush work. They are preferable to Model "BB" in design, but cost slightly more. Models "BSCW" for Western Electric inter-phone systems. Models "BSC" for other makes Intercommunicating Telephones. Models "BSCW" are the same as "BSC" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

List No.	No. Cells Each	Operative Voltage		*List Price Each	
		"Talking"	"Ringing"	Surface Oak	Flush Steel, Grade B
BSC-2+3.....	5	2	3	\$36.00	\$43.20
BSC-2+4.....	6	2	4	43.80	52.56
BSC-2+5.....	7	2	5	45.30	54.36
BSC-3+3.....	6	3	3	43.80	52.56
BSC-3+4.....	7	3	4	45.30	54.36
BSC-3+5.....	8	3	5	48.30	57.96
BSC-3+6.....	9	3	6	49.80	59.76
BSC-4+4.....	8	4	4	48.30	57.96
BSC-4+5.....	9	4	5	49.80	59.76
BSC-4+6.....	10	4	6	56.10	67.32
					39.60

In ordering, always specify whether surface oak, surface steel, flush oak or flush steel is desired. Drop front doors furnished on wide sets. No battery cells included in above prices.

* Delivery F. O. B., New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS
Multiple-Service Type, Models "BM" and "BMR"



Model "BM-23+25"

MODEL "BM" FOR INTER-PHONE SYSTEMS

These sets are Multiple-Service Outfits and are designed for mounting solid on ceiling or under-surface of shelf. Give four times the service of the old-style Battery Set.

Models "BMW" for Western Electric inter-phone systems.

Models "BM" for other makes Intercommunicating Telephones.

Models "BMW" are the same as "BM" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

List No.	No. Cells Each Row	Operative Voltage		Capacity Amperes	*List Price Each
		"Talking"	"Ringing"		
BM-22+23.....	5	2	3	50	\$15.00
BM-22+24.....	6	2	4	50	18.00
BM-22+25.....	7	2	5	50	21.00
BM-23+23.....	6	3	3	50	18.00
BM-23+24.....	7	3	4	50	21.00
BM-23+25.....	8	3	5	50	24.00
BM-23+26.....	9	3	6	50	27.00
BM-24+24.....	8	4	4	50	24.00
BM-24+25.....	9	4	5	50	27.00
BM-24+26.....	10	4	6	50	30.00



Model "BMR-23+25"

MODEL "BMR" FOR INTER-PHONE SYSTEMS

These sets are Multiple-Service Outfits with a backboard for mounting against side-wall. Give four times the service of the old-style Battery Set. Fuses protect both "talking" and "ringing" circuits. Models "BMRW" for Western Electric inter-phone systems. Models "BMR" for other makes Intercommunicating Telephones. Models "BMRW" are the same as "BMR" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

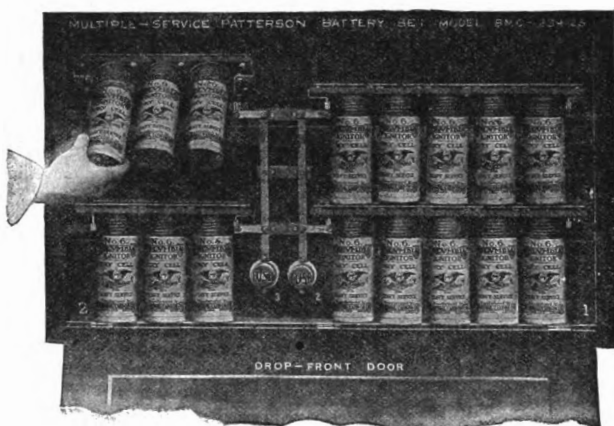
List No.	No. Cells Each Row	Operative Voltage		Capacity Amperes	*List Price Each
		"Talking"	"Ringing"		
BMR-22+23.....	5	2	3	50	\$25.00
BMR-22+24.....	6	2	4	50	28.20
BMR-22+25.....	7	2	5	50	31.40
BMR-23+23.....	6	3	3	50	28.20
BMR-23+24.....	7	3	4	50	31.40
BMR-23+25.....	8	3	5	50	34.60
BMR-23+26.....	9	3	6	50	37.80
BMR-24+24.....	8	4	4	50	34.60
BMR-24+25.....	9	4	5	50	37.80
BMR-24+26.....	10	4	6	50	41.00

No battery cells included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS

Multiple-Service Type



Model "BMC-23+25"

MODEL "BMC" FOR INTER-PHONE SYSTEMS

These sets are Multiple-Service Outfits in wall-cabinet form. They are furnished either 50- or 75-ampere capacity. The 50-ampere sets will give four times the service obtainable from the old-style Battery Set, and the 75-ampere, eight times the service.

Models "BMCW" for Western Electric inter-phone systems.

Models "BMC" for other makes Intercommunicating Telephones.

Models "BMCW" are the same as "BMC" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

Surface cabinets are particularly adapted to finished building construction, flush cabinets for new building work. Flush cabinets are more desirable if building conditions permit.

Steel cabinets are furnished in two grades, A and B. Always specify which is desired.

Both "talking" and "ringing" circuits are fused, so that in event of accidental short-circuit, the line in trouble will be automatically cut out without disturbing the other circuits or injuring the Battery Set in the slightest.

50-Ampere Outfits

List† No.	No. Cells Each Row	Operative Voltage “Talk” “Ring”	Ca- pacity Am- peres	*List Price Each						
				Surface Oak	Flush Oak	Steel, Grade A		Steel, Grade B		
						Surface Flush	Steel, Grade A Flush	Steel, Grade B Flush		
BMC-22+23.....	5	2	3	50	\$57.00	\$68.40	\$55.80	\$66.96	\$43.44	\$52.13
BMC-22+24.....	6	2	4	50	60.60	72.72	68.40	82.08	53.88	64.66
BMC-22+25.....	7	2	5	50	63.60	76.32	71.40	85.68	56.88	68.26
BMC-23+23.....	6	3	3	50	60.60	72.72	68.40	82.08	53.88	64.66
BMC-23+24.....	7	3	4	50	63.60	76.32	71.40	85.68	56.88	68.26
BMC-23+25.....	8	3	5	50	69.00	82.80	87.00	104.40	64.20	77.04
BMC-23+26.....	9	3	6	50	72.00	86.40	90.00	108.00	67.20	80.64
BMC-24+24.....	8	4	4	50	69.00	82.80	87.00	104.40	64.20	77.04
BMC-24+25.....	9	4	5	50	72.00	86.40	90.00	108.00	67.20	80.64
BMC-24+26.....	10	4	6	50	79.20	95.04	96.00	115.20	75.12	90.14

75-Ampere Outfits

BMC-33+33.....	6	3	3	75	\$81.30	\$97.56	\$90.60	\$108.72	\$75.24	\$90.29
BMC-33+34.....	7	3	4	75	85.80	102.96	93.60	112.32	78.24	93.80
BMC-33+35.....	8	3	5	75	95.10	114.12	112.20	134.64	90.00	108.00
BMC-33+36.....	9	3	6	75	99.60	119.52	115.20	138.24	93.00	111.60
BMC-34+36.....	10	4	6	75	109.20	131.04	126.00	151.20	105.12	126.14

†Add letter "W" after initial letters of model number if set is to be used with W. E. Co. telephone apparatus.

In ordering, always specify whether surface steel, surface oak, flush steel or flush oak is desired.

Double doors will be furnished on all surface oak cabinets; drop-front doors will be regularly furnished on extra wide steel sets; if double doors are wanted on extra wide steel sets, add 15% to above prices. All cabinets are furnished with substantial cylinder locks and two keys. Standard finish of wood is quartered oak, hand rubbed; of steel, black enamel. Solid hard rubber Model "A" strips in place of skeleton will be furnished, when so ordered, at an advance of \$1.20 list per cell unit.

No battery cells included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS **4-Circuit Reserve, Backboard Type Model "BUR"**



Model "BUR-23+25"

MODEL "BUR" FOR INTER-PHONE SYSTEMS

Model "BUR-23+25" (and similar) Outfits listed below are Four-Circuit Multiple-Service Outfits complete on a backboard for mounting on side-wall. They have two four-circuit switches, one controlling the "talking" circuit and giving four changes of battery "set-up" for the same; the other controlling independently the "ringing" circuit, giving also four changes of battery for that.

Models "BURW" for Western Electric inter-phone systems.

Models "BUR" for other makes Intercommunicating Telephones.

Models "BURW" are the same as "BUR" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "Carbon" of ringing battery—accurately complying with W. E. circuit standards.

The above sets are most advantageously operated with switches at "multiple-series" for both "talking" and "ringing."

Circuits are fused, so in event of accidental short-circuit, the line in trouble will automatically be cut out without disturbing the other line or injuring in the slightest the Battery Set.

These Multiple-Service Outfits will give four times the service for both "talking" and "ringing" that the old-style Battery Set gave, and with the four-circuit switch give a range of battery current that will take care of every emergency requirement of an Intercommunicating Telephone System.

Four-Circuit Outfits will, at slight additional cost, be furnished with 3 rows of cells—a capacity of 75 amperes.

List No.	No. Cells Each Row	Operative Voltage Combinations		Amperage Combinations	*List Price Each No. Cells
		"Talking"	"Ringing"		
BUR-22+23.....	5	2 or 4	3 or 6	50 or 25	\$40.00
BUR-22+24.....	6	2 or 4	4 or 8	50 or 25	46.90
BUR-22+25.....	7	2 or 4	5 or 10	50 or 25	50.40
BUR-23+23.....	6	3 or 6	3 or 6	50 or 25	46.90
BUR-23+24.....	7	3 or 6	4 or 8	50 or 25	50.40
BUR-23+25.....	8	3 or 6	5 or 10	50 or 25	54.80
BUR-23+26.....	9	3 or 6	6 or 12	50 or 25	58.30
BUR-24+24.....	8	4 or 8	4 or 8	50 or 25	54.80
BUR-24+25.....	9	4 or 8	5 or 10	50 or 25	58.30
BUR-24+26.....	10	4 or 8	6 or 12	50 or 25	62.20

*Add letter "W" after initial letters of model number if set is to be used with W. E. Co. telephone apparatus.

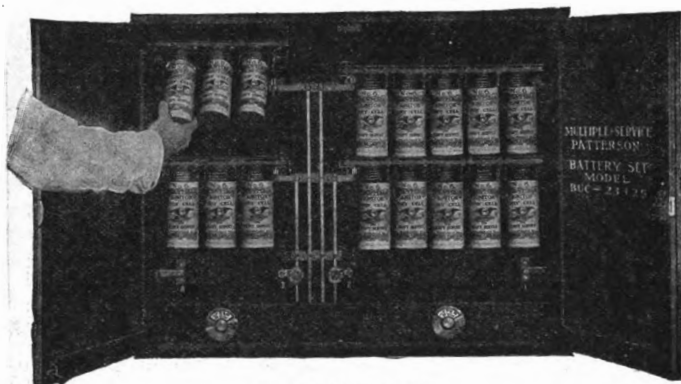
Solid hard-rubber Model "A" strips in place of skeleton will be furnished, when so ordered, at an advance of \$1.20 list per cell unit.

No battery cells included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS

4-Circuit Reserve Cabinet Type



Model "BUC-23+25"

MODEL "BUC" FOR INTER-PHONE SYSTEMS

Model "BUC-23+25" (and similar) Four-Circuit Multiple-Service Cabinet Battery Sets are the most comprehensive intercommunicating telephone sets imaginable.

Models "BUCW" for Western Electric inter-phone systems.

Models "BUC" for other makes intercommunicating telephones.

Models "BUCW" are the same as "BUC" in every particular, except that they are arranged with "Carbon" of talking battery strapped to "carbon" of ringing battery—accurately complying with W. E. circuit standards.

50-ampere outfits have complete reserve battery for both "ringing" and "talking," and also, by a turn of switch, may be run "multiple-series" or "straight-series," as the conditions of battery may demand.

75-ampere outfits have three reserve sets, or rather, two reserve, beyond the one which may be in service. This applies to both "talking" and "ringing" independently. The 75-ampere sets will, when run "multiple-series," give eight times the service, both "talking" and "ringing," the old-style Battery Set gave.

Above sets are most advantageously operated with switches at "multiple-series" for both "talking" and "ringing."

Circuits are fused, so in event of accidental short-circuit, the line in trouble will automatically be cut out without disturbing the other line or injuring in the slightest the Battery Set.

50-Ampere, Single-Multiple-Reserve Cabinet Sets with 2 Four-Circuit Control Switches

†List No.	No. Cells. Each Row	Operative Voltage		*List Price Each			
		"Talk."	"Ring."	Surface Oak	Flush Oak	Steel, Grade A Surface	Steel, Grade B Surface
BUC-22+23	5	2	3	\$97.00	\$116.40	\$95.80	\$114.96
BUC-22+24	6	2	4	100.60	120.72	108.40	130.08
BUC-22+25	7	2	5	103.60	124.32	111.40	133.68
BUC-23+23	6	3	3	100.60	120.72	108.40	130.08
BUC-23+24	7	3	4	103.60	124.32	111.40	133.68
BUC-23+25	8	3	5	109.00	130.80	127.00	152.40
BUC-23+26	9	3	6	112.00	134.40	130.00	156.00
BUC-24+26	10	4	6	119.20	143.04	136.00	163.20

75-Ampere, Triple-Multiple-Reserve with 2 Four-Circuit Control Switches

BUC-33+33	6	3	3	\$121.30	\$145.56	\$130.60	\$156.72	\$115.24	\$138.29
BUC-33+34	7	3	4	125.80	150.96	133.60	160.32	118.24	141.89
BUC-33+35	8	3	5	135.10	162.12	152.20	182.64	130.00	156.00
BUC-33+36	9	3	6	139.60	167.52	155.20	186.24	133.00	159.60
BUC-34+36	10	4	6	149.20	179.04	166.00	199.20	145.12	174.14

†Add letter "W" after initial letters of model number if set is to be used with W. E. Co. telephone apparatus.

In ordering, always specify whether surface steel, surface oak, flush steel or flush oak is desired.

Double doors will be furnished on all surface oak cabinets.

Drop-front doors will be regularly furnished on extra wide steel sets; add 15% to list for double doors.

All cabinets are furnished with substantial cylinder locks and two keys.

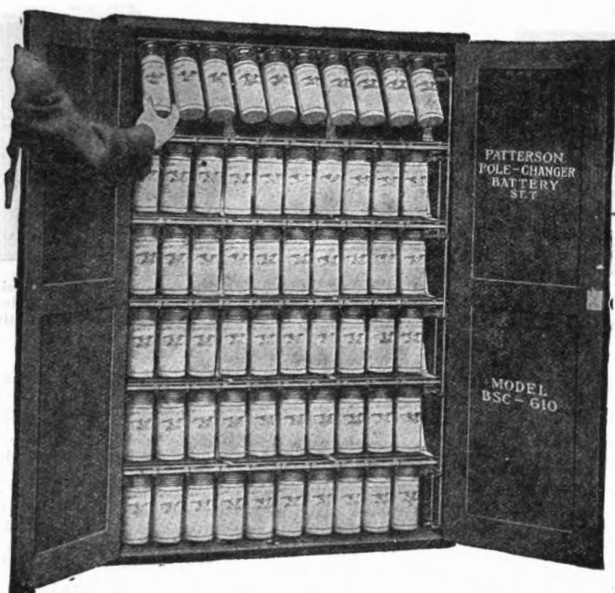
Standard finish of wood is quartered oak, hand rubbed; of steel, black enamel.

Solid hard rubber Model "A" Strips in place of skeleton will be furnished, when so ordered, at an advance of \$1.20 list per cell unit.

No battery cells included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS
Series Wall-Cabinet Types



Model "BSC-610"

For Telephone Pole-Changer Outfits

A Patterson Battery Set is a necessity for an up-to-date telephone exchange, where Pole-Changer Sets are used; also where large banks of batteries are used for other purposes.

They are regularly made and stocked in 60 and 80 cell capacities.

In large installations of battery cells the screw-top cartridge-cell unit is ideal.

We note below positive points of advantage of a Patterson Battery Set over the old-style battery "set-up" in Pole-Changer Outfits.

1. Loose connections absolutely impossible.
2. Broken wires absolutely impossible.
3. Positive contacts of ample carrying capacity.
4. Automatic bridge in each receptacle permits removal of cell without opening circuit and the "cutting-in" of an additional cell increasing voltage without opening circuit.
5. Entire set may be renewed and circuit never opened during whole operation.
6. Technical care or knowledge in handling Set unnecessary. Cells "cut-in" circuit or "cut-out" as easily as an incandescent lamp.
7. Only two terminals for line, and these on heavy copper plates found at both top and bottom of cabinet.
8. Amperage of individual cells may be tested without removing from holder, and a dead cell may be located without even an ammeter, if required.
9. Main line fuses protect battery set in case of accidental short-circuit.
10. 25 to 40 per cent. longer service than old-style.

Patterson Battery Sets for Pole-Changer installations cost a few dollars more than the old-style battery case with its tangled mass of wires, but completely do away with unnecessary maintenance expense.

List No.	No. of Rows	No. Bat. Each Row	Initial Amperage	Operative Voltage	Approx. Size, In.	Height	Width	Over-All Depth	*List Price Each Pressed Steel	
									Polished Oak	Grade B
BSC-610.....	6	10	25	60	51	36	5 1/4		\$153.60	\$159.48
BSC-810.....	8	10	25	80	65	35	5 1/4		204.80	212.64

In ordering, always specify whether surface steel or surface oak is desired.

Special cabinets will be made to order at slight advance over regular prices.

Separate strips with fittings will be furnished when it is desired to make up own cabinets.

No battery cells are included in above prices.

*Delivery F. O. B., New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS

For Motorboat and Auto Ignition



Boat and Auto Outfit Model "G-6"
 Quartered Oak Cabinet
 Polished Brass Fittings



Automobile Outfit Model "F-6"
 Pressed Steel Cabinet
 Polished Brass Fittings

CABINET MODELS

Patterson Battery Sets are made in forty (40) models for ignition service in the automobile and motorboat field.

In no place where battery is used are the conditions of service harder on a Battery Set than in automobile and motorboat work.

All outfits have emergency-clips on the under-side of hard-rubber plate, so that if a cartridge-cell unit is not available, the old-style binding-post battery may be readily used.

In a Battery Set (for motorboat and auto ignition) a screw-top cartridge battery cell, without wires or binding posts, screws into a solid hard-rubber plate, automatically making all connections. This hard-rubber plate, as shown in cut, forms a solid, substantial, waterproof cover for the battery box, and as all contacts are molded solid into this rubber plate, no possible loosening of connections, bad contacts, or trouble from dampness is possible. Battery cells are suspended from the hard-rubber plate, and do not rest on any surface where dampness can collect.

Each battery receptacle (except Multiple-Series Outfits) has its automatic bridge, permitting removal of an exhausted cell from the holder without interrupting the circuit.

Screw-threaded sockets in plate are renewable if ever necessity requires.

Soft-rubber gasket between plate and box guards effectually the entrance of water or dampness at this point.

Compression-lock-washer thumb-nuts provide means of forcing the hard-rubber plate down onto soft-rubber gasket with such heavy pressure that it cannot jar loose, or let water enter box.

Pressed steel outfits are regularly furnished with back-connected stud terminals and cushion-plungers under each cell, at no extra charge.

OAK CABINETS WITH COVERS—HIGHLY POLISHED

List No.	Double Row No. of Cells Capacity and Arrangement of Circuits	*List Price
		Each
G-6	6 cells, in series, 2 rows of 3	\$20.00
G-12	12 cells, 2 series of 6, 6 cells in each plate	40.00
GM-26	12 cells, 2 rows of 6, 2 sets of 6 cells in Multiple-Series	36.00
G-8	8 cells, in series, 2 rows of 4	25.00
G-16	16 cells, 2 series of 8, 8 cells in each plate	50.00
GM-24	8 cells, 2 rows of 4, 2 sets of 4 cells in Multiple-Series	25.00
GM-34	12 cells, 2 rows of 6, 3 sets of 4 cells in Multiple-Series	36.00
Single Row		
GL-4	4 cells, in series, in single row	19.00
GL-6	6 cells, in series, in single row	23.00
	Add for oak cabinets with 2 back stud connections, extra	5.00

PRESSED STEEL CABINETS—BLACK ENAMELED

Double Row		
F-6	6 cells, in series, 2 rows of 3	\$30.00
F-8	8 cells, in series, 2 rows of 4	37.00
FM-24	8 cells, 2 rows of 4, 2 sets of 4 cells in Multiple-Series	37.00
FM-26	12 cells, 2 rows of 6, 2 sets of 6 cells in Multiple-Series	53.00
FM-34	12 cells, 2 rows of 6, 3 sets of 4 cells in Multiple-Series	53.00

No battery cells are included in above prices.

Oak outfits have cushion-plungers under each cell but do not regularly have back-connected studs; same must, for oak outfits, be ordered specially. Price, \$2.50 net extra, per outfit.

Mahogany outfits will be furnished at same price as pressed steel cabinets. In ordering mahogany, designate as E-6, E-12, EM-26, etc.

*Delivery F. O. B., Factory, New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS



"GU-26" Outfit. 2 Sets of 6 Cells



Front View of Hard-Rubber Plate Model "GU-26,"
Showing Four-(4) Circuit-Control Switch

4-Circuit Reserve Models—Cabinet Types

For Motorboat and Automobile Ignition

4-Circuit Reserve Outfits are equipped with special 4-circuit-control rubber-gasketed dial switch, mounted in the center of plate. By means of this circuit-control switch every possible combination which can be used for ignition work is instantly available, and the last ampere of current can be gotten out of cells.

Models "GU-24" and "FU-24," "GU-26" and "FU-26" outfits are double set outfits; they may be run "Multiple-Series," which is best; the left set may be held in reserve, the right set cut into circuit; the right set may be held in reserve and the left set cut into circuit; as a fourth combination, if through long use of the battery, voltage of the set should be down to a point where the engine is missing explosions, switch may be turned "All-Series," which will throw the entire number of cells in straight series, giving, with a lot of weak cells, approximately normal voltage obtainable from four to six new cells. When this emergency connection becomes necessary, the motorist should, as promptly as possible, get a new set of cells.

Models "GU-34" and "FU-34," instead of being a double set of 6, carry 3 sets of 4 cells. These sets should also be run "Multiple-Series" as long as the three sets are of approximately even amperage. Should, however, the amperage of one set of 4's drop down below the others, the low set may be cut out of circuit and running continued on the other two good sets of 4's. "GU-34" and "FU-34" outfits give an approximate initial voltage of 6 and have a higher ampere-hour capacity than a 6-60 storage battery.

QUARTERED OAK CABINETS

Highly Polished

List No.	No. Cells Capacity and Arrangement of Circuits	*List Price Each
GU-24	8 cells in either Multiple-Series, 2-4's, Straight Series, 8, either 4 running, other 4 reserve.	\$32.00
GU-34	12 cells in either Multiple-Series, 3-4's. Right and left set (center set cut out). Center and right set (left set cut out). Center and left set (right set cut out).	43.00
GU-26	12 cells in either Multiple-Series, 2-6's, Straight Series, 12, either 6 running, other 6 reserve.	43.00

Add for oak cabinets with 2 back stud connections, extra net \$2.50.

PRESSED STEEL CABINETS

Enameled Black

List No.	No. Cells Capacity and Arrangement of Circuits	*List Price Each
FU-24	8 cells in either Multiple-Series, 2-4's, Straight Series, 8, either 4 running, other 4 reserve.	\$40.00
FU-34	12 cells in either Multiple-Series, 3-4's. Right and left set (center set cut out). Center and right set (left set cut out). Center and left set (right set cut out).	60.00
FU-26	12 cells in either Multiple-Series, 2-6's, Straight Series, 12, either 6 running, other 6 reserve.	60.00

NOTE: Mahogany outfits will be furnished at same price as pressed steel cabinets. In ordering mahogany, designate as "EU-24," "EU-34" and "EU-26."

Oak outfits have cushion-plungers under each cell, but do not regularly have back-connected studs; same must, for oak outfits, be ordered specially. Price, \$2.50 net extra per outfit.

Pressed steel and mahogany outfits are regularly furnished with back-connected stud terminals and cushion-plungers under each cell, at no extra charge.

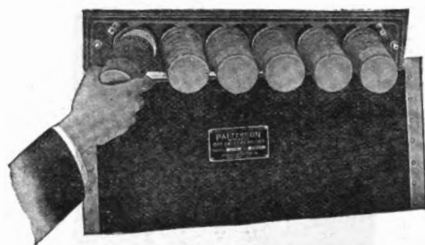
No battery cells are included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS



Motorboat Outfit
Model "C-6"



Motorboat Outfit Model "CL-6"
Plate Raised to Screw in Cells

Box Models for Motorboat and Auto Ignition

Cases are made of best grade clear oak, finished on the outside with three (3) coats of spar varnish. Over the entire inside surface of cabinet a heavy seamless layer of Neptune Semi-Rubber Compound is flowed, positively preventing any water whatever reaching the battery cells or interior of box. Box has heavy steel-bound corners, except "D" and "DW." Substantial leather carrying straps are provided.

Each battery receptacle has automatic bridge, permitting the removal of an exhausted cell from the holder without interrupting the circuit.

Screw-threaded sockets in plate may be renewed, if ever necessity requires, by simply removing screws holding re-enforcing plate in position.

Compression lock-washer thumb-nuts, well galvanized, make it possible to force the plate down onto soft-rubber gasket with such pressure that it cannot jar loose.

Emergency-clips are provided so old-style binding-post cell can be used any time Screw-Top Cells are not at hand.

All but "DW" have solid hard-rubber plates, but do not have box covers as Cabinet Types "G" and "GL" do.

Model "D" is a lower-priced outfit similar to Model "C" and has non-renewable zinc sockets, no automatic bridges, no steel corners.

Model "DW" is lowest-priced holder, with oak top in place of hard rubber as in other outfits on this page.

OAK CABINETS—DOUBLE ROW

List No.	No. Cells Capacity and Arrangement of Circuits	*List Price Each
C-6	6 cells, in series, 2 rows of 3	\$17.00
D-6	Same as above, differs slightly in fittings	13.00
DW-6	Same as above, except has oak top in place of hard rubber	10.00
DW-8	Same as above, except 8 cell series	13.00
C-12	12 cells, 2 series of 6, 6 cells in each plate	34.00
D-12	Same as above, differs slightly in fittings	26.00
CM-26	12 cells, 2 rows of 6, 2 sets of 6 cells in Multiple-Series	30.00
C-8	8 cells, in series, 2 rows of 4	20.00
D-8	Same as above, differs slightly in fittings	16.00
C-16	16 cells, 2 series of 8, 8 cells in each plate	40.00
D-16	Same as above, differs slightly in fittings	32.00
CM-24	8 cells, 2 rows of 4, 2 sets of 4 cells in Multiple-Series	20.00
CM-34	12 cells, 2 rows of 6, 3 sets of 4 cells in Multiple-Series	30.00

OAK CABINETS—SINGLE ROW

CL-4	4 cells, in series, in single row	\$15.00
CL-6	6 cells, in series, in single row	19.00
CL-24	8 cells, in single row, 2 terminals on 2 plates, 4 each, plates giving 2 series of 4 or 1 series of 8	30.00

NOTE. When above sets are to be used on automobile, same must be specified to obtain cushion-plunger equipment and the following additions made to prices shown above:

4- to 6-cell outfits, add \$1.00; 8-cell outfits, add \$1.50; 12-cell outfits, add \$2.00; 16-cell outfits, add \$2.50.

No battery cells are included in above prices.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

PATTERSON BATTERY SETS



Model "K-4" Motor Car Outfit
Plate in Position, Batteries Screwed In



Model "K-4" Motor Car Outfit
Case Removed, Cells Screwed In

Motor Car Battery Sets—Model "K"

Motor Car Model "K" is a low-priced model Battery Set, designed specially for use under the seat of a car where space is extremely limited.

Model "K-4" (4-cell outfit) is only $3\frac{1}{4}$ inches wide, $14\frac{3}{4}$ inches long and $8\frac{3}{8}$ inches high, and on account of its small size and extremely compact design can be used on almost any car, no matter how limited the available space for battery is.

Model "K" has the same hard-rubber plate with threaded receptacles on the under side of the plate as other outfits shown in bulletin. Terminal connections to the Battery Set are made by means of large Fahnestock Clips mounted direct on the under side of the hard-rubber plate.

To open the Battery Set, it is only necessary to slip off the two yoke pieces and lift up the box itself. When this is done, the batteries are exposed, and a complete set of new cells may be inserted and the box closed up again within a minute's time. There can be no loose contacts, no broken connections, no trouble from dampness or water; in fact, no battery trouble of any sort where these Model "K" outfits are used under the seat of a car.

All outfits are provided with carrying handles, as shown in illustration.

List No.	No. Cells in Series	Operative Voltage Volts	Initial Amperes	Outside Dimensions Inches	*List Price Each
K-4.....	4	4	25	$14\frac{3}{4} \times 8\frac{3}{8} \times 3\frac{1}{4}$	\$7.50
K-5.....	5	5	25	$17\frac{3}{4} \times 8\frac{3}{8} \times 3\frac{1}{4}$	9.00
K-6.....	6	6	25	$20\frac{3}{4} \times 8\frac{3}{8} \times 3\frac{1}{4}$	11.00

No battery cell included in price.

Screw-Top "Make-and-break" Spark Coils

For Use With Motorboat Outfits "C-8," "D-8" and "G-8"



Model No. 200
Make-and-break Coil

The necessity of keeping spark coils dry and protected from rain and spray is admitted by every boat owner. With these screw-top coils all trouble on this point is avoided.

The coils screw into plate and, when placed in position and plate clamped down on the rubber gasket, both coil and batteries are protected against dampness, spray or even complete immersion under water.

Make-and-break screw-top coils should be used with eight-cell single series outfits.

When coils are purchased at the same time as Battery Holder Cabinets, hard-rubber plates will regularly, without additional charge, be equipped with a third binding post, so that coil may be cut into circuit, independent of battery cells in cabinet. This is extremely desirable where a boat has more than one source of ignition, as coil can then be used with any of them.

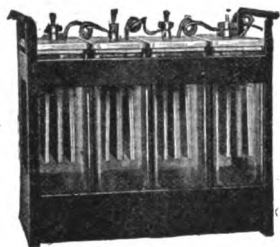
List No.	Length Over-all Inches	Diameter Inches	Weight Lbs.	*List Price Each
200	$6\frac{1}{8}$	$2\frac{1}{2}$	$4\frac{1}{4}$	\$10.00

Coil with No. 14 wire, Edison Type Winding.....
*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

Batteries and Accessories

EDISON PRIMARY BATTERIES

Their Use in Telephone Service



Typical of
EDISON TYPE 202 or 302
 Four Cell Battery in Tray
 Side View



EDISON TYPE 202 or 302
 Four Cell Battery in Tray
 End View

EDISON primary cells are made up in capacities from 150 to 600 ampere hours. They are suitable for circuits in which the flow of current is either continuous or intermittent; there is no deterioration while the battery is idle and no attention required between renewal periods.

Type 202: This cell is made up with a rectangular heat resisting glass jar, porcelain cover and regular 200 ampere hour element, electrolyte and oil. The rectangular jar allows the cells to be assembled compactly in a tray of various units as shown in accompanying illustration, which is furnished for four, five or six cells at a small additional cost. While the Type 202 cells will render good service on any telephone talking circuit, they are particularly suitable for intercommunicating telephone systems, railway way stations and single transmitters generally.

Type 302: This cell is made up with the regular 300 ampere-hour element, electrolyte and oil. The permanent parts are identical with Type 202 cell, excepting that the jar is one-half inch higher than the Type 202 jar. This is the lowest priced 300 ampere-hour cell in glass jar. It is recommended for intercommunicating telephone systems, small private branch exchanges, etc.

The Type 403 cell has a capacity of 400 ampere hours; the jar is porcelain, cylindrical in shape and is furnished with Type 400 element electrolyte and oil. This is the lowest priced 400 ampere hour cell, the jar being less expensive than those furnished with other cells of same capacity, but the current producing material is identical. For telephone transmitter circuits or similar service requiring a comparatively low discharge rate, and where the battery is not exposed to low temperatures the Type 403 is equal in efficiency to any of the 400 ampere hour cells.

The Type 403 cell is recommended for transmitter service in Local Battery Telephone Exchanges, Small Common Battery Telephone Systems, Private Branch Exchanges, Train Dispatchers' Offices, etc., also for Telephone Interrupters or Pole Changers, Supervisory Lamps, Trunk Line Relays, etc.

The Type 502 cell has a capacity of 500 ampere hours; it has a rectangular heat resisting glass jar and Type 500 element, electrolyte and oil. This cell is suitable for the same purposes for which the Type 403 is recommended. The shape of the cell is an item of importance when space is limited. The glass jar makes easy the task of inspecting, and as the approach of exhaustion is indicated by holes appearing in the zincs a convenient method for examining the plates is desirable.

The Type 505 cell has a capacity of 500 ampere hours; it has a round heat resisting glass jar and round cover, but in other respects is identical with the Type 502 cell.

Primary Batteries and Renewals

EDISON TYPE 202

Capacity 200 Ampere-hours

Size over all, $3\frac{1}{2} \times 6 \times 11\frac{3}{4}$. Jar only, inside $2\frac{1}{4} \times 5\frac{1}{4} \times 9\frac{1}{4}$.

List No.	Description	List Price Each
340371	Complete cell with rectangular heat resisting glass jar.	\$4.42
340372	Complete renewal.	2.66

Renewal Parts

340373	Zinc Oxide, assembled.	\$2.38
340374	Can Caustic Soda. ....	.28
340375	Bottle Special Battery Oil. ....	.11

Separate Parts

340376	Heat resisting glass jar, rectangular.	\$1.70
340377	Porcelain cover. ....	.52
340378	Set wing nuts and washer. ....	.44
340535	Tray for two cells.	2.72
340536	Tray for three cells.	3.06
340379	Tray for four cells.	3.40
340380	Tray for five cells.	3.74
340381	Tray for six cells.	4.08



Type 202 Cell

EDISON PRIMARY BATTERIES AND RENEWALS

200 HOUR-AMPERE TYPES—CONTINUED

TYPE 206

Size over all, $5\frac{3}{4} \times 9$ inches. Jar only, inside dimension $5 \times 7\frac{1}{2}$ inches.



Type No. 206

List No.	Description	List Price Each
340000	Complete Cell with Porcelain Jar and Hollow Rubber Gasket Ring.	\$4.08
340001	Complete Renewal.	2.56

Renewal Parts

340002	Zinc-Oxide, assembled.	\$2.38
340003	One Can Caustic Soda. . . . .	.28
340004	One Bottle Special Battery Oil. . . . .	.11

Adapted for motor boats. Use five cells for single cylinder; six cells for multiple cylinder, make-and-break engines. Use eight cells for jump-spark.
Cover is fitted with a hollow rubber gasket to prevent splashing.

TYPE 207

Size over all, $5\frac{1}{2} \times 8\frac{3}{4}$ inches. Jar only, inside dimension 5×7 inches.



Type No. 207

List No.	Description	List Price Each
340005	Complete Cell with Enameled Steel Jar and Solid Rubber Gasket Ring. . . .	\$5.28
340006	Complete Renewal.	2.56

Renewal Parts

340002	Zinc-Oxide, assembled.	\$2.38
340003	One Can Caustic Soda. . . . .	.28
340004	One Bottle Special Battery Oil. . . . .	.11

Adapted for motor boats running on fresh water; portable gasoline engines, and other light portable work. Use five cells for single cylinder, make-and-break engines; six cells for multiple cylinder, high speed, make-and-break engines. Use eight cells for jump-spark.

Cells with steel jars are not recommended for use on salt water, because of the corrosive effect of salt air and salt water on the metal jars.

TYPE 208

Size over all, 6×9 inches. Jar only, inside dimension $5 \times 7\frac{1}{2}$ inches. .



Type No. 208

List No.	Description	List Price Each
340007	Complete Cell with Porcelain Jar.	\$3.74
340008	Complete Renewal.	2.56

Renewal Parts

340002	Zinc-Oxide, assembled.	\$2.38
340003	One Can Caustic Soda. . . . .	.28
340004	One Bottle Special Battery Oil. . . . .	.11

Adapted for stationary gas or gasoline engines, small motors, burglar alarms, bell systems, program and self-winding clocks, annunciators, electric Time stamps, mine signals, intercommunicating telephone systems, talking circuits for way station telephones in railway train dispatching systems, etc.

Use five cells for stationary engines having make-and-break ignition. Use eight cells for stationary engines having jump-spark ignition.

TYPE 212

Size over all, $3\frac{1}{2} \times 6 \times 11\frac{1}{4}$ inches. Jar only, inside dimension $2\frac{3}{8} \times 5\frac{1}{4} \times 9\frac{1}{2}$ inches.

List No.	Description	List Price Each
340537	Complete cell with heat resisting glass jar and rubber gasket.	\$5.10
340538	Complete renewal.	2.56

Renewal Parts

340002	Zinc-Oxide, assembled.	\$2.38
340003	One Can Caustic Soda. . . . .	.28
340004	One Bottle Special Battery Oil. . . . .	.11

This cell is the same as type 202 excepting that it is splash-proof when in trays with clamping attachments. Adapted for the same purposes as Type 206.

Note: Terminal nuts are not supplied with renewals. With numbered types zincs and oxides are not furnished separately; these plates are only supplied assembled in frame with suspension bolt attached.

EDISON PRIMARY BATTERIES AND RENEWALS

300 Ampere-Hour Types



Type No. 302

TYPE 302

Size over all $3\frac{1}{4} \times 6 \times 12\frac{1}{2}$ inches. Jar only, inside dimension $2\frac{1}{8} \times 5\frac{1}{4} \times 10$ inches.

List No.	Description	List Price Each
340539	Complete cell, with heat resisting glass jar.....	\$5.10
340540	Complete renewal.....	3.06

Renewal Parts

340012	Zinc-oxide, assembled.....	\$2.90
340013	One can Caustic Soda.....	.34
340014	One bottle Special Battery Oil.....	.11

For stationary gas or gasoline engines, burglar alarms, bell systems, program and self-winding clocks, intercommunicating telephone systems, fire alarms, etc.



Type No. 305

TYPE 305

Size over all $6\frac{1}{4} \times 10\frac{1}{4}$ inches. Jar only, inside dimension 6×8 inches.

340009	Complete cell, with porcelain jar.....	\$5.44
340010	Complete cell, with heat resisting glass jar.....	5.78
340011	Complete renewal.....	3.06

Renewal Parts

340012	Zinc-oxide, assembled.....	\$2.90
340013	One can Caustic Soda.....	.34
340014	One bottle Special Battery Oil.....	.11

Adapted for stationary gas or gasoline engines, burglar alarms, bell systems, program and self-winding clocks, intercommunicating telephone systems, auxiliary fire alarm circuits, etc.

TYPE 309

Size over all $5\frac{3}{4} \times 12\frac{3}{4}$ inches. Jar only, inside dimension $5\frac{1}{4} \times 10\frac{1}{4}$ inches.

List No.	Description	List Price Each
340015	Complete cell with porcelain jar.....	\$5.62
340016	Complete renewal.....	3.06

Renewal Parts

340012	Zinc-oxide, assembled.....	\$2.90
340013	One can Caustic Soda.....	.34
340014	One bottle Special Battery Oil.....	.11

Adapted for battery fan motors, small battery motors, program and self-winding clocks, burglar alarms, fire alarms, electro-plating, chemical analysis, and other school work.



Type No. 309

EDISON PRIMARY BATTERIES AND RENEWALS

400 Ampere-hour Types

TYPE 401

Size over all $6\frac{3}{4} \times 12\frac{1}{2}$ inches. Jar only, inside dimension $6 \times 10\frac{1}{2}$ inches.

List No.	Description	List Price Each
340017	Complete cell, with porcelain jar.....	\$6.46
340018	Complete cell, with heat resisting glass jar.....	6.64
340019	Complete renewal.....	3.40

Renewal Parts

340020	Zinc-oxide, assembled.....	\$3.24
340262	One can Caustic Soda.....	.42
340263	One bottle Special Battery Oil.....	.11

For railway signals, crossing bells, battery motors, telephone train dispatcher's talking circuits, etc.

TYPE 402

Size over all $5\frac{3}{8} \times 6\frac{3}{8} \times 12\frac{1}{4}$ inches. Jar only, inside dimension $5 \times 6 \times 10\frac{1}{2}$ inches.

List No.	Description	List Price Each
340265	Complete cell, with heat resisting glass jar.....	\$6.64
340019	Complete renewal.....	3.40

Renewal Parts

340020	Zinc-oxide, assembled.....	\$3.24
340262	One can Caustic Soda.....	.42
340263	One bottle Special Battery Oil.....	.11

TYPE 403

Size over all $7\frac{1}{2} \times 10\frac{3}{4}$ inches. Jar only, inside dimension $6\frac{5}{8} \times 8\frac{3}{4}$ inches.

List No.	Description	List Price Each
340267	Complete cell, with porcelain jar.....	\$6.12
340019	Complete renewal.....	3.40

Renewal Parts

340020	Zinc-oxide, assembled.....	\$3.24
340262	One can Caustic Soda.....	.42
340263	One bottle Special Battery Oil.....	.11

For railway crossing signals, mine signals, fire alarms, burglar alarms, program and self-winding clocks, small common battery telephone exchanges, private branch exchanges, intercommunicating telephones, pole changers, supervisory lamps, trunk line relays, telephone train dispatchers' talking circuits, etc.

TYPE 404

Size over all $7 \times 11\frac{1}{2}$ inches.

List No.	Description	List Price Each
340268	Complete cell, with barrel shape heat resisting glass jar.....	\$6.46
340019	Complete renewal.....	3.40

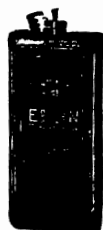
Renewal Parts

340020	Zinc-oxide.....	\$3.24
340262	One can Caustic Soda.....	.42
340263	One bottle Special Battery Oil.....	.11

Suitable for all purposes for which Types 401 and 403 are recommended. It is more efficient than Type 403 because of better location of plates, and when not exposed to extreme cold is fully as good as Type 401. The jar has greater mechanical strength than glass jars with straight sides.



Type No. 401



Type No. 402



Type No. 403



Type No. 404

EDISON PRIMARY BATTERIES AND RENEWALS
500 Ampere-hour Types

Type 501—Glass
TYPE 501

 Size over all $6\frac{3}{4} \times 12\frac{1}{2}$ inches. Jar only, inside dimensions $6 \times 10\frac{1}{2}$ inches.

List No.	Description	List Price Each
340542	Complete cell, with heat resisting glass jar.....	\$6.98
340543	Complete renewal.....	3.74

Renewal Parts

340544	Zinc-Oxide, assembled.....	\$3.58
340545	One can caustic soda.....	.46
340546	One bottle special battery oil.....	.11

For railway signals, crossing bells, battery motors, telephone train dispatchers' talking circuits, etc.

TYPE 502

 Size over all, $5\frac{3}{8} \times 6\frac{3}{8} \times 12\frac{1}{4}$ inches. Jar only, inside $5 \times 6 \times 10\frac{1}{2}$ inches.

Type 502

List No.	Description	List Price Each
340547	Complete cell, with rectangular heat resisting glass jar.....	\$6.98
340548	Complete renewal.....	3.74

Renewal Parts

340544	Zinc-Oxide, assembled.....	\$3.58
340545	One can caustic soda.....	.46
340546	One bottle special battery oil.....	.11

Recommended for railway signals, crossing bells, battery motors, and especially for talking circuits in dispatchers' offices, for electro-mechanical interlocking plants and for automatic signals.

The advantage of the rectangular jar is that a greater number of cells may be housed in a given space than is possible with round jars.

TYPE 504

 Size over all $7 \times 11\frac{1}{2}$ inches.

Type 504

List No.	Description	List Price Each
340549	Complete cell, with barrel shape heat resisting glass jar.....	\$6.88
340550	Complete renewal.....	3.7

Renewal Parts

340544	Zinc-Oxide.....	\$3.58
340545	One can caustic soda.....	.46
340546	One bottle special battery oil.....	.11

Suitable for all purposes for which type 501 is recommended. It is more efficient because of better location of plates, and when not exposed to extreme cold is fully good as type 501. The jar has greater mechanical strength than glass jars with straight sides.

TYPE 505

 Size over all, $7\frac{1}{2} \times 11\frac{1}{2}$ inches. Jar only, inside $6\frac{3}{4} \times 9\frac{1}{2}$ inches.

Type 505

List No.	Description	List Price Each
340551	Complete cell, with round heat resisting glass jar.....	\$7.3
340552	Complete renewal.....	3

Renewal Parts

340544	Zinc-Oxide assembled.....	\$3
340545	One can caustic soda.....	
340546	One bottle special battery oil.....	

R. S. A. SIGNAL CELL

Types 501 and 504 conform to Railway Signal Association Specifications copper-oxide, zinc and soda primary battery, known as RSA Signal Cell.

PRIMARY BATTERIES AND RENEWALS

Edison Cells—Old Types

TYPE BB

Size over all 5 x 9 inches. Jar only, inside dimension $4\frac{1}{4}$ x $7\frac{1}{4}$ inches.



Type BB

List No.	Description	List Price Each
340266	Complete cell, with porcelain jar.....	\$3.40
340275	Complete renewal.....	1.54

Renewal Parts

340276	One Copper-Oxide Plate.....	\$0.68
340277	One double Zinc Plate.....	.68
340278	One can Caustic Soda.....	.26
340279	One bottle Special Battery Oil.....	.08

Adapted for slot machines, small stationary engines, bell circuits, annunciators, intercommunicating telephones, and other low current work. Not designed for portable or marine work as this cell is not liquid tight or splash proof, being intended only for stationary purposes.

TYPE V

Size over all 6 x $8\frac{1}{2}$ inches. Jar only, inside dimension 5 x 7 inches.



Type V

List No.	Description	List Price Each
340281	Complete cell, with enameled steel jar.....	\$5.78
340282	Complete renewal.....	1.88

Renewal Parts

340283	One Copper-Oxide Plate.....	\$0.86
340284	One double Zinc Plate.....	.86
340285	One can Caustic Soda.....	.28
340286	One bottle Special Battery Oil.....	.11

Adapted for motor boats running on fresh water, portable engines, and other light portable work.

TYPE VP

Capacity 150 Ampere-hours

List No.	Description	List Price Each
340287	Complete cell, with porcelain jar.....	\$4.08
340288	Complete renewal.....	1.88

Renewal Parts

340283	One Copper-Oxide Plate.....	\$0.86
340284	One double Zinc Plate.....	.86
340285	One can Caustic Soda.....	.28
340286	One bottle Special Battery Oil.....	.11

Adapted for motor boats running on salt water.

Type VP is the same as Type V except that it is equipped with a porcelain instead of an enameled steel jar.

NOTE: Types 207 and 206 respectively are recommended in preference to Types V or VP because of higher efficiency, greater capacity, lower maintenance cost, and better construction.

Type V Cells, when exhausted, may be converted into Type 207 by securing Type 200 renewals with Type 207 covers and nuts, and discarding the old Type V covers and frames with the exhausted elements.

Type VP Cell may be converted into Type 206 by securing Type 200 renewals with Type 206 covers and nuts.



Type VP

PRIMARY BATTERIES AND RENEWALS

Edison Cells—Old Types

TYPE Q

Size over all, 6 x 9 inches. Jar only, inside dimension 5 x 7½ inches.



Type Q

List No.	Description	Capacity, 150 Ampere-hours	List Price Each
340289	Complete Cell with Porcelain Jar		\$3.74
340290	Complete Renewal		1.70
Renewal Parts			
340291	1 Copper-Oxide Plate		\$0.86
340292	2 Zinc Plates (each \$0.34)		.68
340293	1 can Caustic Soda		.28
340294	1 bottle Special Battery Oil		.11

Adapted for stationary gas and gasoline engines, small motors, burglar alarms, bell systems, mine signals, intercommunicating telephone systems, etc.

Note: Type 208 Cell is recommended in preference to Type Q because of higher efficiency, greater capacity, lower maintenance cost, and better construction.

Type Q Cells, when exhausted, may be converted into Type 208 Cells by securing Type 200 renewals with Type 208 covers and nuts, and discarding the old Type Q covers and frames with the exhausted elements.

TYPE RR

Size over all, 7½ x 10¼ inches. Jar only, inside dimension 6½ x 8¾ inches.



Type RR

List No.	Description	Capacity, 300 Ampere-hours	List Price Each
340295	Complete Cell, with Porcelain Jar		\$5.62
340296	Complete Renewal		2.90
Renewal Parts			
340297	1 Copper-Oxide Plate		\$1.46
340298	2 Zinc Plates (each \$0.60)		1.20
340299	1 can Caustic Soda		.42
340300	1 bottle Special Battery Oil		.11

Adapted for stationary gas engines, railroad crossing signals, mine signals, electroplating, fire alarms, burglar alarms, small common battery and private branch telephone exchanges, intercommunicating telephone systems, telephone interrupters, supervisory lamps, trunk line relays, etc.

Note: Types 403, 302 or 305 are recommended in preference to Type RR, because of higher efficiency, greater capacity, lower maintenance cost and better construction.

Type RR Cells, when exhausted, may be converted into Type 403 Cells by securing Type 400 renewals with Type 403 covers and nuts and discarding the old type RR covers and frames with exhausted elements.

TYPE S

Size over all, 5¼ x 12¼ inches. Jar only, inside dimension 5½ x 10½ inches.



Type S

List No.	Description	Capacity, 300 Ampere-hours	List Price Each
340301	Complete Cell, with Porcelain Jar		\$6.64
340302	Complete Renewal		3.18
Renewal Parts			
340303	2 Copper-Oxide Plates (each \$0.85)		\$1.70
340304	2 Zinc Plates (each \$0.68)		1.36
340305	1 can Caustic Soda		.34
340306	1 bottle Special Battery Oil		.11

Adapted for fan motors, electroplating, chemical analysis, etc.

Note: Type 309 is recommended in preference to Type S because of higher efficiency, lower maintenance cost, and better construction.

Type S Cells, when exhausted, may be converted into Type 309 Cells by securing Type 300 renewals with Type 309 covers and nuts, and discarding the old Type S covers and frames with exhausted elements.

PRIMARY BATTERIES AND RENEWALS

Edison Cells—Old Types

TYPE W

Size over all 7¼ x 15 inches. Jar only, inside dimension 7 x 13½ inches.

Capacity 600 Ampere-hours



Type W

List No.		List Price Each
340310	Complete Cell with Porcelain or Heat Resisting Glass Jar.....	\$11.05
340311	Complete Renewal.....	5.10

Renewal Parts

340312	Two Copper-Oxide Plates (each \$1.46).....	\$2.92
340313	Two Zinc Plates (each \$0.86).....	1.72
340314	One can Caustic Soda.....	.68
340315	One bottle Special Battery Oil.....	.14

Adapted for battery motors, dental engines, light electro-cautery work, X-Ray, wireless telegraph coils, telephone interrupters, small common battery and private branch exchange telephone switchboards, supervisory lights, trunk line relays, talking circuits, etc.

Complete Summary of Edison Primary Batteries, Renewals and Plates

Type of Cell	Ampere Hour Capacity	Complete Cell	Complete Renewal	Zinc Oxide Assembled	One Charge Copper-Oxide Plate or Plates	One Charge Zinc Plate or Plates	One Can Caustic Soda	One Bottle Special Oil	Round Porc. Jar	Round Heat Resisting Glass Jar	Rectangular Heat Resisting Glass Jar
202 Glass	200	\$4.42	\$2.56	\$2.38	.....	.....	\$0.28	\$0.11	.....	.....	\$1.70
206 Porc.	200	4.08	2.56	2.38	.....	.....	.28	.11	\$1.02	.....	.....
207 Steel	200	5.78	2.56	2.38	.....	.....	.28	.11	.....	.....	.....
208 Porc.	200	3.74	2.56	2.38	.....	.....	.28	.11	1.02	.....	.....
212 Glass	200	6.12	2.56	2.38	.....	.....	.28	.11	.....	.....	1.70
302 Glass	300	5.10	3.08	2.90	.....	.....	.34	.11	.....	.....	1.87
305 Porc.	300	5.44	3.08	2.90	.....	.....	.34	.11	1.70	.....	.....
305 Glass	300	5.78	3.08	2.90	.....	.....	.34	.11	.....	\$2.04	.....
309 Porc.	300	5.62	3.08	2.90	.....	.....	.34	.11	2.04	.....	.....
401 Porc.	400	6.46	3.40	3.24	.....	.....	.42	.11	2.38	.....	.....
401 Glass	400	6.64	3.40	3.24	.....	.....	.42	.11	.....	2.56	.....
402 Glass	400	6.46	3.40	3.24	.....	.....	.42	.11	.....	.....	2.56
402 Porc.	400	6.12	3.40	3.24	.....	.....	.42	.11	2.04	.....	.....
404 Glass	400	6.46	3.40	3.24	.....	.....	.42	.11	.....	2.38	.....
501 Glass	500	6.98	3.74	3.58	.....	.....	.46	.11	.....	2.56	.....
502 Glass	500	6.98	3.74	3.58	.....	.....	.46	.11	.....	.....	2.72
504 Glass	500	6.80	3.74	3.58	.....	.....	.46	.11	.....	.....	.....
505 Glass	500	7.30	3.74	3.74	.....	.....	.46	.11	.....	2.56	.....
BB Porc.	100	3.40	1.54	.....	\$0.68	\$0.68	.24	.09	.....	.86	.....
Q Porc.	150	3.74	1.70	.....	.86	.68	.28	.11	1.02	.....	.....
V-P Porc.	150	4.08	1.87	.....	.86	.86	.28	.11	1.02	.....	.....
V Steel	150	5.78	1.87	.....	.86	.86	.28	.11	.....	.....	.....
RR Porc.	300	5.62	2.90	.....	1.46	1.20	.42	.11	1.70	.....	.....
S Porc.	300	6.64	3.18	.....	1.70	1.36	.34	.11	2.04	.....	.....
W	600	11.06	5.10	.....	2.90	1.70	.68	.14	5.10	5.10	.....

Type of Cell	Ampere Hour Capacity	Barrel Shaped Heat Resisting Glass Jar	Enameled Steel Jar	Porc. Cover	Rubber Gasket	Copper Frames With Insulators Complete	Long Brass Bolts and Nuts for Zincs	Copper Frame Sides 2 Per Cell	Copper Frame Bolts and Nuts	Brass Air Vents and Nuts
202 Glass	200	.....	.....	\$0.52	.....	.....	.....	.....	.....	.....
206 Porc.	200	.....	.....	.68	\$0.44	.....	.....	.....	.....	.....
207 Steel	200	.....	\$2.38	.68	.44	.....	.....	.....	.....	.....
208 Porc.	200	.....	.....	.80	.....	.....	.....	.....	.....	.....
212 Glass	200	.....	.....	.52	.44	.....	.....	.....	.....	.....
302 Glass	300	.....	.....	.52	.....	.....	.....	.....	.....	.....
305 Porc.	300	.....	.....	.77	.....	.....	.....	.....	.....	.....
305 Glass	300	.....	.....	.77	.....	.....	.....	.....	.....	.....
309 Porc.	300	.....	.....	.60	.....	.....	.....	.....	.....	.....
401 Porc.	400	.....	.....	.77	.....	.....	.....	.....	.....	.....
401 Glass	400	.....	.....	.77	.....	.....	.....	.....	.....	.....
402 Glass	400	.....	.....	.60	.....	.....	.....	.....	.....	.....
402 Porc.	400	.....	.....	.86	.....	.....	.....	.....	.....	.....
404 Glass	400	\$2.22	.....	.77	.....	.....	.....	.....	.....	.....
501 Glass	500	.....	.....	.77	.....	.....	.....	.....	.....	.....
502 Glass	500	.....	.....	.60	.....	.....	.....	.....	.....	.....
504 Glass	500	.....	.....	.60	.....	.....	.....	.....	.....	.....
505 Glass	500	2.38	.....	.77	.....	.....	.....	.....	.....	.....
BB Porc.	100	.....	.....	.86	.....	.....	.....	.....	.....	.....
Q Porc.	150	.....	.....	.60	.....	\$0.77	.....	\$0.34	\$0.17	.....
V-P Porc.	150	.....	.....	.60	.44	.77	\$0.26	.34	.17	.....
V Steel	150	.....	.....	.60	.44	.77	.....	.34	.17	\$0.17
RR Porc.	300	.....	2.38	.60	.....	.77	.26	.34	.17	.17
S Porc.	300	.....	.....	.86	.....	.77	.26	.52	.34	.....
W	600	.....	.....	.60	.....	1.02	.26	.68	.34	.....

Miscellaneous Separate Parts

Terminal Nuts and Washers, per cell.....	\$0.44
Large Wing Nuts, each.....	.17
Hexagon Jamb Nuts, each.....	.09
Nuts, other sizes.....	.09
Brass Washers, each.....	.09
Double Connectors, each.....	.17
Hard Rubber Insulators (used with lettered types only), each.....	.09

In ordering rubber gaskets, be careful to state exactly the type of cell for which they are required.

STANDARD BATTERIES



No. 2



No. 3

No. 2 Samson Battery

Size Over All 8 x 4½ x 4½ Inches

This is regular or circular zinc form of battery. The cell has a voltage of from 1.40 to 1.47, and an amperage on short circuit of from 12 to 16 amperes. This cell is adapted for gas lighting, telephone, gas engines, railway signals, and all special work requiring a battery having great initial strength and capable of quick recovery after hard work.

List Prices and Data

Description	Std. Pkg.	*List Price	Description	Std. Pkg.	*List Price
Complete regular.....	50	\$2.00	Jar.....	50	\$0.20
Carbon.....	50	1.30	Salammoniac.....	200	.15
Cover.....	100	.16	Zinc regular.....	100	Special
			Star Fender No. 2.....	200	.10

No. 3 Samson Battery

Size Over All 8½ x 5½ Inches

This style battery has much greater strength and larger current output than the No. 2. It is desirable, therefore, for all purposes where great endurance is needed. The zinc is of very heavy gauge, hand-amalgamated and reinforced. The cover is of polished rubberoid. It is especially adapted for use in telephone installations, switchboard or long distance work. Also recommended for gas engines, railway signals and all extra heavy intermittent battery service.

List Prices and Data

Description	Std. Pkg.	*List Price	Description	Std. Pkg.	*List Price
Complete.....	25	\$2.50	Jar.....	25	\$0.40
Carbon.....	50	1.70	Salammoniac.....	200	.25
Cover.....	25	.20	Zinc.....	50	Special

*Delivery F. O. B. Boston, Mass. For warehouse deliveries write nearest house.

Batteries and Accessories

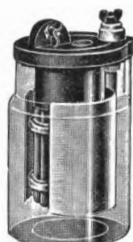
STANDARD BATTERIES



**Standard Carbon Cell
Round Jar**



**Standard Carbon Cell
Square Jar**



**National No. 2
Carbon**

CARBON CYLINDER BATTERY

With Round Jar

Description	*List Price Each
Cell, complete.....	\$0.54
Carbon Cylinder, with bushings.....	.28
Glass Jar, round.....	.12
Large rubber rings for carbon (2).....	.09
Small rubber rings for zinc (1).....	.06

With Square Jar

Description	*List Price Each
Cell, complete.....	\$0.54
Carbon Cylinder with bushings.....	.28
Glass Jar, square.....	.12
Large rubber rings for carbon (2).....	.09
Small rubber rings for zinc (1).....	.06

NATIONAL No. 2 AND 2½ CARBON BATTERIES

The No. 2 has round glass jar with lip or pour-out. The No. 2½ has square glass jar with round top and no lip.

Cell, complete.....	\$1.50	Depolarizer, per charge.....	\$0.20
Carbon element, complete.....	.80	Sal ammoniac, per charge.....	.10
Empty carbon cup.....	.30	No. 1 round jar.....	.20
Cover and bushing.....	.20	No. 7 square jar.....	.20
Zinc.....	Special	Cup rubbers, two.....	.10



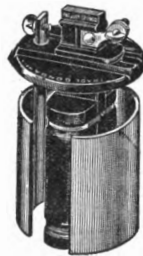
**Gonda Cell with
Rod Zinc Complete**



**Negative Element
Jar Cover and Zinc**



**Gonda Cell with
Cylindrical Zinc
Complete**



**Negative Element
Jar Cover and Zinc**



**Gravity
Battery**

GONDA BATTERY

	List Price Each with Rod Zinc Square Jar	List No.	List Price Each with Cylindrical Zinc Round Jar		List Price Each with Rod Zinc Square Jar	List No.	List Price Each with Cylindrical Zinc Round Jar
Cell, complete.....	\$1.44	340528	\$1.80	Glass Jar.....	\$0.36	340531	\$0.36
Negative Element (Gon- gas and Carbon).....	.84	340529	.84	Cover for jar.....	.18	340532	.36
Gondas, per pair.....	.60	340530	.60	Zinc (¾ in. rod).....	Special	340533	Special
				Sal-Ammoniac, 6 oz. pkg.....	.15	340534	.15

GRAVITY BATTERY

Size 5 x 7 inches

Description	*List Price Each
Cell, complete.....	\$0.72
Glass Jar, 5 x 7 inches.....	.28
Zinc.....	Special
Copper.....	Special

Blue vitriol not included in prices.

*Delivery F. O. B., New York City.

Size 6 x 8 inches

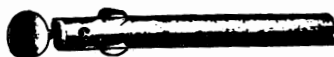
Description	*List Price Each
Cell, complete.....	\$0.90
Glass Jar, 6 x 8 inches.....	.32
Zinc, 2¾ lbs.....	Special
Copper.....	Special

Blue vitriol not included in prices.

For warehouse deliveries write nearest house.

BATTERY SUPPLIES

Battery Zincs and Coppers



Pencil Zinc

PENCIL ZINCS

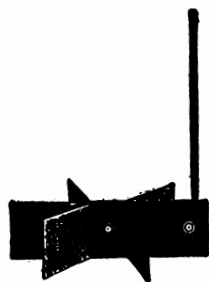
Description	Std. Pkg.	Wt. Pkg. Lbs.	List Price Each
Square Pencil Zinc with Copper Binding Screw.....	500	85	Special
Round Pencil Zinc.....	500	85	Special



Crowfoot Zinc—6 x 8



Star



Battery Copper

Battery Zincs

Description	Std. Pkg.	Lbs. per 100	List Price Each
Crowfoot Zinc—for 5 x 7 inch jar.....	100	175	Special
Crowfoot Zinc—for 6 x 8 inch jar.....	50	300	Special
Crowfoot Zinc—for 6 x 8 inch jar.....	50	325	Special
Star Zinc.....	100	300	Special

BATTERY COPPERS

Description	Std. Pkg.	Wt. per Pkg. Lbs.	List Price Each
Battery Copper—for 5 x 7 inch jar.....	500	50	\$0.19
Battery Copper—for 6 x 8 inch jar.....	500	62	.20



Blue Vitriol



Sal-Ammoniac

Blue Vitriol and Sal-Ammoniac

BLUE VITRIOL

Description	Approx. Lbs. per Bbl.	List Price per Lb.
Blue Vitriol, Star Brand.....	450	\$0.30

SAL-AMMONIAC

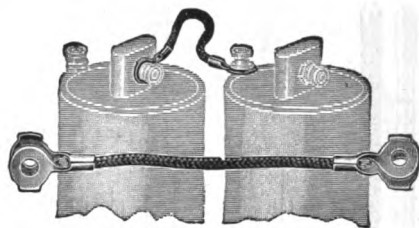
Sal-Ammoniac (extra quality), bbl. lots—per lb.....	525	\$0.20
Sal-Ammoniac (extra quality), per 5 oz. package.....		.10

Batteries and Accessories

BATTERY CONNECTORS



Bull Dog Connector



Sta-There Connector

Bull Dog Connectors

Bull Dog Battery Connectors never let go. They dispense with thumb nuts and all ignition troubles caused by loose battery connections. Snapped on in a second and as easily removed. Cannot shake loose. The cable is stripped and securely soldered to the nickel-plated copper clips. Guaranteed to give perfect contact with minimum resistance.

List No.		Carton	List Price Each
1028	Bull Dog Connector.....	10	\$0.06

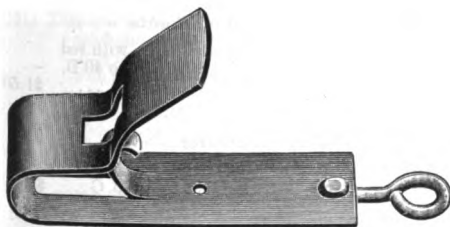
Sta-There Battery Connector

Spring Clip Type

The use of this device insures permanent and perfect electrical connection between batteries at all times.

It is placed in position by pressing the spring clips together and placing same over the binding screws. The spring contacts are of phosphor bronze and are securely fastened to the conductor cord.

Sta-There Battery Connector.....	List Price Each
	\$0.06



No. 33



No. 155

No. 33 Connector

Temporary connector for emergency work and test sets. Will snap over a No. 8 B. W. G. wire.

List No.		List Price Each
33	Temporary Connector.....	\$0.20

No. 155 Connector

This is a spring connecting device intended for use in connecting dry batteries that are equipped with screw and nut binding posts.

To operate it is only necessary to remove the nuts and snap the spring clip over the screws with which they make a firm and jar proof contact.

List No.		List Price Each
155	No. 155 Connector.....	\$0.06



Plain Connector



Link Connector

Plain Battery Connector

Consists of 5 inches of lamp cord, composed of several strands of copper wire, with copper terminals on each end.

List No.		List Price Each
16357	Plain Battery Connector.....	\$0.10

Link Battery Connector

Quick-Action Battery Connector.....	List Price Each
	\$0.02

BATTERY SUPPLIES

Thermometers

Pocket Style



No. 141



No. 101



No. 102

List
No.
141Pocket, Nickel case, $5\frac{1}{2}$ inches long, 20° to 120° F..*List Price
Each
\$1.50

Standard Chemical

142

Chemical, 10 inches long, 20° to 220° F.....

\$2.26

Floating Style

143

Floating thermometer.....

\$0.76

Storage Battery Hydrometers

Or for liquids heavier than water



No. 142



No. 143



No. 101

List
No.
101

Standard Storage Battery Hydrometer, shot bulb, 5 inches long, double scale, 10 to 40 Baume, 1,050 to 1,400 Sp. G., with glass jar in polished box.....

List Price
Each
\$1.14

Hydrometer with Guiding Points

102

Hydrometer with guiding points, shot bulb, with red line at 25B, 5 inches long, double scale, 10 to 40 B, 1,050 to 1,400 Sp. G.....

\$1.50

Flat Bulb Hydrometer

103

Small, flat bulb, used in car lighting batteries, shot bulb, $4\frac{1}{2}$ inches long, single scale, 1,100 to 1,250 Sp. G....

\$1.14

Large Standard Hydrometer

106

Large standard (not illustrated), very accurate, shot bulb, 12 inches long, double scale, 0 to 70 B, 1,000 to 2,000 Sp. G.....

\$1.50

Combined Hydrometer and Thermometer

107

Large Standard, combined with thermometer, 0 to 140 F, 12 inches long, double scale, 0 to 70 B, 1,000 to 2,000 Sp. G. hydrometer.....

\$4.50

Large Flat Bulb Hydrometer

108

Large, flat bulb (not illustrated), used in large stationary cells, shot bulb, 10 inches long, $\frac{1}{4}$ inch thick, single scale, 1,050 to 1,250 Sp. G.....

\$2.26

For Gravity Battery

109

Small Hydrometer for gravity batteries, $4\frac{1}{2}$ inches long; Baume and Specific Gravity scale, 15° to 35° B, 1,100 to 1,300 Sp. G.— $4\frac{1}{2}$ inches long with glass jar and wood box.....

\$0.76

110

Same as No. 109, but in aluminum box.....

\$1.14

*Deliveries F. O. B. New York City.

Batteries and Accessories

For warehouse deliveries write nearest house.

BATTERY SUPPLIES



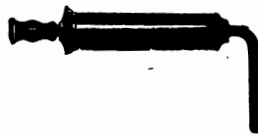
**Electrolyte
Tester**



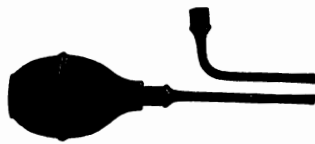
Hydrometer Jar



Acid Syringe



Hard Rubber Battery Syringe



Bulb Syringe

The Electrolyte Tester

*List Price
Each

List
No.

181	This instrument takes the place of the usual Hydrometer, Hydrometer Jar and Syringe and combines in one simple device a means for testing the electrolyte or acid of a storage battery. It is self contained, length 6 inches. The instrument is put up in a polished wood box with directions for use. Weight, 5 ounces.	\$2.26
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Hydrometer Jars

*List Price
Each

List
No.

104	6 x 1 in. Hydrometer Jars for Hydrometers 101-102	\$0.46
131	12 x 2 in. Hydrometer Jars for Hydrometers 106-107	1.36

ACID SYRINGE, ONE PIECE

*List Price
Each

List
No.

190	Pure gum, 1 oz., 1 1/4 in. diameter, 3 1/2 in. long.	\$0.38
191	Pure gum, 3 oz., 2 1/2 in. diameter, 5 in. long.	.90
192	Pure gum, 6 oz., 3 in. diameter, 6 in. long.	1.50

Hard Rubber Battery Syringe

*List Price
Each

List
No.

136	Hard rubber, capacity 12 oz.	\$6.00
137	Extra nozzle, 6 ins. long.	.90
138	Hard rubber, capacity 32 oz.	18.00
139	Extra nozzle, 9 ins. long.	1.50
140	Extra nozzle, 24 ins. long.	3.38

Bulb Syringe

*List Price
Each

List
No.

105	Bulb Syringe, complete, in wooden box.	\$2.26
132	Extra bulb, with fitting.	1.50
133	Extra nozzles.	.54

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

Batteries and Accessories

BATTERY SUPPLIES

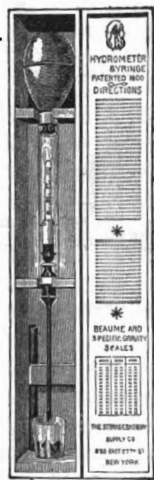
Hydrometer Syringes

An instrument for testing the specific gravity of a liquid without resorting to the tedious and unclean method of pouring the liquid to be tested into a separate vessel. It is also a syringe for filling storage batteries and regulating the quantity of acid above the plates. While this instrument is designed for use in connection with storage batteries, it is as well adapted for testing the fluid of any kind of battery or any bottled or barreled liquid.

The hydrometer syringe consists of a specially designed hydrometer within a glass tube, with a suction bulb at the top and a hard rubber nozzle at the bottom. The hydrometer is free to rise and fall, and indicates the specific gravity of the liquid that has been drawn in the syringe.

Style A—The original and most perfect form with the best quality six-ounce rubber bulb and guiding points on the hydrometer float and buffers at each end to prevent breakage. The hydrometer is graduated in both Baume 10° to 40° and Specific Gravity 1050 to 1400.

Directions for use and comparison of the Baume and Specific Gravity scales are in the cover of the box.



Style A

Style A

List No.		List Price Each
151	Complete in polished oak case, ready to be hung on the wall, with plain hard rubber nozzle and special hard rubber nozzle for filling cells with the proper amount of Electrolyte above the plates and drip cups in bottom of box. Length of instrument, 19 inches; oak box, 21 inches long by 3½ inches square. Weight, packed for shipment, 3 pounds.	\$9.00
152	Same as above, in plain box 15 inches long by 3½ inches square. Weight, 2½ pounds.	6.76
	Extra Hydrometers.	1.50
	Extra rubber bulbs.	1.50
	Extra glass tubes.	.38
	Extra nozzles.	.76

Style B

161	Storometer or Battery Meter, a cheaper style without guiding points on Hydrometer, or special nozzle. Hydrometer graduated 1150 to 1325 specific gravity only. Length, 14 inches; packed plain box 14 x 3½ inches. Weight, 12 ounces.	\$4.50
164	Extra Hydrometer.	1.50
162	Extra rubber bulbs.	1.14
163	Extra glass tubes.	1.14
165	Nozzle and plug.	.38

Style C

171	Same as Style B, but smaller bulb and hydrometer. Hydrometer graduated Baume 15° to 35° and specific gravity 1100 to 1300. Length, 12 inches; packed in plain box. Weight, 8 ounces.	\$2.26
172	Extra Hydrometer.	.76
173	Extra rubber bulb.	.60
174	Extra glass tubes.	.76
175	Nozzle and plug.	.38

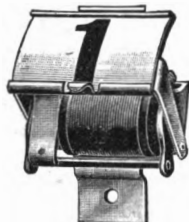
* Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Standard House Types



Dixie No. 81



Front View
Shallow Drop No. 800



Dixie Annunciator Carton

THE DIXIE NO. 81

Schedule "R"

The Dixie Annunciator meets the requirements of all classes of service where a moderate priced annunciator is desired. Each is packed neatly in an individual pasteboard carton with the style and type of contents marked plainly on the label. The glass is enameled, the openings for drops edged with gilt. This annunciator is equipped with Dixie bell. These are not furnished in any special finishes or in other arrangement of drops than given, and are equipped with No. 80 Gravity Drop that is described on preceding page.

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
2	2	1	5 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{2}$	\$3.60
3	3	1	5 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{2}$	4.20
4	4	1	5 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{2}$	4.80
5	3	2	7 $\frac{3}{4}$	9 $\frac{7}{8}$	2 $\frac{1}{2}$	5.40
6	3	2	7 $\frac{3}{4}$	9 $\frac{7}{8}$	2 $\frac{1}{2}$	6.00
7	4	2	7 $\frac{3}{4}$	9 $\frac{7}{8}$	2 $\frac{1}{2}$	6.60
8	4	2	7 $\frac{3}{4}$	9 $\frac{7}{8}$	2 $\frac{1}{2}$	7.20
10	5	2	9 $\frac{3}{4}$	9 $\frac{7}{8}$	2 $\frac{1}{2}$	8.40
12	6	2	11	9 $\frac{7}{8}$	2 $\frac{1}{2}$	9.60
13 to 55 drops, add per drop list.....						.84
56 to 100, add per drop list.....						1.02

Finish: Filled and varnished oak only.

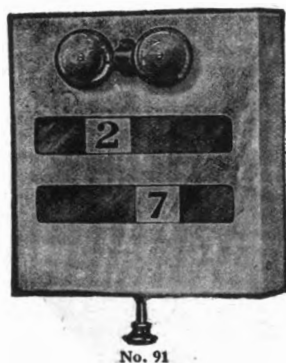
Electrical or automatic reset not furnished.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

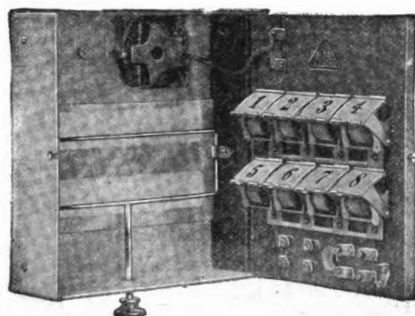
List No.	List Price
800 Lock Gravity Drop (as shown above).....	\$0.80

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATOR



No. 91



Open View

The San-fer-ann Annunciator

Schedule "R"

The San-fer-ann Annunciator has been produced in a metal case to meet the requirements of architects and engineers who specialize on apartment house work and to satisfy the growing demand for small metal annunciators of simple design and neat appearance.

The San-fer-ann Annunciator is the last word in a high class moderate cost instrument, and in the sanitary standard finish, white enamel with nickel-plated trimming, is an unusually attractive instrument; any discoloration may be instantly removed with a damp cloth. This case is made of steel, drop openings fitted with glass, and is secured to back board with substantial hinges on one side, and locks on other side with screws which fit into keyed slots, a new and very secure form of fastening.

The back board is the usual Edwards type of construction, set wholly inside of the case, the wood grain running in two directions to prevent warping or twisting, at the same time imparting great strength.

The No. 800 Drop is used, resulting in a most substantial and positive acting instrument in which accidental indication is impossible.

A reliable double gong, pivoted armature, adjustable vibrating bell is mounted on the front of case, and is connected to back board by flexible cable; thus bell is also in circuit at time of installation or for test.

Sizes 2 to 12 drops are packed in corrugated paper boxes.

No. of Drops	Arr. of Drops		Width Inches	Outside Dimensions		List Price
	Across	Down		Height Inches	Depth Inches	
2	2	1	7	4 $\frac{3}{4}$	2 $\frac{3}{8}$	\$4.80
3	3	1	7	4 $\frac{3}{4}$	2 $\frac{3}{8}$	5.40
4	4	1	7	4 $\frac{3}{4}$	2 $\frac{3}{8}$	6.00
5	3	2	7	7 $\frac{1}{4}$	2 $\frac{3}{8}$	6.60
6	3	2	7	7 $\frac{1}{4}$	2 $\frac{3}{8}$	7.20
7	4	2	7	7 $\frac{1}{4}$	2 $\frac{3}{8}$	7.80
8	4	2	7	7 $\frac{1}{4}$	2 $\frac{3}{8}$	8.40
10	5	2	8 $\frac{3}{4}$	7 $\frac{1}{4}$	2 $\frac{3}{8}$	9.60
12	4	3	7	9	2 $\frac{3}{8}$	10.80

Dimensions do not include bell or reset rod, for which add $1\frac{1}{4}$ inches to height for reset rod and 1 inch to depth for bell.

Finish: White enamel. All other finishes special.

13 to 55 drops, add to list per drop \$0.90

56 drops and over, add to list per drop 1.08

Letters on glass up to 10 letters, list 78 cents; each additional letter, list 5 cents.

For lamp signal attachment, listed elsewhere, add to list, \$5.40.

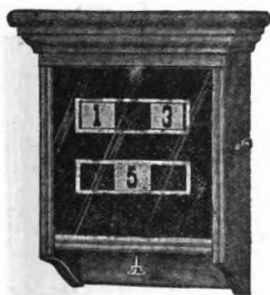
NOTE: Heavy faced type indicates finish supplied when not otherwise specified.

Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

GRAVITY DROP ANNUNCIATORS

Standard House Types



Cadet No. 82



Eco No. 83

THE CADET NO. 82

Schedule "R"

This annunciator is the same as the Dixie on preceding page, except that it is more elaborate in design and finish. A lamp attachment in place of bell or buzzer, may be furnished so that light shows when drop falls and remains lighted until drop is reset. Annunciator is provided with a Cadet bell.

Outside Dimensions							Outside Dimensions						
No. of Drops	Arr. Across	Drops Down	Width Inches	Height Inches	Depth Inches	*List Price	No. of Drops	Arr. Across	Drops Down	Width Inches	Height Inches	Depth Inches	*List Price
2	2	1	6 $\frac{1}{8}$	8 $\frac{1}{2}$	3 $\frac{3}{4}$	\$4.20	7	4	2	8 $\frac{3}{8}$	9 $\frac{1}{8}$	3 $\frac{3}{4}$	\$7.20
3	3	1	6 $\frac{1}{8}$	8 $\frac{1}{2}$	3 $\frac{3}{4}$	4.80	8	4	2	8 $\frac{3}{8}$	9 $\frac{1}{8}$	3 $\frac{3}{4}$	7.80
4	4	1	6 $\frac{1}{8}$	8 $\frac{1}{2}$	3 $\frac{3}{4}$	5.40	10	5	2	10 $\frac{1}{8}$	9 $\frac{1}{8}$	3 $\frac{3}{4}$	9.00
5	3	2	8 $\frac{3}{8}$	9 $\frac{1}{8}$	3 $\frac{3}{4}$	6.00	12	6	2	12 $\frac{1}{4}$	9 $\frac{1}{8}$	3 $\frac{3}{4}$	10.20
6	3	2	8 $\frac{3}{8}$	9 $\frac{1}{8}$	3 $\frac{3}{4}$	6.60							

13 to 56 drops, add to 12 drop list, per drop.90 57 to 100 drops, add to 12 drop list, per drop. 1.08

Finish: Filled, varnished and oil-rubbed oak or ash.

THE ECO NO. 83

Schedule "R"

The same general internal construction as the Dixie or Cadet, except that the drops are arranged vertically in pairs. No. 156 RE-AL Monitor Bell is provided, as shown in illustration. This annunciator is not furnished except in sizes from 2 to 12 drops, and only in the arrangement shown.

No. of Drops	Arr. of Drops Across	Drops Down	Outside Dimensions			*List Price	No. of Drops	Arr. of Drops Across	Drops Down	Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
2	2	1	6	4 $\frac{1}{4}$	3	\$3.84	8	2	4	6	11	3	\$7.92
4	2	2	6	6 $\frac{1}{2}$	3	5.04	10	2	5	6	13 $\frac{1}{4}$	3	9.36
6	2	3	6	8 $\frac{3}{4}$	3	6.60	12	2	6	6	15 $\frac{1}{2}$	3	10.68

Dimensions do not include the bell on top, nor the reset knob on the bottom, for which add 3 $\frac{3}{4}$ inches to the height.

Finish: Filled, varnished and oil-rubbed oak or ash.

Special Finish, Lettering and Setback

For mahogany, add to list 25%.

For white enamel finish, add to list:

2 to 12 drop.....	\$4.80	25 to 55 drop.....	\$9.00
13 to 24 drop.....	6.60	56 to 100 drop.....	11.40

Lettering on glass, up to 10 letters, list, 78 cents; each additional letter, list, 5 cents.

Electrical setback or Automatic setback.

Other sizes and finishes, special—information on request.

Lamp Signal Attachment

This attachment may be furnished when so specified with all standard annunciators in place of bell alarm. The light shows when drop falls and remains lighted until drop is reset.

For battery lamp, add to list, \$4.50.

Prices do not include lamp.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

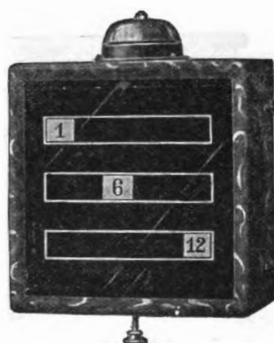
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Standard House Types



Arrow No. 125



Arrow No. 125M

THE ARROW NO. 125 WOOD CASE

Schedule "E"

A strictly high grade carefully cabined annunciator; equipped with No. 800 gravity drops wound with enamel wire.

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
2	2	1	5 $\frac{3}{4}$	5 $\frac{3}{4}$	3	\$5.00
3	3	1	7 $\frac{3}{4}$	5 $\frac{3}{4}$	3	6.00
4	4	1	7 $\frac{3}{4}$	5 $\frac{3}{4}$	3	8.00
5	3	2	7 $\frac{3}{4}$	7 $\frac{1}{8}$	3	9.00
6	3	2	7 $\frac{3}{4}$	7 $\frac{1}{8}$	3	10.80
8	4	2	7 $\frac{3}{4}$	7 $\frac{1}{8}$	3	14.40
10	5	2	9 $\frac{3}{4}$	7 $\frac{1}{8}$	3	18.00
12	6	2	11 $\frac{1}{8}$	7 $\frac{1}{8}$	3	21.60

13 to 55 drops, add per drop list..... \$1.75 | 56 to 250 drops, add per drop list..... \$1.85

Finish: Filled, varnished and oil-rubbed oak, ash or any ordinary wood.

THE ARROW NO. 125-M METAL CASE

Schedule "E"

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
2	2	1	5 $\frac{5}{8}$	5 $\frac{5}{8}$	3	\$6.00
3	3	1	7 $\frac{5}{8}$	5 $\frac{5}{8}$	3	7.00
4	4	1	7 $\frac{5}{8}$	5 $\frac{5}{8}$	3	9.00
5	3	2	7 $\frac{5}{8}$	7	3	10.00
6	3	2	7 $\frac{5}{8}$	7	3	12.30
8	4	2	7 $\frac{5}{8}$	7	3	15.90
10	5	2	9 $\frac{5}{8}$	7	3	19.50
12	6	2	11	7	3	23.10

13 to 55 drops, add per drop list..... \$1.95 | 56 to 250 drops, add per drop list..... \$2.05

Finish: Brush brass or other ordinary metal finishes. Wood finishes to match wood trim, add to list 25%.

Special Finish, Lettering, Setback and Lamp Signal Attachment

These dimensions do not include the bell on top, nor the reset knob on the bottom, for which add 3 $\frac{1}{2}$ inches to the height.

For white enamel finish, add to list:

2 to 12 drop.....	\$4.00	25 to 55 drop.....	\$7.50
13 to 24 drop.....	5.50	56 to 100 drop.....	9.50

Lettering on glass up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

Electrical setback, up to 20 drops, add to list, \$7.50; over 20 drops, add to list \$15.00.

Automatic setback up to 20 drops, add to list, \$8.00; over 20 drops, add to list, \$16.00.

With electrical or automatic setback, add to height of case 1 $\frac{1}{2}$ inches.

For Lamp Signal Attachment, listed on previous page, add to list \$4.50.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Standard House Types



No. 213

18TH CENTURY NO. 213

Schedule "E"

The case of this annunciator is a consistent 18th century pattern. It is entirely hand made, each piece of wood being carefully selected for quality and grain, the finished case being a fine example of a high skilled cabinetmaker's art. It is not made in the small sizes, but can be furnished as large as wanted.

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
12	6	2	19 $\frac{1}{8}$	18 $\frac{3}{4}$	5 $\frac{1}{8}$	\$39.00
14	7	2	21 $\frac{1}{4}$	18 $\frac{3}{4}$	5 $\frac{1}{8}$	42.00
16	6	3	19 $\frac{1}{8}$	21 $\frac{1}{4}$	5 $\frac{1}{8}$	48.00
18	6	3	19 $\frac{1}{8}$	21 $\frac{1}{4}$	5 $\frac{1}{8}$	54.00
20	5	4	18 $\frac{1}{2}$	23 $\frac{1}{2}$	5 $\frac{1}{8}$	60.00
24	6	4	19 $\frac{1}{8}$	23 $\frac{1}{2}$	5 $\frac{1}{8}$	66.00
28	7	4	21 $\frac{1}{4}$	23 $\frac{1}{2}$	5 $\frac{1}{8}$	70.00
32	8	4	22 $\frac{1}{2}$	23 $\frac{1}{2}$	5 $\frac{1}{8}$	76.80
36	9	4	25 $\frac{1}{8}$	23 $\frac{1}{2}$	5 $\frac{1}{8}$	81.00
40	10	4	26 $\frac{1}{8}$	23 $\frac{1}{2}$	5 $\frac{1}{8}$	90.00
50	10	5	26 $\frac{1}{8}$	25 $\frac{3}{4}$	5 $\frac{1}{8}$	107.50
60	12	5	29 $\frac{1}{8}$	25 $\frac{3}{4}$	5 $\frac{1}{8}$	129.00
80	16	5	35 $\frac{1}{8}$	25 $\frac{3}{4}$	5 $\frac{1}{8}$	152.00
100	20	5	41 $\frac{1}{8}$	25 $\frac{3}{4}$	5 $\frac{1}{8}$	190.00

Dimensions do not include bell on top, nor reset knob on bottom, for which add 3 $\frac{1}{4}$ inches to height.

Extra Drops up to 250, add per drop..... \$2.00

Intermediate Sizes: For intermediate sizes deduct \$1.00 per drop from the list price of the next larger size listed.

Finish: Filled, varnished and oil-rubbed oak, ash or any ordinary wood.

Special Finish, Lettering, Setback and Lamp Signal Attachment

For white enamel finish, add to list:

12 to 24 drop.....	\$7.00
25 to 55 drop.....	10.00
56 to 100 drop.....	12.00

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

Electrical setback, up to 20 drops, add to list, \$7.50. Over 20 drops, add to list, \$15.00.

Automatic setback, up to 20 drops, add to list, \$8.00; over 20 drops, add to list, \$16.00.

With electrical or automatic setback, add to height of case 1 $\frac{1}{2}$ inches.

For Lamp Signal Attachment, listed elsewhere, add to list \$4.50.

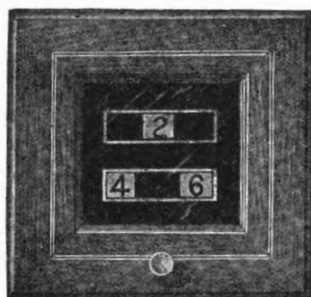
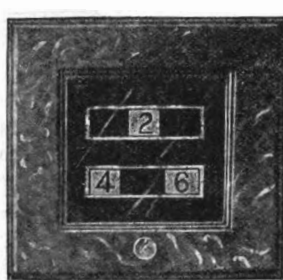
Other sizes and finishes, special—information on request.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Standard House Types

No. 215
Wood CaseNo. 215M
Metal Case

NO. 215 WOOD CASE FLUSH ANNUNCIATOR

Schedule "E"

*Outside Dimensions—						†List Price	*Outside Dimensions—						†List Price
No. of Drops	Arr. of Drops Across	Down	Width Inches	Height Inches	Depth Inches		No. of Drops	Arr. of Drops Across	Down	Width Inches	Height Inches	Depth Inches	
4	4	1	8 1/4	6 1/4	2 1/2	\$8.00	18	6	3	11 1/2	10 1/2	2 1/2	\$27.00
6	3	2	8 1/4	7 3/8	2 1/2	10.00	20	5	4	10 1/4	12 3/8	2 1/2	30.00
8	4	2	8 1/4	7 3/8	2 1/2	12.00	24	6	4	11 1/8	12 3/8	2 1/2	36.00
10	5	2	10 1/4	7 3/8	2 1/2	15.00	28	7	4	13	12 3/8	2 1/2	42.00
12	6	2	11 1/4	7 3/8	2 1/2	18.00	30	6	5	11 1/2	14 3/8	2 1/2	45.00
15	5	3	10 1/4	10 3/8	2 1/2	22.50	32	8	4	14 3/8	12 3/8	2 1/2	48.00
							36	9	4	15 3/4	12 3/8	2 1/2	54.00

*Dimensions given are without trim. For trim, add 3 1/2 inches to height and width.

Finish: Filled, varnished and oil-rubbed oak, ash or any ordinary wood.

Bell or buzzer not supplied unless ordered, but is furnished without additional charge when specified.

NO. 215-M METAL CASE FLUSH ANNUNCIATOR

Schedule "E"

*Outside Dimensions—						†List Price	*Outside Dimensions—						†List Price
No. of Drops	Arr. of Drops Across	Down	Width Inches	Height Inches	Depth Inches		No. of Drops	Arr. of Drops Across	Down	Width Inches	Height Inches	Depth Inches	
2	2	1	6 1/2	6 1/2	2 3/8	\$9.50	15	5	3	10 1/2	10	2 3/8	\$26.50
3	3	1	8 1/2	6 1/2	2 3/8	10.00	18	6	3	11 1/2	10	2 3/8	31.00
4	4	1	8 1/2	6 1/2	2 3/8	11.00	20	5	4	10 1/2	12 1/4	2 3/8	34.00
5	3	2	8 1/2	7 1/2	2 3/8	12.00	24	6	4	11 1/2	12 1/4	2 3/8	40.00
6	3	2	8 1/2	7 1/2	2 3/8	13.00	28	7	4	12 1/2	12 1/4	2 3/8	46.00
8	4	2	8 1/2	7 1/2	2 3/8	15.00	30	6	5	11 1/2	14 1/2	2 3/8	50.00
10	5	2	10 1/2	7 1/2	2 3/8	18.00	32	8	4	14 1/2	12 1/4	2 3/8	53.00
12	6	2	11 1/2	7 1/2	2 3/8	21.00	36	9	4	15 1/2	12 1/4	2 3/8	61.50

*Dimensions given are without trim. For trim, add 2 1/4 inches to height and width.

Finish: Brush brass or other ordinary metal finishes. For wood finishes, add to list 25%.

Bell or buzzer not supplied unless ordered, but is furnished without additional charge when specified.

Intermediate Sizes

For intermediate sizes, deduct \$0.75 per drop from list price of the next larger size listed.

For larger sizes, add per drop \$1.65.

Special Finish, Lettering, Setback and Lamp Signal Attachment

For white enamel finish, add to list:

2 to 12 drop.....	\$4.00	25 to 55 drop.....	\$7.50
13 to 24 drop.....	5.50	56 to 100 drop.....	9.50

Lettering on glass up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

Electrical setback, up to 20 drops, add to list, \$7.50; over 20 drops, add to list, \$15.00.

Automatic setback up to 20 drops, add to list, \$8.00; over 20 drops, add to list, \$16.00.

With electrical or automatic setback, add to height of case, 1 1/2 inches.

For Lamp Signal Attachment, listed elsewhere, add to list \$4.50.

For special finishes—information on request.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

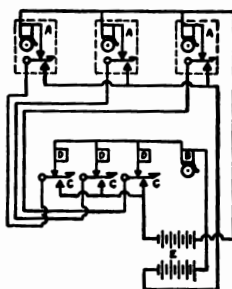
†Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Return Call Type



No. 10



A - "136 BELL AND PUSH
B - ANNUNCIATOR BELL
C - RETURN CALL BUTTON ON ANNUNCIATOR
D - ANNUNCIATOR DROPS
E - BATTERIES

Wiring Diagram

NO. 10 RETURN CALL ANNUNCIATOR

Schedule "E"

This is the standard return call annunciator. The common battery wire is used for both the call from annunciator and to calling point. One wire, with the common return, is for the call from annunciator, the other wire with same common return is for call to annunciator. This type is generally used in hotels for the purpose of calling the room and to permit a signal to be sent from the room, indicating that the call has been heard or the reverse.

Each annunciator is equipped with a button marked the same as the corresponding drop in the annunciator. The No. 136 combination bell and push is the one generally used, but any three point push and ordinary bell may be substituted if desired.

				Outside Dimensions—			*List Price					*List Price
No. of Drops	Arr. of Drops Across	Down		Width Inches	Height Inches	Depth Inches		No. of Drops	Arr. of Drops Across	Down		
6	6	1		13 3/8	12 3/8	4 3/4	\$11.70	24	8	3		\$43.20
8	4	2		12	15 3/4	4 3/4	15.60	30	10	3		54.00
10	5	2		12	15 3/4	4 3/4	19.00	36	12	3		64.80
12	6	2		13 3/8	15 3/4	4 3/4	22.80	40	10	4		70.00
16	8	2		16 1/8	15 3/4	4 3/4	28.50	50	10	5		87.50
20	7	3		14 3/4	19 1/2	4 3/4	37.00	80	16	5		148.00
								100	17	6		185.00

Dimensions do not include bell on top, for which add 2 inches to the height.

Finish: Filled, varnished and oil-rubbed oak, ash or any ordinary wood.

Wiring diagram sent with each annunciator.

Intermediate Sizes

For intermediate sizes, deduct \$1.00 per drop from the list price of the next larger size listed.

For larger sizes, add per drop \$2.00.

Special Finish, Lettering, and Lamp Signal Attachment

For white enamel finish, add to list:

2 to 12 drops.....	\$5.00
13 to 24 drops.....	6.00
25 to 55 drops.....	8.50
56 to 100 drops.....	11.00

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

For Lamp Signal Attachment, listed elsewhere, add to list, \$4.50.

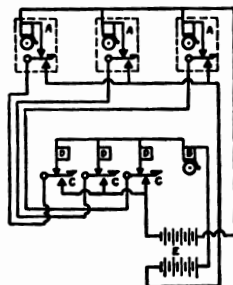
Other finishes, special—information on request.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS
Return Call Type

No. 210



A - "136 BELL AND PUSH
B - ANNUNCIATOR BELL
C - RETURN CALL BUTTON ON ANNUN.
D - ANNUNCIATOR DROPS
E - BATTERIES

Wiring Diagram

"18TH CENTURY" RETURN CALL ANNUNCIATOR No. 210

Schedule "E"

This annunciator has the same internal construction as the No. 10 Return Call type described on preceding page, and operates in the same manner. The case, however, is hand made of specially selected wood, designed according to an 18th Century pattern, and is adapted for use where a carefully finished and high-grade cabinet is desired.

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
12	6	2	19 $\frac{1}{4}$	23 $\frac{3}{8}$	5 $\frac{1}{2}$	\$53.40
14	7	2	21 $\frac{1}{4}$	23 $\frac{3}{8}$	5 $\frac{1}{2}$	58.80
16	8	2	22 $\frac{3}{8}$	23 $\frac{3}{8}$	5 $\frac{1}{2}$	67.20
18	9	2	25 $\frac{1}{8}$	23 $\frac{3}{8}$	5 $\frac{1}{2}$	75.60
20	7	3	21 $\frac{1}{4}$	27 $\frac{1}{8}$	5 $\frac{1}{2}$	84.00
24	8	3	22 $\frac{3}{8}$	27 $\frac{1}{8}$	5 $\frac{1}{2}$	94.80
30	10	3	26 $\frac{3}{8}$	27 $\frac{1}{8}$	5 $\frac{1}{2}$	103.60
36	12	3	29 $\frac{3}{8}$	27 $\frac{1}{8}$	5 $\frac{1}{2}$	115.20
40	10	4	26 $\frac{3}{8}$	30 $\frac{7}{8}$	5 $\frac{1}{2}$	124.20
50	10	5	26 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{2}$	138.00
60	12	5	29 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{2}$	210.00
80	16	5	35 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{2}$	260.00
100	20	5	41 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{2}$	325.00

Dimensions do not include the bell on top, for which add 2 inches to height.

Finish: Filled, varnished and oil-rubbed oak, ash or ordinary wood.

Wiring diagram sent with all shipments.

Intermediate Sizes

For intermediate sizes, deduct \$1.75 per drop from the list price of the next larger size listed. For larger sizes add per drop, \$3.25.

Special Finish, Lettering, and Lamp Signal Attachment

For white enamel, add to list:

12 to 24 drop.....	\$7.00
25 to 55 drop.....	10.00
56 drop and larger.....	12.00

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

For Lamp Signal Attachment, listed elsewhere, add to list, \$4.50.

Other finishes special—information on request.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

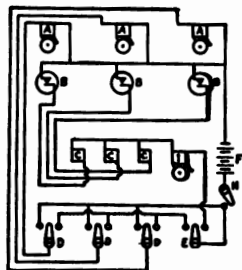
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Fire Alarm Type



No. 114



A-ALARM BELLS
B-BREAK GLASS BOXES
C-ANNUNCIATOR DROPS
D-INDIVIDUAL BELL SWITCH
E-ALL BELLS SWITCH
F-BATTERY
N-CUT OUT SWITCH
Z-ANNUNCIATOR BELL

Wiring Diagram

NO. 114 FIRE ALARM ANNUNCIATOR

Schedule "E"

In case of fire the glass of a fire alarm box is broken causing a tag bearing same number as box to indicate on annunciator, and annunciator bell to ring continuously. Alarm bells are then rung individually, or all at one time, by means of switches on lower part of annunciator.

Simple break glass boxes No. 2240, No. 2241, No. 224 or No. 77 and Recti vibrating or electro-mechanical constant ringing bells are used with this system. The annunciator is equipped with No. 80 lock gravity drop.

NEW DIMENSIONS FOR ANNUNCIATOR NO. 114

No. of Drops	Arr. of Drops Across	Drops Down	Outside Dimensions			*List Price	No. of Drops	Arr. of Drops Across	Drops Down	Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
6	6	1	13 $\frac{3}{8}$	12 $\frac{3}{4}$	4 $\frac{3}{4}$	\$11.25	30	10	3	20 $\frac{1}{8}$	19 $\frac{1}{2}$	4 $\frac{3}{4}$	\$58.50
8	4	2	12	15 $\frac{3}{4}$	4 $\frac{3}{4}$	15.00	36	12	3	23 $\frac{3}{8}$	19 $\frac{1}{2}$	4 $\frac{3}{4}$	72.00
10	5	2	12	15 $\frac{3}{4}$	4 $\frac{3}{4}$	18.75	40	10	4	20 $\frac{1}{8}$	23 $\frac{3}{4}$	4 $\frac{3}{4}$	81.00
12	6	2	13 $\frac{3}{8}$	15 $\frac{3}{4}$	4 $\frac{3}{4}$	22.50	50	10	5	20 $\frac{1}{8}$	26 $\frac{3}{4}$	4 $\frac{3}{4}$	103.50
15	8	2	16 $\frac{1}{8}$	15 $\frac{3}{4}$	4 $\frac{3}{4}$	29.00	80	16	5	29 $\frac{1}{8}$	26 $\frac{3}{4}$	4 $\frac{3}{4}$	171.00
20	7	3	14 $\frac{3}{4}$	19 $\frac{1}{2}$	4 $\frac{3}{4}$	37.50	100	17	6	30 $\frac{3}{8}$	30 $\frac{3}{4}$	4 $\frac{3}{4}$	216.00
24	7	3	14 $\frac{3}{4}$	19 $\frac{1}{2}$	4 $\frac{3}{4}$	45.00							

Dimensions do not include bell on top, for which add 2 inches to height.

Finish: Filled, varnished and oil-rubbed oak, ash or any ordinary wood.

Intermediate Sizes

For intermediate sizes, deduct \$1.25 per drop from the list price of the next larger size listed.
For larger sizes, add per drop, \$2.25.

Special Finishes, Lettering, Setback and Lamp Signal Attachment

For white enamel finish, add to list:

2 to 12 drop.....	\$5.00
13 to 24 drop.....	6.00
25 to 55 drop.....	8.50
56 to 100 drop.....	11.00

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

For Lamp Signal Attachment, listed elsewhere, add to list, \$3.75.

Other sizes and finishes, special—information on request.

Note: Heavy face type indicates finish supplied when not otherwise specified.

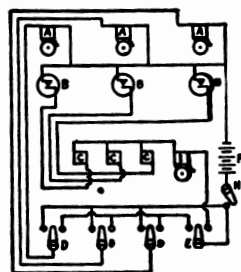
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Fire Alarm Type



No. 214



A-ALARM BELLS
B-BREAK GLASS BOXES
C-ANNUNCIATOR DROPS
D-INDIVIDUAL BELL SWITCH
E-ALL BELLS SWITCH
F-BATTERY
H-CUT OUT SWITCH
Z-ANNUNCIATOR BELL

Wiring Diagram

"18TH CENTURY" FIRE ALARM ANNUNCIATOR No. 214

Schedule "E"

This annunciator has the same general construction as the No. 114 Fire Alarm Type, described on preceding page, and operates in the same manner. The case, however, is hand made of specially selected wood, is designed according to an 18th Century pattern and adapted for use where a carefully finished and high grade cabinet is desired.

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
12	6	2	19 $\frac{1}{8}$	23 $\frac{3}{8}$	5 $\frac{1}{8}$	\$52.20
14	7	2	21 $\frac{1}{4}$	23 $\frac{3}{8}$	5 $\frac{1}{8}$	57.40
16	8	2	22 $\frac{3}{8}$	23 $\frac{3}{8}$	5 $\frac{1}{8}$	65.60
18	9	2	25 $\frac{1}{8}$	23 $\frac{3}{8}$	5 $\frac{1}{8}$	73.80
20	7	3	21 $\frac{1}{4}$	27 $\frac{1}{8}$	5 $\frac{1}{8}$	82.00
24	8	3	22 $\frac{3}{8}$	27 $\frac{1}{8}$	5 $\frac{1}{8}$	92.40
30	10	3	26 $\frac{3}{8}$	27 $\frac{1}{8}$	5 $\frac{1}{8}$	111.90
36	12	3	29 $\frac{3}{8}$	27 $\frac{1}{8}$	5 $\frac{1}{8}$	131.40
40	10	4	26 $\frac{3}{8}$	30 $\frac{1}{8}$	5 $\frac{1}{8}$	144.40
50	10	5	26 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{8}$	176.90
60	12	5	29 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{8}$	209.40
80	16	5	35 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{8}$	274.40
100	20	5	41 $\frac{3}{8}$	34 $\frac{3}{8}$	5 $\frac{1}{8}$	339.40

Dimensions do not include bell on top, for which add 2 inches to height.

Finish: Filled, varnished and oil rubbed oak, ash or any ordinary wood.

Intermediate Sizes

For intermediate sizes, deduct \$1.50 per drop from the list price of the next larger size listed. For larger sizes, add per drop, \$3.25.

Special Finish, Lettering, Setback and Lamp Signal Attachment

For white enamel, add to list:

12 to 24 drop	\$7.00
25 to 55 drop	10.00
56 drop and over	12.00

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

For Lamp Signal Attachment, listed elsewhere, add to list, \$4.50.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

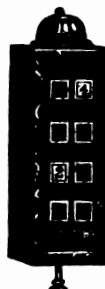
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS

Standard Elevator Type



No. 130
Metal Case



No. 130D
Metal Case

NO. 130, METAL CASE

Schedule "E"

No. of Drops	Arr. of Across	Drops Down	Outside Dimensions—			*List Price	No. of Drops	Arr. of Across	Drops Down	Outside Dimensions—			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
3	1	3	4 $\frac{1}{8}$	8 $\frac{5}{8}$	3	\$6.00	9	1	9	4 $\frac{1}{8}$	22 $\frac{1}{8}$	3	\$15.75
4	1	4	4 $\frac{1}{8}$	10 $\frac{1}{8}$	3	8.00	10	2	5	5 $\frac{1}{8}$	13 $\frac{1}{8}$	3	17.50
5	1	5	4 $\frac{1}{8}$	13 $\frac{1}{8}$	3	9.00	12	2	6	5 $\frac{1}{8}$	15 $\frac{1}{8}$	3	21.00
6	1	6	4 $\frac{1}{8}$	15 $\frac{3}{8}$	3	10.80	14	2	7	5 $\frac{1}{8}$	17 $\frac{3}{8}$	3	24.50
7	1	7	4 $\frac{1}{8}$	17 $\frac{3}{8}$	3	12.60	16	2	8	5 $\frac{1}{8}$	19 $\frac{3}{8}$	3	28.00
8	1	8	4 $\frac{1}{8}$	19 $\frac{3}{8}$	3	14.00	18	2	9	5 $\frac{1}{8}$	22 $\frac{3}{8}$	3	31.50
							20	2	10	5 $\frac{1}{8}$	24 $\frac{3}{8}$	3	35.00

Dimensions do not include bell on top, nor reset on the bottom, for which add 3 $\frac{1}{4}$ inches to height.
Finish: Brush brass or any ordinary metal finish. For wood finishes add to list 25%.

Not furnished in other arrangement than listed.

For intermediate sizes deduct \$1.00 per drop from list price of next larger size listed.

For larger sizes add \$1.75 per drop to list.

Made of sheet steel, perfectly insulated and dust proof.

For shallow types, see Nos. 810 and 811, also semaphore types 410 and 411.

NO. 130D, METAL CASE

Schedule "E"

No. of Drops	Arr. of Across	Drops Down	Outside Dimensions—			*List Price	No. of Drops	Arr. of Across	Drops Down	Outside Dimensions—			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
6	2	3	5 $\frac{1}{8}$	8 $\frac{5}{8}$	3	\$12.30	14	2	7	5 $\frac{1}{8}$	17 $\frac{3}{8}$	3	\$26.00
8	2	4	5 $\frac{1}{8}$	10 $\frac{7}{8}$	3	15.50	16	2	8	5 $\frac{1}{8}$	19 $\frac{3}{8}$	3	29.50
10	2	5	5 $\frac{1}{8}$	13 $\frac{1}{8}$	3	19.00	18	2	9	5 $\frac{1}{8}$	22 $\frac{3}{8}$	3	33.00
12	2	6	5 $\frac{1}{8}$	15 $\frac{3}{8}$	3	22.50	20	2	10	5 $\frac{1}{8}$	24 $\frac{3}{8}$	3	36.50

Dimensions do not include bell on top, nor reset on the bottom, for which add 3 $\frac{1}{4}$ inches to height.

Finish: Brush brass or any ordinary metal finish. For wood finishes, add to list 25%.

Not furnished in other arrangement than listed.

For larger sizes add \$1.85 per drop to list.

Made of sheet steel, perfectly insulated and dust proof.

For shallow types, see Nos. 810 and 811, also semaphore types 410 and 411.

Special Finishes, Setback, Lettering and Lamp Signal Attachment

Special Finishes, Setback, Lettering and Lamp Signal Attachment					
For white enamel, add to list:					
2 to 12 drop		\$4.00	25 to 55 drop		\$7.50
13 to 24 drop		5.50	56 to 100 drop		9.50

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

Electrical setback, up to 20 drops, add to list, \$7.50; over 20 drops, add to list, \$15.00.

With electrical setback, add to height of case, 1 $\frac{1}{2}$ inches.

For Lamp Signal Attachment, listed elsewhere, add to list \$4.50.

Other finishes, special—information on request.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

For "up and down" push buttons for use with elevator annunciators see listing elsewhere.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

GRAVITY DROP ANNUNCIATORS
Standard Elevator TypesNo. 12
Wood CaseNo. 12D
Wood Case

NO. 12, WOOD CASE

Schedule "E"

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
3	1	3	5	9 $\frac{3}{4}$	3	\$5.00
4	1	4	5	12	3	5.75
5	1	5	5	14 $\frac{1}{4}$	3	6.25
6	1	6	5	16 $\frac{1}{2}$	3	7.25
7	1	7	5	18 $\frac{3}{4}$	3	8.40
8	2	4	6 $\frac{1}{4}$	12	3	9.20
10	2	5	6 $\frac{1}{4}$	14 $\frac{1}{4}$	3	10.50
12	2	6	6 $\frac{1}{4}$	16 $\frac{1}{2}$	3	12.00
14	2	7	6 $\frac{1}{4}$	18 $\frac{3}{4}$	3	14.00
16	2	8	6 $\frac{1}{4}$	21	3	16.00
18	2	9	6 $\frac{1}{4}$	23 $\frac{1}{4}$	3	18.00
20	2	10	6 $\frac{1}{4}$	25 $\frac{1}{2}$	3	20.00

Dimensions do not include bell on top nor reset knob on the bottom, for which add 3 $\frac{1}{4}$ inches to height.

Finish: Filled, varnished and oil-rubbed oak, ash or any ordinary wood.

For intermediate sizes deduct \$0.60 per drop from list price of next larger size listed.

For larger sizes add per drop to list \$1.00.

For shallow types, see Nos. 810 and 811, also semaphore types Nos. 410 and 411.

NO. 12D, WOOD CASE

Schedule "E"

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
6	2	3	6 $\frac{1}{4}$	9 $\frac{3}{4}$	3	\$3.75
8	2	4	6 $\frac{1}{4}$	12	3	10.70
10	2	5	6 $\frac{1}{4}$	14 $\frac{1}{4}$	3	12.00
12	2	6	6 $\frac{1}{4}$	16 $\frac{1}{2}$	3	13.50
14	2	7	6 $\frac{1}{4}$	18 $\frac{3}{4}$	3	15.50
16	2	8	6 $\frac{1}{4}$	21	3	17.50
18	2	9	6 $\frac{1}{4}$	23 $\frac{1}{4}$	3	19.50
20	2	10	6 $\frac{1}{4}$	25 $\frac{1}{2}$	3	21.50

Dimensions do not include bell on top nor reset knob on the bottom, for which add 3 $\frac{1}{4}$ inches to height.

Finish: Filled, varnished and oil-rubbed oak, ash or any ordinary wood.

For intermediate sizes deduct \$0.65 per drop from list price of next larger size listed.

For larger sizes add per drop to list \$1.10.

Not furnished sizes or other arrangement than listed.

For other types, see Nos. 810 and 811, also 410 and 411.

Special Finish, Lettering, Setback and Lamp Signal Attachment

For white enamel finish, add to list:
2 to 12 drop. \$4.00 | 13 to 24 drop. \$5.50

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

Electrical setback, up to 20 drops, add to list, \$7.50; over 20 drops, add to list, \$15.00.

With electrical setback, add to height of case, 1 $\frac{1}{2}$ inches.

Other sizes and finishes, special—information on request.

For Lamp Signal Attachment, listed elsewhere, add to list \$4.50.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

For "up and down" push buttons for use with elevator annunciators see listing elsewhere.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

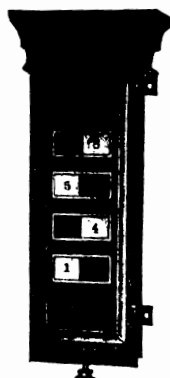
GRAVITY DROP ANNUNCIATORS

Shallow Drop Types

NO. 816 CAST METAL CASE ELEVATOR ANNUNCIATOR

Schedule "E"

The 800 Type Drop wound with enameled wire is used in this annunciator.



No. 816

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
2	1	2	6	10½	3½	\$8.50
3	1	3	6	10½	3½	12.75
4	1	4	6	15½	3½	12.52
5	1	5	6	15½		15.65
6	1	6	6	19	3¼	16.50
7	1	7	6	19	3¼	19.25
8	2	4	7	15½	3¼	22.00
10	2	5	7	15½	3¼	27.50
12	2	6	7	19	3¼	33.00
14	2	7	7	19	3¼	38.50
16	2	8	7	23½	3¼	44.00
18	2	9	7	23½	3¼	49.50

Finish: Oxidized copper or **plain black.** Other finishes supplied at an extra charge. For specially designed push button for use with elevators, see other pages following.

For "up and down" push buttons for use with this annunciator see listing elsewhere.

NO. 813 STANDARD RAILWAY ANNUNCIATOR

Schedule "E"



No. 813

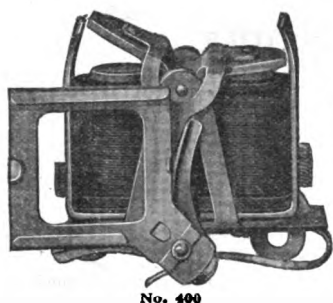
Metal case finished to match wood or metal trim. Designed particularly for sleeping, dining and parlor car service.

Bell or buzzer not a part of equipment.

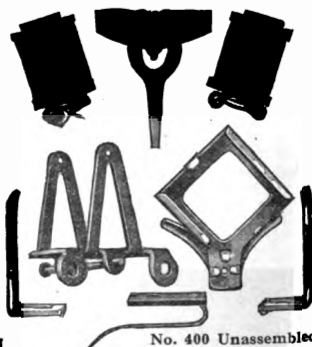
The 800 Type Shallow Drop, wound with enameled wire, is used in this annunciator.

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
	Across	Down	Width Inches	Height Inches	Depth Inches	
10	5	2	9	5½	2½	\$21.25
12	6	2	10½	5½	2½	25.50
14	7	2	12	5½	2½	29.75
16	8	2	13½	5½	2½	34.00
18	9	2	15	5½	2½	38.25
20	10	2	16½	5½	2½	42.50
22	11	2	18	5½	2½	46.75
24	12	2	19½	5½	2½	51.00

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

SEMAPHORE
LOCK DROP
ANNUNCIATORS

No. 400



No. 400 Unassembled

GENERAL DESCRIPTION

This class of drop has been used for many years in places where the indication is to be electrically restored. The "Edwards" development should more properly be called an invention, for it only retains the principle of a target electrically operated from one position to another. All of the uncertain and super-sensitive balance or magnetic features have been omitted, and there is presented in this drop for the first time a positive, self-locking indication. The action of the drop cannot be affected by vibration, and is capable of taking care of several times the current necessary for operation without injury. The Edwards Lock Semaphore drop (patented) is really the combining of two lock drops in one unit, and does away entirely with the use of permanent magnets. The "position" locking feature of this drop is unique and original. There is nothing flimsy in construction or uncertain in its operation and only the drops that are indicating are in the reset circuit, a big saving in battery life. All iron parts are protected by electroplating, and magnets are wound with enameled wire, making the most substantial and at the same time simple and positive electric control drop that has ever been produced. The usual manual reset found in gravity or needle type annunciators is omitted, control being entirely electrical.

OPERATION

Upon energizing the right hand magnet, the shutter is thrown to the left, after which it may be returned to the first position by energizing the left magnet. The front of the annunciator is clear, as all necessary marking appears on white bristol board cards carried by the drops. The result is a decided improvement in appearance over types exposing all markings upon the face; in addition it affords a convenient means of changing indications at practically no expense or effort.

METHODS OF WIRING RESET BUTTONS

None of these annunciators have the old-fashioned reset plungers in the bottom of the cases. The drops are all electrically reset by an ordinary push button. This makes it possible to locate the reset button away from the annunciator, but if specified on order it can be mounted on the annunciator case.

First: An ordinary push button may be located in any convenient place, and by pushing this button all of the drops that are down in the annunciator will be electrically reset.

Second: One reset button may be provided for each drop in the annunciator so that any drop may be restored without affecting any other. A system of this kind is splendidly adapted for use in hospitals and other places where general supervision of any kind is desired.

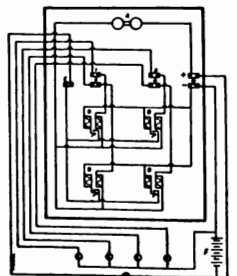
Third: The drops of an annunciator may be divided into two or more groups, each group having its own reset button or buttons.

GENERAL

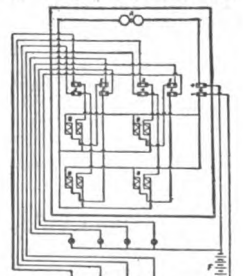
Unless otherwise specified, no push buttons will be supplied with semaphore drop annunciators. If you specify on order that a push button is to be mounted on the annunciator case, regular flush push will be mounted without additional charge. For office installations we recommend the use of the Edwards Directory Push No. 190, and, if the wiring is to be in accordance with plan No. 1 shown below, one of the buttons in this push may be used as the reset button. Complete wiring diagram in the back of every semaphore drop annunciator.

Schedule "E"

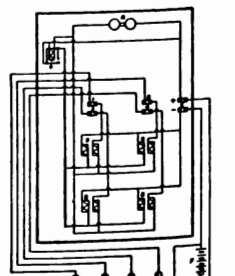
List No. 400 Lock Semaphore Drop.....*List Price \$1.50
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.



WIRING DIAGRAM FOR STANDARD ANNUNCIATOR
No. 1

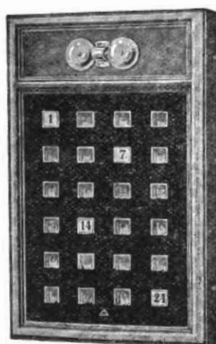


WIRING DIAGRAM FOR ANNUNCIATOR WITH RESET BUTTON
No. 2

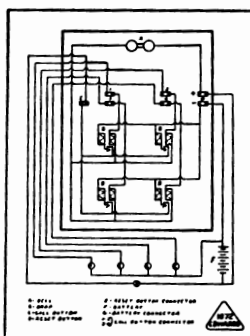


WIRING DIAGRAM FOR ANNUNCIATOR WITH RESET BUTTON
No. 3

SEMAPHORE DROP ANNUNCIATORS



**No. 401
Wood**



Wiring Diagram



**No. 407
Metal**

Surface Type

This is a carefully cabined case, equipped with the No. 400 Semaphore Lock Drop. When more than 25 drops are to be reset at once, special winding is advisable.

NO. 401 WOOD CASE

Schedule "E"

No. of Drops	Arr. of Drops Across	Down	Outside Dimensions			*List Price	No. of Drops	Arr. of Drops Across	Down	Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
4	2	2	7 $\frac{3}{8}$	9 $\frac{3}{4}$	2 $\frac{1}{2}$	\$11.00	18	6	3	16 $\frac{3}{8}$	11 $\frac{3}{4}$	2 $\frac{1}{2}$	\$28.95
6	3	2	9 $\frac{5}{8}$	9 $\frac{3}{4}$	2 $\frac{1}{2}$	12.25	20	5	4	14 $\frac{1}{8}$	13 $\frac{3}{4}$	2 $\frac{1}{2}$	31.25
8	4	2	11 $\frac{7}{8}$	9 $\frac{3}{4}$	2 $\frac{1}{2}$	15.50	24	6	4	16 $\frac{3}{8}$	13 $\frac{3}{4}$	2 $\frac{1}{2}$	37.25
10	4	3	11 $\frac{7}{8}$	11 $\frac{3}{4}$	2 $\frac{1}{2}$	18.10	30	6	5	16 $\frac{3}{8}$	15 $\frac{3}{4}$	2 $\frac{3}{8}$	46.25
12	4	3	11 $\frac{7}{8}$	11 $\frac{3}{4}$	2 $\frac{1}{2}$	21.00	36	6	6	16 $\frac{3}{8}$	17 $\frac{3}{4}$	2 $\frac{3}{8}$	55.25
15	5	3	14 $\frac{1}{8}$	11 $\frac{3}{4}$	2 $\frac{1}{2}$	25.50	42	7	6	18 $\frac{3}{8}$	17 $\frac{3}{4}$	2 $\frac{3}{8}$	64.25

Finish: Filled, varnished and oil-rubbed oak or ash, or any ordinary wood.

NO. 407 METAL CASE

Schedule "E"

No. of Drops	Arr. of Drops Across	Down	Outside Dimensions			*List Price	No. of Drops	Arr. of Drops Across	Down	Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
4	2	2	6 $\frac{1}{8}$	9 $\frac{1}{4}$	2 $\frac{1}{4}$	\$12.00	18	6	3	15 $\frac{1}{8}$	11 $\frac{1}{4}$	2 $\frac{1}{4}$	\$31.45
6	3	2	9 $\frac{1}{8}$	9 $\frac{1}{4}$	2 $\frac{1}{4}$	13.75	20	5	4	13 $\frac{1}{8}$	13 $\frac{1}{4}$	2 $\frac{1}{4}$	33.75
8	4	2	11 $\frac{3}{8}$	9 $\frac{1}{4}$	2 $\frac{1}{4}$	17.00	24	6	4	15 $\frac{1}{8}$	15 $\frac{1}{4}$	2 $\frac{1}{4}$	39.75
10	4	3	11 $\frac{3}{8}$	11 $\frac{1}{4}$	2 $\frac{1}{4}$	19.60	30	6	5	15 $\frac{1}{8}$	15 $\frac{1}{4}$	2 $\frac{3}{8}$	48.95
12	4	3	11 $\frac{3}{8}$	11 $\frac{1}{4}$	2 $\frac{1}{4}$	22.50	36	6	6	15 $\frac{1}{8}$	17 $\frac{1}{4}$	2 $\frac{3}{8}$	57.75
15	5	3	13 $\frac{3}{8}$	11 $\frac{1}{4}$	2 $\frac{1}{4}$	28.00	42	7	6	18 $\frac{1}{8}$	17 $\frac{1}{4}$	2 $\frac{3}{8}$	66.75

Finish: Brush brass or any ordinary metal finish.

General

Automatic Reset: Each indication resets the previous one. Add to list \$5.00.

For white enamel add to list:

2 to 12 drop.....	\$4.00	25 to 55 drop.....	\$7.50
13 to 24 drop.....	5.50	56 to 100 drop.....	9.50

Lettering on glass up to 10 letters, list 65 cents, each additional letter, list 4 cents.

For larger sizes, add to list, per drop, \$2.00.

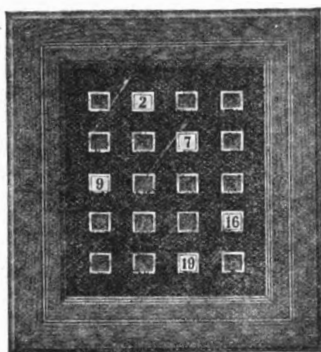
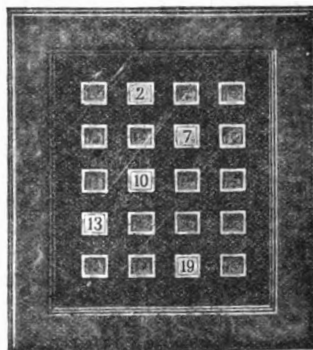
For intermediate sizes, deduct \$1.00 per drop from the list price of the next larger size listed.

For battery lamp signal attachment, add to list \$4.50.

Note: Heavy faced type indicates finish supplied when not otherwise specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

SEMAPHORE DROP ANNUNCIATORS

No. 406
Wood CaseNo. 405
Metal Case

Flush Types

NO. 406 WOOD CASE

Schedule "E"

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price	No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
4	2	2	8	7 1/4	2 1/4	\$12.00	18	3	6	10 1/4	15 1/4	2 1/4	\$33.25
6	3	2	10 1/4	7 1/4	2 1/4	13.75	20	4	5	12 1/2	13 1/4	2 1/4	36.25
8	4	2	12 1/2	7 1/4	2 1/4	17.50	24	4	6	12 1/2	15 1/4	2 1/4	43.50
10	4	3	12 1/2	9 1/4	2 1/4	20.60	30	5	6	14 3/4	15 1/4	2 1/4	51.50
12	4	3	12 1/2	9 1/4	2 1/4	25.00	36	6	6	17	15 1/4	2 1/4	60.50
15	3	5	10 1/4	13 1/4	2 1/4	29.50	42	6	7	17	17 1/4	2 1/4	69.50

These dimensions do not include trim; overlap of trim 1 1/4 inches all around.

Finish: Filled, varnished and oil-rubbed oak or any ordinary wood.

Small bell or buzzer will be furnished inside of case if ordered.

NO. 405 METAL CASE

Schedule "E"

No. of Drops	Arr. of Drops		Outside Dimensions			*List Price	No. of Drops	Arr. of Drops		Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches					Width Inches	Height Inches	Depth Inches	
4	2	2	7 7/8	7 1/8	2 1/8	\$13.00	18	3	6	10 1/8	15 1/8	2 1/8	\$35.75
6	3	2	10 1/8	7 1/8	2 1/8	15.25	20	4	5	12 3/8	13 1/8	2 1/8	38.75
8	4	2	12 3/8	7 1/8	2 1/8	19.00	24	4	6	12 3/8	15 1/8	2 1/8	46.00
10	4	3	12 3/8	9 1/8	2 1/8	22.10	30	5	6	14 5/8	15 1/8	2 1/8	54.00
12	4	3	12 3/8	9 1/8	2 1/8	26.50	36	6	6	16 7/8	15 1/8	2 1/8	63.00
15	3	5	10 1/8	13 1/8	2 1/8	32.00	42	6	7	16 7/8	17 1/8	2 1/8	72.00

These dimensions do not include trim; overlap of trim 1 1/4 inches all around.

Finish: Brush brass or any ordinary metal finish. For imitation wood finishes, add to list 25%.

Small bell or buzzer will be furnished inside of case if ordered.

General

Automatic Reset: Each indication resets the previous one. Add to list \$5.00.

For white enamel, add to list:

2 to 12 drop.....	\$4.00	25 to 55 drop.....	\$7.50
13 to 24 drop.....	5.50	56 to 100 drop.....	9.50

Lettering on glass up to 10 letters, list 65 cents, each additional letter, list 4 cents.

For larger sizes, add to list, per drop, \$1.90.

For intermediate sizes, deduct \$1.00 per drop from the list price of the next larger size listed.

For battery lamp signal attachment, add to list, \$4.50.

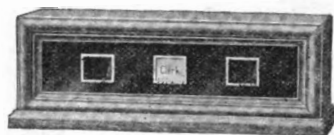
Note: Heavy faced type indicates finish supplied when not specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

SEMAPHORE DROP ANNUNCIATORS



No. 410
Wood Case



No. 412
Desk Type



No. 411
Metal Case

Elevator Types NO. 410 WOOD CASE

NO. 410 WOOD CASE												Schedule "E"			
No. of Drops	Arrangement of Drops		Outside Dimensions			*List Price	No. of Drops	Arrangement of Drops		Outside Dimensions			*List Price		
	Across	Down	Width Inches	Height Inches	Depth Inches			Across	Down	Width Inches	Height Inches	Depth Inches			
3	1	3	5 1/8	11 3/4	2 1/2	\$10.00	10	2	5	7 3/8	15 3/4	2 1/2	\$18.10		
4	1	4	5 1/8	13 3/4	2 1/2	11.00	12	2	6	7 3/8	17 3/4	2 1/2	21.10		
5	1	5	5 1/8	15 3/4	2 1/2	11.65	14	2	7	7 3/8	19 3/4	2 1/2	23.80		
6	1	6	5 1/8	17 3/4	2 1/2	12.25	16	2	8	7 3/8	21 3/4	2 1/2	26.40		
7	1	7	5 1/8	19 3/4	2 1/2	14.82	18	2	9	7 3/8	23 3/4	2 1/2	28.25		
8	2	4	7 3/8	13 3/4	2 1/2	15.50	20	2	10	7 3/8	25 3/4	2 1/2	31.25		
9	2	5	7 3/8	15 3/4	2 1/2	17.00									

For larger sizes, add to list \$1.75 per drop. Intermediate sizes not supplied.

Finish: Filled, varnished and oil-rubbed oak, ash, or any ordinary wood.

For "up and down" push buttons to use with elevator annunciator see listing elsewhere.

NO. 411 METAL CASE

Schedule 2													
Arrangement of Drops		Outside Dimensions			*List Price	Arrangement of Drops		Outside Dimensions			*List Price		
No. of Drops	Across	Down	Width Inches	Height Inches		Depth Inches	No. of Drops	Across	Down	Width Inches		Height Inches	Depth Inches
3	1	3	4 $\frac{3}{8}$	11 $\frac{1}{4}$	2 $\frac{1}{4}$	\$11.00	10	2	5	6 $\frac{7}{8}$	15 $\frac{1}{4}$	2 $\frac{1}{4}$	\$19.60
4	1	4	4 $\frac{3}{8}$	13 $\frac{1}{4}$	2 $\frac{1}{4}$	12.00	12	2	6	6 $\frac{7}{8}$	17 $\frac{1}{4}$	2 $\frac{1}{4}$	23.60
5	1	5	4 $\frac{3}{8}$	15 $\frac{1}{4}$	2 $\frac{1}{4}$	12.65	14	2	7	6 $\frac{7}{8}$	19 $\frac{1}{4}$	2 $\frac{1}{4}$	26.30
6	1	6	4 $\frac{3}{8}$	17 $\frac{1}{4}$	2 $\frac{1}{4}$	13.75	16	2	8	6 $\frac{7}{8}$	21 $\frac{1}{4}$	2 $\frac{1}{4}$	28.90
7	1	7	4 $\frac{3}{8}$	19 $\frac{1}{4}$	2 $\frac{1}{4}$	16.32	18	2	9	6 $\frac{7}{8}$	23 $\frac{1}{4}$	2 $\frac{1}{4}$	30.75
8	2	4	6 $\frac{7}{8}$	13 $\frac{1}{4}$	2 $\frac{1}{4}$	17.00	20	2	10	6 $\frac{7}{8}$	25 $\frac{1}{4}$	2 $\frac{1}{4}$	33.75
9	2	5	6 $\frac{7}{8}$	13 $\frac{1}{4}$	2 $\frac{1}{4}$	18.50							

For larger sizes, add to list \$2.00 per drop. Intermediate sizes not supplied.

Finish: Brush brass or any ordinary metal finish. For imitation wood finishes, add to list 25%.

For "up and down" push buttons to use with elevator annunciator see listing elsewhere.

NO. 412 WOOD CASE DESK TYPES, PORTABLE

Arr. of Drops		Outside Dimensions			*List Price
		Width Inches	Height Inches	Depth Inches	
No. of Drops	Across	Down			
2	2	1	7 3/4	3 3/8	\$10.00
3	3	1	10	3 3/8	11.20
4	4	1	12 1/4	3 3/8	13.16
5	5	1	14 1/2	3 3/8	15.12
6	6	1	16 3/4	3 3/8	17.08
8	8	1	21 1/4	3 3/8	21.00

Larger sizes, prices special.

Finish: Filled, varnished and rubbed oak, ash or any ordinary wood.

For battery lamp signal attachment, add to list, \$4.50.

For white enamel finish, add to list:

2 to 12 drop..... \$4.00 13 to 24 drop..... \$5.50

Lettering on glass up to 10 letters, list 65 cents, each additional letter, list 4 cents.

Automatic Reset: Each indication resets the previous one. Add to list \$5.00.

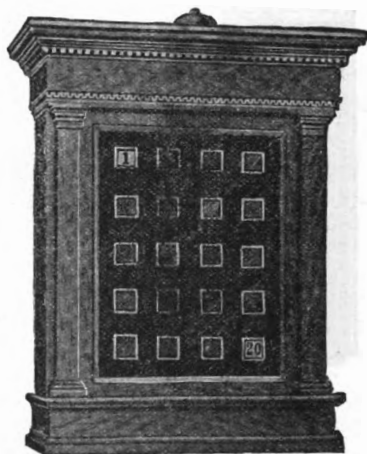
Note: Heavy faced type indicates finish supplied when not otherwise specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

VEHICLE CALL AND SEMAPHORE DROP ANNUNCIATOR



Vehicle Call



No. 413

Vehicle Call

This instrument is designed for use by department stores, theaters, hotels, etc., to enable them to call patrons' vehicles when they are prepared to leave, thus doing away with the old method of shouting numbers, the loss of time and confusion resulting therefrom.

The call is available for both day and night operation. Regularly supplied in plain sheet steel case, finished black, arranged so that, if desired, case to match surrounding trim can be made and placed over it.

It is a silent system, the most efficient and dignified that has yet been produced, and is installed with two or more numbers showing from one or both sides, and with number plates 12 to 18 inches in height.

Indication—The 3-cylinder 2-side call having 125 possible combinations of numbers is the most popular size; indication is by means of six 5-side revolving cylinders arranged three on a side, the figures of which are of white, opal glass—plainly visible by day and illuminated at night by a single incandescent lamp placed inside of each cylinder, the light being so diffused as to render numbers readable for as great a distance as in daylight.



Switchboard

The cylinders are controlled through a small switchboard by means of electro-magnetic clutches indicating and releasing upon the make and break of the circuit. They are geared to operate in pairs, so that each side of instrument will show the same signal. Cylinders are revolved by small motor, which is automatically cut in and out of circuit upon selection of signals, and is in operation only during the actual period of number changes.

Switchboard—Switchboard is a slate box with brass front containing selective switches; also main switch and one for night lights. It is furnished for either flush or surface mounting, as desired.

Prices quoted on application and folder giving size and complete information, with illustrations of actual installations, sent upon request.

18th Century No. 413

Schedule "E"

A hand cabinet case representing the highest art of the skilled mechanic. The greatest attention is given to every detail in order to produce a perfect reproduction of the best available design of the period. A massive, splendidly proportioned case, harmonizing perfectly. Control is entirely electrical and any number of reset buttons may be used. It can be used as a master instrument in multiple with smaller outlying annunciators. The Edwards Lock Semaphore Drop is used and every possible effort has been made to produce the highest class annunciator that it is possible to produce. A beautiful hand polished finish is given in any desired wood. Oak will be supplied unless otherwise specified.

Drops	Across	Down	Width	Height	Depth	List Price	Drops	Across	Down	Width	Height	Depth	List Price
8	4	2	20 1/4	18 1/2	4 3/4	\$45.40	30	6	5	25 1/4	24 1/2	4 3/4	\$119.80
10	4	3	20 1/4	20 1/2	4 3/4	49.80	36	6	6	25 1/4	26 1/2	4 3/4	143.70
12	4	3	20 1/4	20 1/2	4 3/4	53.70	42	7	6	27 1/2	26 1/2	4 3/4	169.90
15	5	3	23	20 1/2	4 3/4	66.90	54	9	6	32	26 1/2	4 3/4	225.50
18	6	3	25 1/4	20 1/2	4 3/4	79.80	60	10	6	34 1/4	26 1/2	4 3/4	239.80
20	5	4	23	22 1/2	4 3/4	88.90	80	10	8	34 1/4	30 1/2	4 3/4	319.70
24	6	4	25 1/4	22 1/2	4 3/4	106.60	100	10	10	34 1/4	34 1/2	4 3/4	398.80

For intermediate sizes, deduct \$2.20 per drop from the list price of the next larger size listed.

For larger sizes, add per drop \$3.65.

Lettering on glass, up to 10 letters, list 65 cents; each additional letter, list 4 cents.

For Lamp Signal Attachment, listed elsewhere, add to list \$4.50.

NOTE: Heavy faced type indicates finish supplied when not otherwise specified.

Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

BRYANT SILENT CALL SIGNAL SYSTEM

The Bryant Silent Call Signal System is a simplified lamp signal system designed particularly for use in hospitals and having use also in offices, department stores, public buildings, etc.

It requires no relays, no batteries, no motor generators, no transformers, and operates direct on 100 to 125 volts direct or alternating current.

The slightest pressure on the button of a bed push indicates a desire for attendance, which is registered by means of incandescent lamps lighting simultaneously at various points—outside the room or ward door, at the nurse's desk, in the diet kitchen and elsewhere if desired.

The registration of a call may also be indicated to the patient by the means of an illuminated bulls-eye included as a part of the calling station at the bedside. All the signal lamps incident to a given call remain lighted and cannot be changed until reset by the attendant at the calling station by the bedside where the call originated.

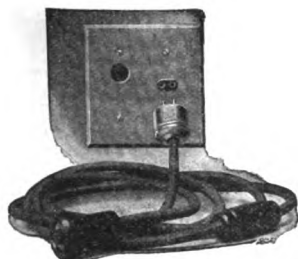
A calling station may be confined to the receptacle and cord extension with bed push and control switch, or may include the bullseye and one or more outlets for examination light, reading lamp, fan, heating pad, etc.

The system is permanent positive with minimum maintenance.

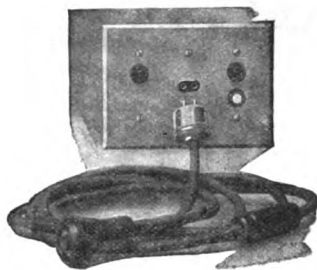
For convenience each section of the various stations have been given a letter designation, as shown above the illustration.

"Q" "J"

"Q" "J" "P"



No. 10 Calling Station



No. 11 Calling Station

*List
No.

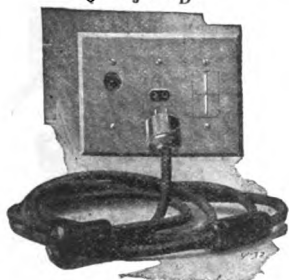
Private Room Calling Stations

List Price
Each

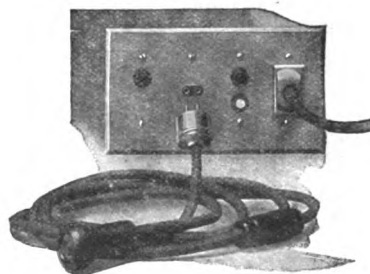
- 10 Calling Stations "Q," "J" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug. \$11.13
It requires a standard two gang outlet box not less than 2¾ inches deep.
- 11 Calling Station "Q," "J," "P" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug, 1 double pole push button emergency switch. \$12.09
It requires a standard three-gang outlet box not less than 2¾ inches deep.

"Q" "J" "P"

"Q" "J" "P" "D"



No. 12 Calling Station



No. 13 Calling Station

*List
No.

Private Room Calling Stations

List Price
Each

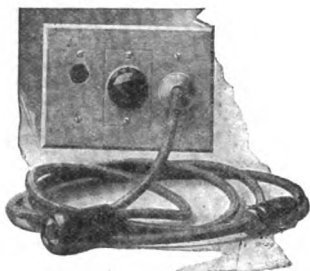
- 12 Calling Station "Q," "J," "D" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug, 1 receptacle for plug extension to examination light, fan, heating pad, etc. \$12.47
It requires a standard three-gang outlet box not less than 2¾ inches deep.
- 13 Calling Station "Q," "J," "P," "D" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push with 8 feet of special signal cord and plug, 1 double pole push button emergency switch, 1 receptacle for plug extension to examination light, fan, heating pad, etc. \$13.44
It requires a standard four-gang outlet box not less than 2¾ inches deep.

*The outlet box is not included with the stations.

BRYANT SILENT CALL SIGNAL SYSTEM

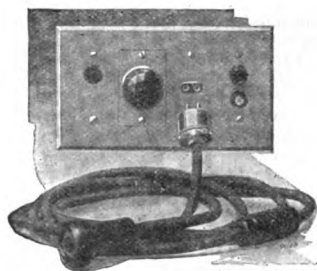
Ward Calling Stations. The ward calling stations are designed for use in rooms where several beds are placed. They are similar to private room calling stations, except that a bulls-eye signal lamp has been added to enable the responding attendant to locate the exact origin of the call. They may also be used in private rooms when it is desired that registration of the call be indicated to the patient. The equipment includes a two candle lamp behind each bulls-eye.

"Q" "A" "J"



No. 14 Ward Calling Station

"Q" "A" "J" "P"

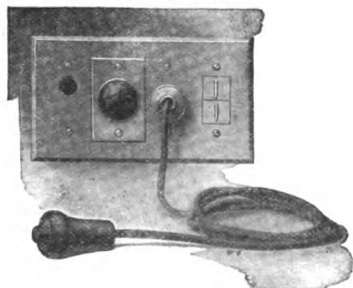


No. 15 Ward Calling Station

Ward Calling Station

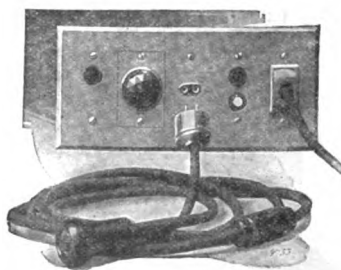
- | *List
No. | | List Price
Each |
|--------------|---|--------------------|
| 14 | Outfit "Q," "A," "J" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug. 1 bulls-eye signal..... | \$13.23 |
| | It requires a standard four gang outlet not less than 2¾ inches deep. | |
| 15 | Outfit "Q," "A," "J," "P" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug, 1 bulls-eye signal, 1 double pole emergency push button switch..... | \$14.19 |
| | It requires a standard four gang outlet box not less than 2¾ inches deep. | |

"Q" "A" "J" "D"



No. 16 Ward Calling Station

"Q" "A" "J" "P" "D"

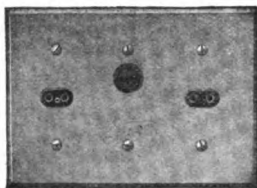


No. 17 Ward Calling Station

Ward Calling Station

- | *List
No. | | List Price
Each |
|--------------|---|--------------------|
| 16 | Outfit "Q," "A," "J," "D" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug, 1 bulls-eye signal, 1 receptacle for plug extension to examination light, fan, heating pad, etc..... | \$15.57 |
| | It requires a special four gang outlet box not less than 2¾ inches deep. | |
| 17 | Outfit "Q," "A," "J," "P," "D" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug, 1 bulls-eye signal, 1 double pole push button emergency switch, 1 receptacle for plug extension to examination light, fan, heating pad, etc..... | \$15.54 |
| | It requires a special five gang outlet box not less than 2¾ inches deep. | |
| | *NOTE: The outlet box is not included with the stations. | |

MISCELLANEOUS APPARATUS



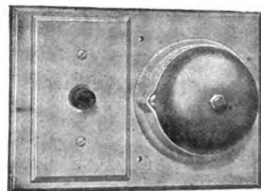
No. 10 Station for Two Beds



Single Door Light Receptacle and Plate



Double Door Light Receptacle and Plate



Signal for Night Calls

One Station for Two Beds

One station for two beds can be effected by having a plug section at each end of the station plate. For this feature add \$0.60 to any of the described stations listed.

List No.	Mfr. No.	PUSH BUTTON AND CORD	List Price
361905	478	Extra button.....	each \$2.56
361906	...	Extra cord.....	per foot .09

Pilot Lamp and Door Lamp

RECEPTACLES AND PLATES

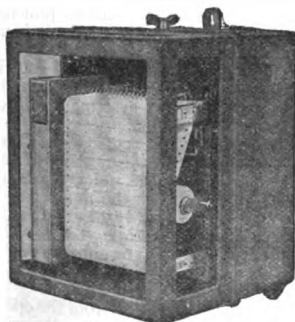
The door signal lamp consists of any Edison base receptacle and lamp situated above the door on the corridor side of the room from which the call originates, and enables the nurse to readily locate the room from which the call is sent.

List No.	Single door light receptacle and plate. (Requires 1 gang switch box)	Double door light receptacle and plate. (Requires 2 gang switch box)	Three pilot light receptacle and plate. (Requires 3 gang switch box)	Four pilot light receptacle and plate. (Requires 4 gang switch box)	List Price Each
361883					\$0.67
361884					1.35
361885					2.00
361886					2.69

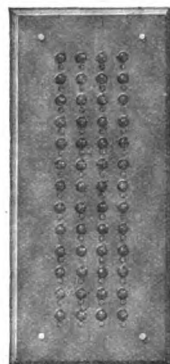
Audible Signal for Night Calls

A single stroke bell for night service with a cut-off switch. It requires for its installation a standard 3 gang switch box.

361887	Audible signal for night call.....	\$8.40
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Automatic Recorder



Lamp Annunciator

Elapsed Time Recorder

This is an automatic device that makes a graphic record of the time each call is registered and the time elapsing before it is answered. Each recorder registers calls from 20 calling stations located in any part of the building. Each recorder is equipped to accommodate 20 stations. They may also be equipped for as many stations from 1 to 20 as desired.

361888	Automatic recorder capacity 20 stations.....	\$336.00
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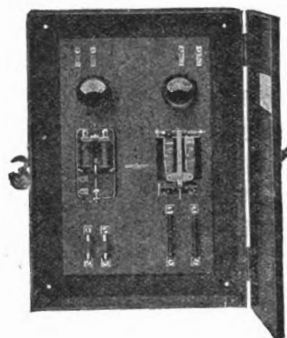
Candelabra Base Lamp Annunciator

List No.	Annun- ciator	Size of Box Inches	Size of Trim Inches	List Price	List No.	Annun- ciator	Size of Box Inches	Size of Trim Inches	List Price
361889	2	6 1/4 x 4 1/4 x 4 1/4	8 1/4 x 6 1/4	\$10.50	361897	24	9 1/4 x 12 1/4 x 4 1/4	11 1/4 x 14 1/4	\$71.40
361890	4	6 1/4 x 6 1/4 x 4 1/4	8 1/4 x 8 1/4	18.90	361898	28	9 1/4 x 13 1/4 x 4 1/4	11 1/4 x 15 1/4	84.00
361891	6	6 1/4 x 7 1/4 x 4 1/4	8 1/4 x 9 1/4	25.20	361899	32	9 1/4 x 15 1/4 x 4 1/4	11 1/4 x 17 1/4	96.60
361892	8	6 1/4 x 9 1/4 x 4 1/4	8 1/4 x 11 1/4	31.50	361900	36	9 1/4 x 16 1/4 x 4 1/4	11 1/4 x 18 1/4	105.00
361893	10	6 1/4 x 10 1/4 x 4 1/4	8 1/4 x 12 1/4	42.00	361901	40	9 1/4 x 18 1/4 x 4 1/4	11 1/4 x 20 1/4	117.60
361894	12	6 1/4 x 12 1/4 x 4 1/4	8 1/4 x 14 1/4	44.10	361902	44	9 1/4 x 19 1/4 x 4 1/4	11 1/4 x 21 1/4	128.10
361895	16	9 1/4 x 9 1/4 x 4 1/4	11 1/4 x 11 1/4	52.50	361903	48	9 1/4 x 21 1/4 x 4 1/4	11 1/4 x 23 1/4	140.70
361896	20	9 1/4 x 10 1/4 x 4 1/4	11 1/4 x 12 1/4	60.90	361904	52	9 1/4 x 22 1/4 x 4 1/4	11 1/4 x 24 1/4	152.88

NOTE: When ordering, state finish of fronts. List prices cover white enamel and brush brass. An extra charge will be made for other finishes. Also state markings or numbering desired.

Prices and dimensions of lamp annunciators include candelabra base receptacles and 3/4 inch bullseye, but do not include lamp.

FIRE ALARM SYSTEMS



No. S. S. 1 Panel

DESCRIPTION

Practically all fire alarm systems are either the simple open or closed circuit type.

The Open Circuit System uses current only at the time of ringing bells. It usually consists of simple break glass boxes, such as the Nos. 77, 224, 2241, etc., and vibrating bells such as the Rectil Nos. 100, 1000, 1001, shown elsewhere. To connect up the system three wires are used, one from one side of battery to all alarm boxes, one from the other side of battery to all bells, the third wire is only carried far enough to connect one side of all alarm boxes and one side of all bells to it. (See Diagram No. 1.) Wire not smaller than No. 14 B.&S. copper should be used.

In small systems of 6 to 10 bells, 8 to 10 dry cells connected in series, or the equivalent will be found ample for operation. In larger systems it is desirable in order to prolong life of battery to use twice the number of cells—two series in multiple, or, which is the same thing, parallel.

If a small system is required which will sound a box number, the Nos. 118, 275, 1180 or 1181, shown elsewhere (see illustration with closed circuit system; these boxes are supplied for open or closed at regular price), may be used in place of plain break glass boxes and connected the same way. When one of these boxes is operated the mechanical movement inside makes and breaks the circuit a number of times, thus indicating by a series of short rings the number of the box operated, and this is repeated several times. If in place of vibrating bells user requires single stroke, the Nos. 22, 21 or 21 F.P. bells, shown elsewhere, may be substituted.

This system is used in small hotels, schools, factories, office buildings, etc.

The Closed Circuit System differs from the open circuit in that current is flowing at all times over the wires, and through all apparatus on the lines for the purpose of constant test, so as to be sure that system is in good working order. Should a wire break or a battery fail, there would be an immediate indication by a single stroke on all bells. As an additional signal it is customary to include in alarm line an ordinary relay with vibrating bell of suitable size and about 4 cells of dry battery, so that in event of any failure in the system relay will cause this bell to ring continuously. (See diagram No. 3.)

Boxes usually employed consist of a modified clock mechanism so arranged and adjusted as to open and close the alarm line a given number of times and thus indicate by the number of strokes on bells, the number of the operated box. (See Nos. 118, 275, 1180 and 1181, shown elsewhere.)

Bells of electro-mechanical type are used with these boxes on account of the very small current strength required for their operation. A heavy geared, hand wound mechanism is the medium used to deliver powerful blows on the gong, while current is only used to operate a scientifically designed releasing escapement, self-locking and positive in operation.

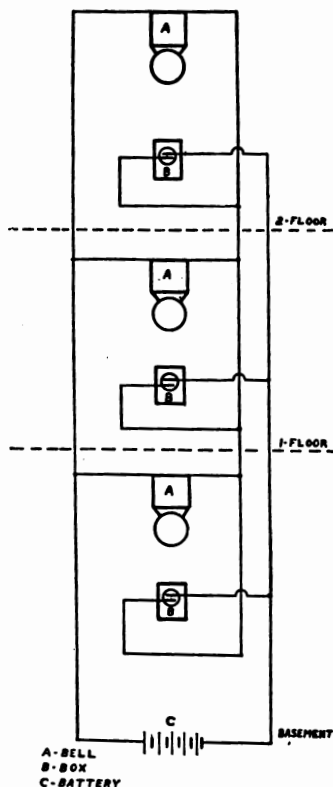


Diagram No. 1
Open Circuit Fire Alarm System

FIRE ALARM SYSTEMS

CONTINUED

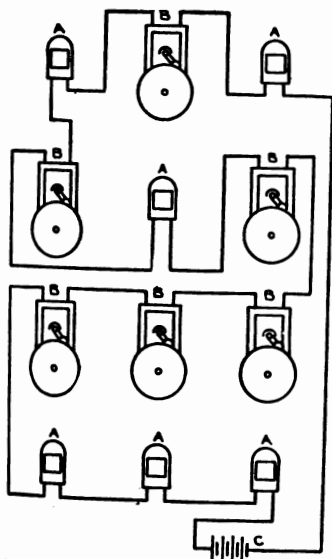


Diagram No. 2
Closed Circuit Fire Alarm Circuit

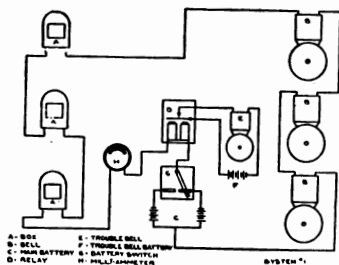


Diagram No. 3
Closed Circuit System Including Relay and Trouble Bell

DESCRIPTION

The M. R. 3 Panel was designed for primary battery systems, and by the use of special relays the life of the battery is greatly prolonged. Where in a 300 ampere hour cell, using a discharge rate of 1/10 ampere, it is necessary to recharge once every 125 days, by the use of this panel, life of battery is prolonged to at least three years on one charge.

Systems have been devised to include both the open and closed circuit features—bells on open circuit and boxes on closed circuit—the object being to economize on closed circuit battery investment and maintenance expense. To accomplish this, the use of special relays is required and the success of the system depends on the proper operation of these relays at the time of sounding alarm.

An objection to this system is that it is not known except at the time of operation whether the bells are in operating condition or not, as this portion of system is not under constant test as in the case of the fully closed circuit system, so that where the aim is battery economy, a system employing the M. R. 3 Panel is much superior to the combination system.

Many additions, such as the operation of steam or air whistles, tower bell strikers, lighting of signal lamps, operation of registering devices, etc., can be made to alarm systems by the use of simple relays included in alarm lines, operation of such apparatus being obtained through local battery such as dry cells or equal; so that almost any condition can be met in a very simple manner if requirements are transmitted to the manufacturer.

FIRE ALARM SYSTEMS

CONTINUED

Each time the circuit is opened or closed this escapement permits the striking movement to deliver one stroke, and this may be repeated until spring is run down, usually 350 to 500 strokes. (See Nos. 132-133, 140, 1330, 1331 shown elsewhere.)

The connecting of this system is the most simple of all, as there is only one wire in the circuit. Wire is taken from one side of battery and connected to the nearest bell or box, then carried to the next nearest and so until all have been included; then it is connected to the other side of battery and system is complete. (See Diagram No. 2.) It is not necessary to make any special arrangement of bells or boxes—they may be placed as desired. In other words, bells and boxes may be mixed up at will, the operation is equally satisfactory.

Where operation is to be obtained by battery, any good closed circuit cell, such as the Edison type, will be found satisfactory (the 300 ampere hour size is the one generally selected), or where charging is possible storage battery is recommended. Cells of 24 ampere hour capacity are generally used so that charging is necessary only once a week. In either case it is customary to provide a duplicate set so that one will be in service while the other is being renewed or charged.

Where 110 V. D.C. lighting service is available it may be used in place of battery by the addition of a control panel. These panels, such as the S.S. 1 (single stroke No. 1) for use with systems which include single stroke bells. The E.M. 2 (electro-mechanical No. 2) for use with systems including electro-mechanical bells and the M.R. 3, a special board designed for use where electro-mechanical bell systems are to be operated on primary battery. E.M. 2, S.S. 1, M.R. 3, etc., can be provided to meet the conditions of any system. High voltage service allows the use of single stroke bells, such as the No. 20, 21 and 21 F.P., shown elsewhere, where desired in closed circuit systems. (See illustrations with open circuit system.)

Specially arranged apparatus can be supplied where required to meet specifications issued by fire prevention authorities.

For description and prices on articles mentioned see following list:

FIRE ALARM BOXES

List No.	Page
77	476
224, 2240, 2241	475
1180, 1181, 1275	474

BELLS

100	485
1000, 1001	487
20, 21, 21FP	484
132, 133	482
140, 1330, 1331	483

RELAY

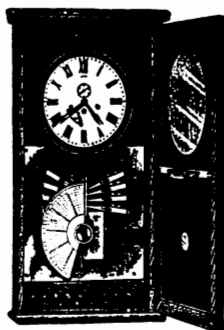
238	477
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TOWER BELL STRIKER

127	478
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RECORDING SYSTEM

Watchman's Time Detectors



No. 75

Utility: The Edwards' Time Detectors are used extensively in industrial plants, department stores, warehouses, hotels, institutions, yards, docks, steamships, etc., to record accurately and indelibly the exact time of each visit of the watchman at each essential point of his rounds, at which point a station is placed.

Operation: At the station, the watchman is required to insert a special form of key and a perforation is then made by electrical contact, either with the use of a magneto or by means of a battery circuit upon a central dial, the movement of which is operated in connection with an 8-day clock. The dial passes through guides preventing wrinkling, which might cause inaccuracies or interfere with the clock mechanism.

Construction: Metal parts are brass or bronze except where steel is necessary; this is copper plated or japanned. Wire connections are soldered. All connectors are marked to facilitate installation and test. Each instrument is equipped with lock and key and the opening of the door is recorded on the dial. Automatic cutout device is added to battery type to prevent the dial from mutilation through prolonged contact. This is not necessary with the magneto types.

Underwriters' Approval: Edwards' Time Detectors of the magneto type are inspected and approved by the National Board of Fire Underwriters, while battery type systems irrespective of make are without this approval; both types show every deviation from the exact performance of the watchman's duty.

Insurance Rates: The increased measure of security from fire risk obtained through their use has resulted in a substantial reduction in fire insurance rates.

The prices given include a year's supply of dials, but do not include magneto or battery stations.

MAGNETO TYPE NO. 75

Schedule "E"

With Timepiece

List No.	No. Stations	Dimensions		Deep Inches	*List Price
		High Inches	Wide Inches		
360431	4	31 3/4	17 1/2	5 1/2	\$100.00
360432	5	31 3/4	17 1/2	5 1/2	105.00
360433	6	31 3/4	17 1/2	5 1/2	110.00
360434	7	31 3/4	17 1/2	5 1/2	115.00
370435	8	31 3/4	17 1/2	5 1/2	120.00
360436	9	31 3/4	17 1/2	5 1/2	125.00
360437	10	31 3/4	17 1/2	5 1/2	130.00
360438	12	31 3/4	17 1/2	5 1/2	140.00
360439	15	31 3/4	17 1/2	5 1/2	150.00
360440	20	35 1/2	21 1/4	5 1/2	170.00
360441	25	35 1/2	21 1/4	5 1/2	190.00

Extra stations, per station up to 50, list \$4.00.

Standard finish, oak.

For white enamel, add to list \$7.50.

Where more than 25 stations are required, 2 recording dials will be used.

BATTERY TYPE NO. 97

Schedule "E"

Four Stations, With Timepiece in Same Case

List No.	No. Stations	High Inches	Wide Inches	Deep Inches	*List Price
360442	4	31 3/4	17 1/2	5 1/2	\$100.00

Prices do not include stations.

Other sizes same price and dimensions as No. 75.

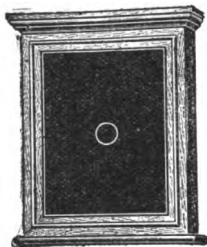
PAPER DIALS ONLY

Schedule "E"

For all types of watchman's time detectors listed above.	\$15.00
1 to 10 stations, per 1000	18.00
11 to 15 stations, per 1000	22.50
16 to 20 stations, per 1000	25.00
21 to 25 stations, per 1000	

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

TIME DETECTOR AND STATIONS



No. 76

Watchman's Time Detector

MAGNETO TYPE NO. 76

Schedule "E"

Without Timepiece

List No.	No. of Stations	Dimensions		Deep Inches	*List Price	List No.	No. of Stations	Dimensions		Deep Inches	*List Price
		High Inches	Wide Inches					High Inches	Wide Inches		
360443	4	18	17½	5½	\$56.28	360448	10	18	17½	5½	\$84.36
360444	5	18	17½	5½	59.00	360449	12	18	17½	5½	90.00
360445	6	18	17½	5½	60.60	360450	15	18	17½	5½	98.40
360446	7	18	17½	5½	75.96	360451	20	18	17½	5½	112.50
360447	8	18	17½	5½	78.70	360452	25	18	17½	5½	126.50

Extra stations, per station, list \$4.00.

Standard finish, oak.

For white enamel, add to list \$5.00.

Where more than 25 stations are required, 2 recording dials will be used.

Approved by the National Board of Fire Underwriters.

BATTERY TYPE NO. 98

Four Stations, Without Timepiece

Schedule "E"

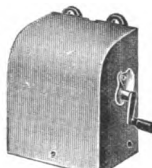
List No.	No. of Stations	Dimensions		Deep Inches	*List Price
		High Inches	Wide Inches		
361195	4	18	17½	5½	\$56.28

Other sizes same price and dimensions as No. 76.

Prices on paper dials, see preceding page.



No. 161



No. 162



No. 163

Magneto Stations

For Use With Nos. 75 and 76 Time Detectors

Approved by the National Board of Fire Underwriters

NO. 161 WOOD CASE

Schedule "E"

*List Price

List No.	Mfr. No.	Description	*List Price
360453	161	Hand generator with removable handle.	\$8.50
360454	161P	Portable type, with carrying strap, No. 72 plug and three foot cord.	12.50

NO. 162 METAL CASE

Schedule "E"

Weatherproof case, for outdoor use and in more or less exposed places.

*List Price

List No.	Mfr. No.	Description	*List Price
360455	162	Hand generator with removable handle.	\$12.50

NO. 163 FLUSH METAL CASE

Schedule "E"

Intended for interior use flush with the wall.

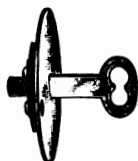
*List Price

List No.	Mfr. No.	Description	*List Price
360456	163	Hand generator with removable handle.	\$12.50

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

BATTERY KEY STATIONS AND SIGNAL SYSTEMS



No. 99



No. 211



No. 72

Battery Key Stations

For Use with Numbers 98 and 99 Time Detectors

NO. 99 FLUSH STATION

Schedule "E"

Finish: Nickel plate, brush brass, old brass or polished brass

List No.	Mfr. No.		*List Price
360462	99	Key station. Plate, 2 inches diameter.....	\$0.90
360463		For any group "A" finish, see page 39, add.....	.20
360464		For any group "B" finish, see page 39, add.....	.50

NO. 211 KEY STATION

Schedule "E"

Finish: Nickel plate, brush brass, old brass or polished brass.

360465	211	Flush station (mounted on 158 plate screw hole centers $3\frac{1}{2}$ inches to fit standard push button switch box).....	\$4.90
360466	211A	Surface station. Plate, $2\frac{3}{4}$ inches diameter.....	3.00
360467	211	With any group "A" finish, add.....	.30
360468	211	With any group "B" finish, add.....	.60
360469	211A	With any group "A" finish, add.....	.25
360470	211A	With any group "B" finish, add.....	.55
		Key only.....	.25

NO. 72 RECEPTACLE AND PLUG

Schedule "E"

Used in connection with No. 161 portable magneto for connecting magneto to circuit. The back plate is permanently installed and the circuit wires attached; the cap or plug is connected by means of a flexible cord to the magneto and carried with it.

360471	72	Receptacle and plug complete.....	\$0.75
360472		Plug only.....	.40

Standard and Special Finishes

Note: Heavy face type indicates finish supplied when not otherwise specified.

Finish Group "A"

Old English bronze	Polished copper
Antique or Flemish brass	Polished steel
Oxidized brass	Bauer-barff
English bronze	Acid or statuary bronze
Mottled copper	Lemon brass
Oxidized copper	Gun metal
Antique copper or	Black
Japanese bronze	

Finish Group "B"

Gilt	Burnished gilt
Satin gold	Polished silver
Etruscan gilt	Pompeian bronze
Gold bronze	Roman or dull gold
Oxidized silver	Sand blast, antique brass
Butler's silver	Sand blast, old brass
Ormolu or French gilt	Verde antique



30 No. 161

Special Signaling Systems

PROGRAM CLOCKS

The use of the electric program clock is general in colleges, schools, factories and institutions of various sorts to automatically ring groups of bells at prearranged intervals for the changing of classes, shifting of labor gangs, dynamo and furnace changes, cessation and resuming of work, etc.

The operating principle is found in the rotation of a circuit-closing contact arm synchronized with a clock movement. The contact intervals are furnished either changeable at will or fixed and provided for contacts of variable lengths, during which any number of bells of any desired type and style are caused to ring. A switch is provided for hand ringing and for cutting out the program ringing. The clock movement regularly furnished is an 8-day key-winding type of superior construction. Twelve contact keys are furnished. The case is excellently finished oak.

List No.	Mfr. No.		*List Price
360473	101	Five minute changeable interval.....	\$170.00
360141	101A	Not changeable.....	75.00

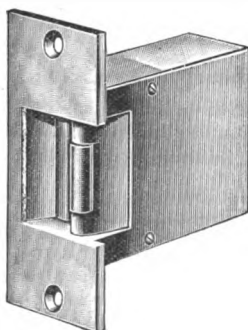
*Delivery F. O. B. Factory, New York City. For warehoused deliveries write nearest house.

ELECTRIC DOOR OPENERS

Door Openers and Latches

Following will be found a most reliable and complete line of Door Openers and Latches. These have been before the public many years and have proven their worth under most severe conditions of service. They have been made as compact as possible, consistent with rugged construction, in order that they might be available for use under the most varying conditions, and installed at minimum expense. All Door Openers, except Nos. 1541 and 1542, may be used on either right or left-hand doors.

Any Door Opener, except No. 52, can be supplied with a release check, so they may be used where air checks are employed. Price over regular, list \$1.35.



No. 154

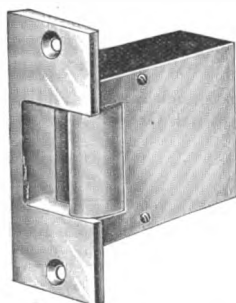
NO. 154—MORTISE TYPE—ROLLER NOSE

Schedule "E"

Dimensions: Width, 2 inches; depth, $2\frac{7}{8}$ inches; thickness, $1\frac{1}{8}$ inches; opening, $1\frac{1}{4}$ inches; face plate, $1\frac{1}{4} \times 3\frac{3}{8}$ inches.

List No.	Mfr. No.		Std. Pkg.	*List Price
360475	154	Brass finish. No. 79 Push Out Spring included.	25	\$3.24

For heavy doors. Mechanism enclosed. Requires straight mortise.



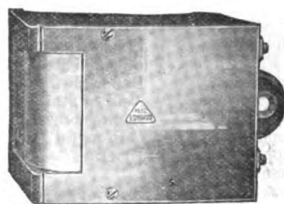
No. 155

NO. 155—"NOJAR" MORTISE TYPE—SOLID NOSE

Schedule "R"

Dimensions: Width, 2 inches; depth, $2\frac{7}{8}$ inches; thickness, $1\frac{1}{8}$ inches; opening, $1\frac{1}{4}$ inches; face plate, $1\frac{1}{4} \times 3\frac{3}{8}$ inches.

List No.	Mfr. No.		Std. Pkg.	*List Price
360477	155	Brass finish. No. 79 Push Out Spring included.	25	\$2.70



No. 152

NO. 152—RIM TYPE—SOLID NOSE

Schedule "E"

Dimensions: Width, 2 inches; depth, $2\frac{1}{8}$ inches; thickness, $1\frac{1}{8}$ inches; opening, $1\frac{1}{4}$ inches.

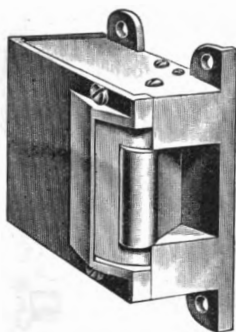
List No.	Mfr. No.		Std. Pkg.	*List Price
369478	152	Japanned finish. Brass front. No. 79 Push Out Spring included.	6	\$3.78
361196	152	Arranged to take $\frac{1}{2}$ inch conduit.		17.28

For surface or rim locks, thin doors, iron gates, etc.

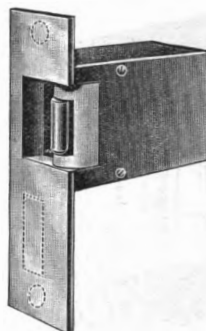
Charge for special resistances all door openers same as RE-AL bell.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

ELECTRIC DOOR OPENERS



No. 50



No. 1541

Door Openers and Latches

NOS. 50 AND 50B—RIM TYPE—ROLLER NOSE

Schedule "E"

Dimensions No. 50: Width, $2\frac{1}{4}$ in.; depth, $2\frac{5}{8}$ in.; thickness, 1 in.; opening, $1\frac{1}{8}$ in.

Dimensions No. 50B: Width, $2\frac{1}{4}$ in.; depth, $2\frac{5}{8}$ in.; thickness, 1 in.; opening, $1\frac{1}{2}$ in.

List No.			Std. Pkg.	*List Price
50	Cast Bronze.	No. 49 Push Out Spring included.....	1	\$11.88
50B	Cast Bronze.	No. 49 Push Out Spring included.....	1	16.20

For surface or rim locks, thin doors, iron gates, etc.

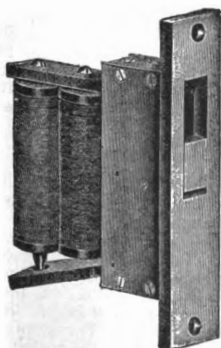
NOS. 1541 AND 1542—MORTISE TYPE

Schedule "E"

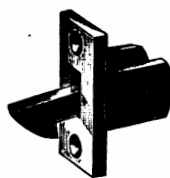
Dimensions: Width, 2 inches; depth, $3\frac{3}{8}$ inches; thickness, $1\frac{1}{8}$ inches; opening, $1\frac{1}{4}$ inches; face plate, $1\frac{1}{2} \times 6\frac{1}{8}$ inches.

1541	Brass finish, with roller.	No. 79 Push Out Spring included.....	6	\$5.94
1542	Brass finish, without roller.	No. 79 Push Out Spring included.....	6	5.40

For Dead Bolt and Latch, sketch of striking plate required with order, to avoid mistakes; otherwise no screw holes or bolt opening will be provided.



No. 52



No. 239

NO. 52—MORTISE TYPE—SOLID NOSE

Schedule "E"

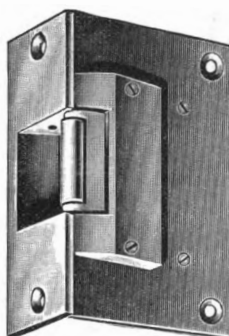
For Use With Sliding Door

Dimensions: Width, $3\frac{1}{4}$ inches; depth, $3\frac{1}{4}$ inches; thickness, $\frac{7}{8}$ inch; opening, $\frac{1}{2} \times \frac{3}{4}$ inch; face plate, $1 \times 4\frac{1}{4}$ inches.

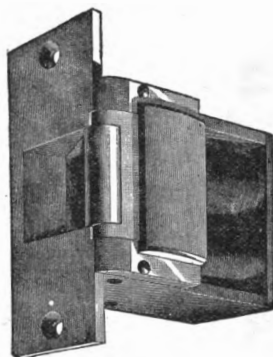
List No.			Std. Pkg.	*List Price
52	Bronze finish.	No. 79 Push Out Spring included.....	1	\$16.20
239	Latch for use with No. 52 Opener.	Bronze finish.....	1	2.16

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

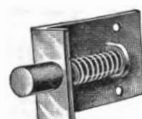
ELECTRIC DOOR OPENERS



No. 153



No. 48



No. 49



No. 79

Door Openers and Latches

NO. 153 PLATE TYPE—ROLLER NOSE

Schedule "E"

Dimensions: Width, 2 inches; depth, $3\frac{3}{8}$ inches; thickness, $1\frac{1}{4}$ inches; opening, $1\frac{1}{4}$ inches; face plate, $1\frac{1}{4} \times 3\frac{3}{8}$ inches; side plate, $3\frac{3}{8} \times 3\frac{3}{8}$ inches.

List No.		Std. Pkg.	*List Price
153	Brass finish. No. 79 Push Out Spring included.....	6	\$3.78
	For door frames too thin to take mortise.		

NOS. 48A AND 48B MORTISE TYPE—ROLLER NOSE

Schedule "E"

Dimensions No. 48: Width, $2\frac{1}{4}$ inches; depth, $2\frac{5}{8}$ inches; thickness, $1\frac{1}{8}$ inches; opening, $1\frac{1}{2}$ inches.
 Dimensions No. 48A: Width, $2\frac{5}{8}$ inches; depth, $2\frac{5}{8}$ inches; thickness, $1\frac{1}{8}$ inches; opening, $1\frac{1}{2}$ inches;
 face plate No. 48A, $1\frac{1}{2} \times 3\frac{3}{8}$ inches; face plate No. 48B, $1\frac{1}{2} \times 4$ inches.

List No.		Std. Pkg.	*List Price
48	Bronze finish. No. 49 Push Out Spring included.....	1	\$11.88
48A	Bronze finish. No. 49 Push Out Spring included.....	1	16.20
	Solid bronze. Each opener is tested under a heavy pressure and warranted.		

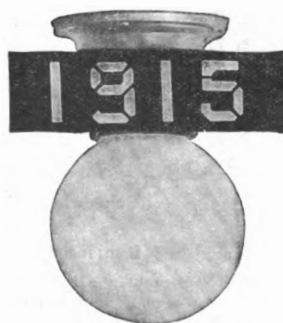
Push Out Springs
For Use With Door Openers

Schedule "E"

List No.		Std. Pkg.	*List Price
49	Mortise type. Phosphor bronze.....	6	\$0.33
79	Fits $\frac{1}{2}$ inch hole. No screws required.....	12	.27

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Whitlock Illuminated Porch Number



Illuminated Porch Number

This ingenious device, known as the Whitlock Illuminated Porch Number, consists of an extension globe holder with one side arranged so that a number plate can be inserted.

It is for use on porches. The numbers can be easily read in the daytime as well as at night. To install simply remove the ordinary porch globe and fasten the Whitlock Number on the porch ring by the same thumbscrew that held the glass globe. On the bottom of the number case is a shadeholder with three standard thumbscrews, and the glass globe is fastened to this holder. This arrangement makes the porch lamp serve a double purpose. It lights the Whitlock Porch Number and also lights the porch.

Each number is a stamped metal unit that slips into a slide over an opal glass background.

Any combination of numbers from 0 to 99999 can be obtained. The numbers themselves are approximately $2\frac{3}{4}$ inches high and are large enough so that they can be read without difficulty at considerable distance either during the day or at night.

List No.	List Price Each
361943 Whitlock Illuminated Porch Number.....	\$4.00

A standard package consists of 24 Whitlock Porch Numbers, 96 assorted numerals, with an assortment of blanks for filling unused number spaces.

BURGLAR ALARM APPARATUS

GENERAL DESCRIPTION

This apparatus is manufactured for entire protection against intrusion of any sort, and it includes complete equipment necessary for installation with the exception of wire and battery. It comprises burglar alarm annunciators, alarm bells, window, door, shade, transom, shutter and scuttle springs, switches and automatic house-lighting devices. The interchangeability of these devices permits unlimited flexibility for the system; it will be found invaluable for private houses and apartments, suburban homes, institutions, poultry farms, large estates, stores, etc.

OPERATION

At a given time the system is placed in effect, either wholly or in part, by the arrangement of switches at the annunciator. A silent test switch assures the user that all desired openings are under protection. There is also a switch to test bell and line; and one to test battery and line. If now, an entrance is attempted, a bell rings at any desired point and the point of entrance is indicated. Additional bells or any form of signals or indication may be added to the equipment, to be placed at any point on the premises or at a remote point, or the instrument may be so arranged as to cause the entire house or individual lights, either gas or electric, to become illuminated when an alarm is given, or all of these features may be included.

Certain sections, such as coal chute, wine cellar or scuttle, may be left permanently connected by placing switches for these sections on the upper, or day, bar. Selected portions, such as the servants' quarters and other parts of the house to be used before the family arises, may be automatically disconnected upon the ringing of a servants' call by placing the switches for those sections on the lower, or night, bar.

Correspondence regarding special usage of burglar alarm application is invited.

CONSTRUCTION

These instruments are of standard construction and design, as described elsewhere. In such styles as call for them, high grade clock movements are installed. Switch bars for night and day connection and testing circuits are included. Alarm bells recommended are the Recti and the Lungen. See also constant ringing attachments, small bells, and entrance door springs, lock switches, etc.

EXTRA ATTACHMENTS

Schedule "E"

For No. 3, No. 4, or No. 5 Burglar Alarms.	*List Price
Automatic gas lighter, one or two burners.	\$11.50
Automatic gas lighter, more than two burners, per burner.	2.50
Automatic incandescent lamp lighter, in case, capacity 5 amps.	35.00
Automatic incandescent lamp lighter, in case, capacity 10 amps.	40.00

AUTOMATIC CLOCK BURGLAR ALARM NO. 3

Schedule "E"



No. 3

Equipment—Fine 8-day clock, servants' call, voltmeter, bell, battery and silent tests, constant ringing switch, automatically illuminated dial if ordered. Extra attachments, as per listing above.

Finish—Oak or any ordinary wood, filled, varnished and rubbed; beveled plate glass door with lock. Surface or flush types furnished. Prices and dimensions given are for surface types; other styles on request.

List No.	No. of Sections	Arrangement Rows	Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches	
360018	6	1	14	23	7 $\frac{1}{4}$	\$215.00
360019	8	1	17	23	7 $\frac{1}{4}$	225.00
360020	10	1	19	23	7 $\frac{1}{4}$	235.00
360021	10	2	12 $\frac{1}{2}$	27	7 $\frac{1}{4}$	235.00
360022	12	2	14	27	7 $\frac{1}{4}$	245.00

Additional sections in width, add to width, 1 $\frac{1}{2}$ inches.

Additional rows in height, add to height, 4 inches.

Additional sections, add to list per section, \$5.75.

For white enamel finish, add to list, \$7.50.

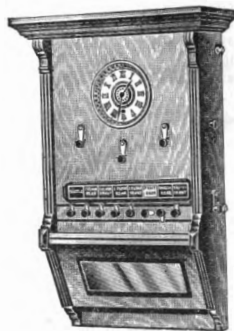
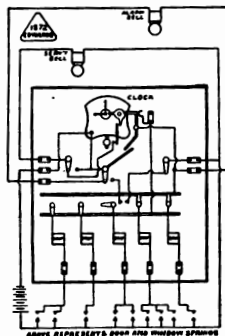
Note: Heavy face type indicates finish supplied when not otherwise ordered.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

BURGLAR ALARM APPARATUS



No. 4



No. 5

Annunciator Burglar Alarms

AUTOMATIC CLOCK BURGLAR ALARM NO. 4

Schedule "E"

Equipment: Fine 8-day clock. Servants' call, battery, bell and silent test, constant ringing switch. Extra attachments, as per preceding page.

Finish: Same as No. 3. Other finishes and flush types furnished. Prices and dimensions given are for surface types.

List No.	No. of Sections	Arrangement Rows	Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches	
360023	6	1	13¼	23	7¾	\$100.00
360024	8	1	16	23	7¾	110.00
360025	10	1	18¾	23	7½	120.00
360026	10	2	12	26¾	7¾	120.00
360027	12	2	13¼	26¾	7¾	130.00

Additional sections in width, add to width, 1 1/2 inches.

Additional rows in height, add to height, 3 3/4 inches.

Additional price per section, list, \$4.50.

For white enamel finish, add to list, \$7.50.

AUTOMATIC CLOCK BURGLAR ALARM NO. 5

Schedule "E"

Equipment: Standard 8-day long pendulum clock. Battery, bell and silent test, constant ringing switch. Extra attachments, as per preceding page.

Finish: Same as No. 3 except no glass door. Other finishes and flush types furnished. Prices and dimensions shown are for surface types.

List No.	No. of Sections	Arrangement Rows	Outside Dimensions			*List Price
			Width Inches	Height Inches	Depth Inches	
360028	6	1	13¼	24	6¼	\$60.00
360029	8	1	16	24	6¼	65.00
360030	10	1	18	24	6¼	70.00
360031	10	2	12	27½	6¼	70.00
360032	12	2	13¼	27½	6¼	75.00

Additional sections in width, add to width, 1 1/2 inches.

Additional rows in height, add to height, 3 1/2 inches.

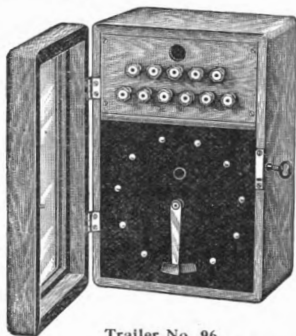
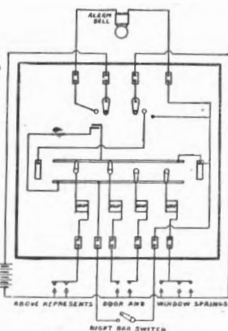
Additional price per section, list, \$3.00.

Servants' call can be furnished at an additional list price of \$7.50.

For white enamel finish, add to list, \$6.00.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

BURGLAR ALARM APPARATUS



No. 7

Wiring Diagram

No. 11

Trailer No. 96

AUTOMATIC BURGLAR ALARM NO. 7

Schedule "E"

Furnished with battery, bell and silent tests.

No. of Sections	Arrangement Rows	Outside Dimensions			*List Price
		Width Inches	Height Inches	Depth Inches	
6	1	13 1/4	14 1/2	6 1/4	\$35.00
8	1	16	14 1/2	6 1/4	37.50
10	1	18 3/4	14 1/2	6 1/4	40.00
10	2	11 3/4	18 1/4	6 1/4	40.00
12	2	13 1/4	18 1/4	6 1/4	42.50

Additional rows in height, add to height, 3 3/4 inches. Additional sections in width, add to width, 1 1/2 inches. Add to price per section, \$2.50.

Finish: Filled, varnished and rubbed oak. Other standard finishes to order.

Special Finish, Lettering and Setback

Note: Heavy face type indicates finish supplied when not otherwise specified.

For mahogany, add to list, 25%. For white enamel finish, add to list:

2 to 12 Section \$2.50 13 to 24 Section \$4.00 25 to 55 Section \$6.00 56 to 100 Section \$7.00

Lettering on glass, up to 10 letters, list, 65 cents; each additional letter, list, 4 cents.

CLOSED CIRCUIT DROP NO. 11

Schedule "E"

For annunciators or burglar alarms on closed circuit, each drop acting as its own relay.

Add to list price of burglar alarm:

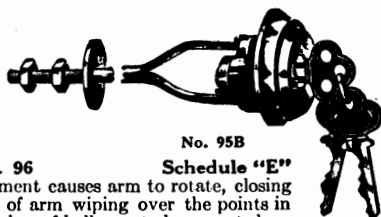
	*List Price	
	With Clock	Without Clock
For 6-section cases.....	\$72.50	\$35.00
For 8-section cases.....	87.50	50.00
For 10-section cases.....	102.50	65.00

For larger sizes, prices furnished on application.

For annunciators all styles except fire alarm, return call or the No. 81, add to list price, \$5.00 per drop.



No. 95



No. 95B

TRAILER NO. 96

Schedule "E"

A spring operated clock movement causes arm to rotate, closing contact by means of brush at end of arm wiping over the points in succession. It is used when a number of bells are to be operated, so

that battery economy may be effected or where needed current for proper operation of all bells at once would be so high as to be inadvisable. It can be supplied for any number of circuits.

List No.	*List Price Each	
	2 to 6 points.....	\$22.50
96	Extra points, add to list, for each point, \$1.00.	

LOCK BURGLAR ALARM SWITCHES

Schedule "E"

The No. 95 switch is placed on the outside of door frame, so that when burglar alarm is set, persons having a key may enter without giving the alarm.

95 Polished brass or nickel..... \$6.00

The No. 95A operates the same as No. 95, but has two locks. Keys fit both inside and outside locks so that after switch has been turned off outside, key can be withdrawn and person entering can close the door, insert key on inside and reset switch.

95A Polished brass or nickel plate..... \$12.00

The No. 95B is the same as No. 95, but with rod to go through door frame, fastened by nuts on inside, so that it cannot be removed from the outside.

95B Polished brass or nickel..... \$4.20

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

BURGLAR ALARM ACCESSORIES

Open and Closed Circuit Springs

Open Circuit Window Springs: Nosing in normal position, contact is broken.
 Closed Circuit Window Springs: Nosing in normal position, contact is established.
 Door Springs are just the reverse.

Note: In installing window springs, one should be placed in the frame several inches above the lower end of the upper sash, and one a similar distance below the upper end of the lower sash. Each sash should be mortised so the nosing will set in the recess when the window is closed, and this mortise should be continued above the upper, and below the lower spring a few inches to permit the opening of the window for ventilation. When the sash is moved beyond that point, it depresses the nosing, making or breaking (as the system is open or closed circuit) the circuit.

Where the sash is loose, the use of the No. 121 counter spring mounted on the side of the frame opposite to the window spring will insure satisfactory results.

All spiral and contact springs are phosphor bronze metal. The contacts are rubbing or scraping.



No. 28



No. 29



No. 30



No. 31



No. 32

OPEN CIRCUIT SPRINGS

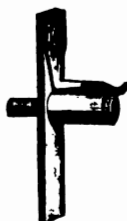
List No.	Mfr. No.	For Use On	Description	Size of Plate Inches	Std. Pkg.	*List Price
360049	28	Window	.....	2 3/8 x 1 1/2	90	\$0.19
360050	29	Window	Double.....	1 1/2 x 1 3/4	12	.33 1/2
360051	30	Window	Heavy contact.....	3 3/8 x 5/8	60	.32 1/2
360052	31	Shade	Perpendicular for under sill.....	1 1/2 x 1 5/8	12	.72 1/2
360053	32	Transom	For French or pivot windows.....	2 1/4 x 1	12	.65



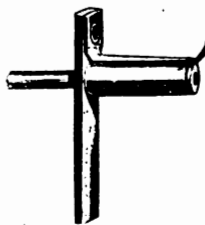
No. 34



No. 35



No. 36



No. 37



No. 38

OPEN CIRCUIT SPRINGS

List No.	Mfr. No.	For Use On	Description	Size of Plate Inches	Std. Pkg.	*List Price
360054	34	Door	.....	2 x 5/8	90	\$0.19
360055	35	Door or Transom	For hinged transoms or thin doors....	1 3/4 x 1 1/4	50	.18 1/2
360056	36	Door	Extra heavy.....	3 x 5/8	12	.38
360057	37	Shutter	Extra long break.....	3 x 5/8	12	.49
360058	38	Door	Make and break.....	2 x 5/8	90	.22

The make and break spring No. 38 differs from other types in that it establishes the contact as the door opens and closes, but not when the door is open or closed. It is used for store doors and other places where a signal that a door is being opened or closed is desired and yet permit the door to remain in either position without ringing the bell.

NOTE: Assortment of all springs listed above to make standard package is permitted if the total number ordered equals the largest standard package quantity of the styles ordered.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
 Electrical House Goods and Novelties

BURGLAR ALARM SPRINGS Open and Closed Circuit Springs



No. 113



No. 120



No. 138

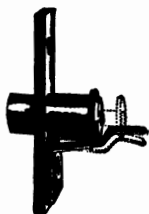


No. 143

OPEN CIRCUIT SPRINGS

List No.	Mfr. No.	For Use On	Description	Size of Plate	Std. Pkg.	*List Price
360059	113	Door	Insulated for metal doors.....	2 x 5/8 ins.	6	\$3.24
360060	120	Window	Roller for swinging frames.....	3 3/4 x 1 1/4 ins.	6	1.89
360061	138	Shade	For top of sill.....	2 x 5/8 ins.	12	.65
360062	143	Window	Insulated for metal windows.....	2 1/4 x 1 1/8 ins.	6	1.89

All spiral and contact springs are phosphor bronze metal.



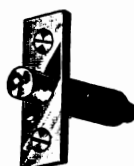
No. 39



No. 121



No. 40



No. 41



No. 42

CLOSED CIRCUIT SPRINGS

List No.	Mfr. No.	For Use On	Description	Size of Plate	Std. Pkg.	*List Price
360063	28	Window	Heavy spring.....	2 3/8 x 1/2 in.	90	\$0.27
360064	30	Window	Perpendicular for under sill.....	3 3/8 x 1/2 in.	60	.38
360065	31	Shade	Extra heavy.....	1 1/8 x 5/8 in.	12	.87
360067	36	Door	Extra long break.....	3 x 5/8 in.	12	.43
360068	37	Shutter	Opening door breaks contact.....	2 x 5/8 in.	12	.65
360069	39	Door	Flat contact or for loose sash.....	3 x 5/8 in.	90	.22
360070	121	Window	Fits 3/8 inch hole (price with plate).....	4 1/2 x 3/4 in.	6	.22
360071	40	Door or Safe	Plate only.....	1 3/4 x 5/8 in.	6	.33
360072	40	Door or Safe	Price with plate.....	1 3/4 x 5/8 in.	6	.10
360073	41	Door or Safe	Price with plate.....	1 3/4 x 5/8 in.	6	.38
360074	42	Door or Safe	Price with plate.....	1 3/4 x 5/8 in.	6	.33



No. 43



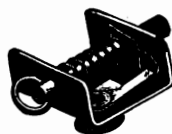
No. 44



No. 44a



No. 236



No. 45

CLOSED CIRCUIT SPRINGS

List No.	Mfr. No.	For Use On	Description	Size of Plate	Std. Pkg.	*List Price
360075	43	Door or Safe	Long break, with plate.....	1 3/4 x 5/8 in.	6	\$0.38
360076	44	Door or Safe	With extra plate No. 44a.....	1 3/4 x 5/8 in.	6	.38
360077	44A	Door or Safe	Extra plate only.....	1 3/4 x 5/8 in.	6	.08

For package assortment on above see foot-note on preceding page.

DOOR TRIP NO. 236

To automatically ring bell when door is opening. Screws to door frame.		
360078	236	Door Trip.....

6 \$0.49

BURGLAR ALARM ATTACHMENT NO. 45

For protecting windows, skylights, blinds, etc.		
A wire attached to the ring is drawn so as to break the contact. The further drawing of the wire, or the breaking of it, will establish a contact and give the alarm.		
360079	45	Attachment.....

6 \$0.82

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

FIRE ALARM BOXES
SELECTIVE RINGING TYPES

No. 1181

No. 1275

No. 118

No. 227

No. 129 Weatherproof Case
for Fire Alarm Boxes

Local Non-interference

These boxes are used in systems where it is desired to signal a number to show location of fire, and having been started in motion cannot be interfered with by manipulation of the starting device until complete set of signals has been sent.

They consist of a mechanical movement, which, when started in operation, opens and closes (or vice versa) alarm circuit the proper number of times to announce by a series of single strokes on alarm apparatus the number of box operated.

NO. 1181 BREAK GLASS TYPE

Schedule "R"

This is designed to meet the requirements of recent fire prevention laws. It is substantial in construction, reliable in operation and includes a silent test of mechanism as well as an alarm test. This box is arranged for four rounds; after the glass is broken it cannot be replaced until the box is rewound and set for another alarm. The mechanism is entirely insulated from the case, and contact is of the scraping self-cleaning type.

It is arranged for use with surface conduit installation and drilled and tapped for $\frac{1}{2}$ inch conduit.

The 1180 box is the same as No. 1181, except that it is arranged for concealed conduit installation.

Finish red enamel, raised lettering finished white. Prices include hammer and chain.

List No.		*List Price
1180	Break glass type for concealed conduit installation.....	\$25.00
1181	Break glass type for surface conduit installation.....	25.00

NO. 1275 PULL LEVER TYPE

Schedule "R"

Designed to meet requirements of recent fire prevention laws. For use with surface conduit. Selective ringing. Lever having been pulled, it is automatically disengaged and cannot interfere with proper operation of box through additional pulling. When signals have been completed, lever is automatically re-engaged and box is ready for another alarm. No winding ever necessary. Separable conduit fitting drilled and tapped top and bottom for $\frac{1}{2}$ inch conduit ($\frac{3}{4}$ inch if desired) so that conduit work may be completed and wire pulled in and connected up. Boxes may be attached at any time by machine screws supplied with them. No. 1276 semi-flush same as No. 1275, but arranged for use with concealed conduit. Conduit box included in price.

TWO CIRCUIT SERVICE

The Nos. 1275 or 1276 can be furnished arranged so that ordinary pulling of the box will cause only two or three bells at central points to ring. By inserting special key and pulling box all bells may be rung. Where this style box is desired add the letter "S" to box number.

Nos. 1275 or 1276.....	\$17.00
Nos. 1275S or 1276S.....	25.00

NO. 118 BREAK GLASS TYPE

Schedule "E"

Slow movement. Furnished to repeat signal three or six times, as ordered.

Finish, red enamel. Case, size, 6 x 4 $\frac{1}{4}$ x 3 inches.

118	Break glass to turn in alarm.....	\$15.00
118A	Pull lever to turn in alarm.....	15.00

NO. 227 BREAK GLASS AND PUSH BUTTON TYPE

Schedule "E"

Furnished to repeat signal three times. Weatherproof case with conduit entrance at bottom; hinged door and brass padlock. Case is japanned finish. Size, 9 x 5 $\frac{1}{4}$ x 4 inches. Finish, red enamel.

227	Break glass and push button to turn in alarm (weatherproof).....	\$35.00
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NO. 129 WEATERPROOF CASE

Schedule "E"

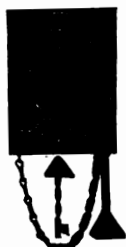
Cast iron, japanned finish enclosing case.

Provided with lock or thumb latch, as desired. Intended chiefly for No. 118 fire alarm boxes; size of case, 8 $\frac{1}{2}$ x 7 $\frac{1}{2}$ x 4 inches. Strap key for return signals for test may be included.

129	Weatherproof enclosing case.....	\$10.00
	Extra charge for strap keys, each.....	1.50
	Glass panel in door, extra each.....	1.90

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

FIRE ALARM BOXES



No. 224



No. 2240



No. 2241

Break Glass, Contact Making Types

Schedule "E"

These boxes are used where a general alarm on alarm apparatus such as vibrating bells of Recti type is desired, or in centrally controlled systems, where annunciators such as the No. 114—which is equipped with bell control switches—and vibrating alarm bells are employed. In this latter system, the operation of a box causes tag bearing number of the box operated to indicate on annunciator, and annunciator bell to ring continuously. It is then possible for person at annunciator to ring any or all alarm bells to clear building. In using this type of apparatus, open circuit system is usually employed.

A very high degree of perfection has been obtained by close attention to details of manufacture. Prices include hammer and chain.

NO. 224 FLUSH TYPE

Schedule "E"

Breaking glass closes circuit. Size plate, $3\frac{1}{8} \times 4\frac{3}{8}$ inches. Fits standard switch box.

Standard finish: Dark mat ground, raised lettering and borders brush brass or bronze.

List No. Mfr. No.

*List Price

360270	224	Fire Alarm Box, Flush type.....	\$3.35
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NO. 224A SURFACE TYPE

Schedule "E"

Same as No. 224, except made for surface mounting.

Operation: Breaking glass closes circuit. Size, overall dimensions, including mat, $4\frac{1}{8} \times 5\frac{1}{4}$ inches.

Standard finish: Dark mat ground, raised lettering and borders brush brass or bronze.

List No. Mfr. No.

*List Price

360271	224A	Fire Alarm Box, Surface type.....	\$3.75
		Mat only for 224A.....	1.00

Special Note: Boxes No. 224 and No. 224A have heavy cast brass faces; clear glass in front, is backed by red plate; contacts are so designed as to be positive in operation, irrespective of length of time they have been inactive. Special test key included with box; signaling without this key or by breaking glass impossible.

NO. 2240 CONCEALED CONDUIT TYPE

Schedule "E"

This box fits a standard push button switch box. The contacts are of a new positive acting design. Raised letters finished in white are cast on the front. The box is finished in red enamel.

Test may be made by unlocking and opening the hinged front of the box, which accomplishes the same result as if the glass were broken, in that it allows the operation of the regular contact mechanism. Contact springs are heavy phosphor bronze, and when box is operated the heavy disk makes a positive scraping contact.

List No. Mfr. No.

*List Price

360273	2240	Flush conduit type.....	\$6.00
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NO. 2241 SURFACE CONDUIT TYPE

Schedule "E"

The No. 2241 is the same as the No. 2240, except that a back case has been added to adapt it to use with surface conduit installations. The case is drilled and tapped for $\frac{1}{2}$ inch conduit.

List No. Mfr. No.

*List Price

360274	2241	Surface conduit type.....	\$7.00
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*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

FIRE ALARM BOXES



No. 231



No. 232



No. 230



No. 77

Break Glass Contact Type

NO. 231 FLUSH TYPE

Schedule "E"

Operation: Breaking glass closes circuit. Size plate, 4 inches diameter; screw hole centers, $2\frac{1}{8}$ inches.
Standard finish: **Polished brass**, brush brass or bronze.

List No.	Mfr. No.		*List Price
360275	231	Fire Alarm Box, with hammer and chain.....	\$2.00
		For any finish in group "A" (see below), add.....	.30
		For any finish in group "B" (see below), add.....	.80

NO. 232 FLUSH TYPE

Schedule "E"

Operation: Breaking glass closes circuit. Size plate, $4\frac{1}{4} \times 2\frac{1}{2}$ inches; screw hole centers, $3\frac{1}{8}$ inches,
and fits Pratt Chuck box OA, or Bossert No. 1800.
Standard finish: **Polished brass**, brush brass or bronze.

360277	232	Fire Alarm Box, with hammer and chain.....	\$2.00
		For any finish in group "A" (see below), add.....	.30
		For any finish in group "B" (see below), add.....	.80
		For test key, add list.....	.50

NO. 230 SURFACE TYPE

Schedule "E"

Operation: Raising lever closes circuit. Size, $3\frac{3}{4}$ inches diameter.
Standard finish: **Polished brass**, brush brass or bronze.

360278	230	Fire Alarm Box, with hammer and chain.....	\$1.50
		For any finish in group "A" (see below), add.....	.30
		For any finish in group "B" (see below), add.....	.80
		For arranging for closed circuit operation, add.....	.25

NO. 77 SURFACE TYPE

Schedule "E"

Operation: Breaking glass closes circuit. Size, $3\frac{3}{4}$ inches diameter.
Standard finish: **Polished brass**, brush brass or bronze.

360279	77	Fire Alarm Box, with hammer and chain.....	\$1.00
		For any finish in group "A" (see below), add.....	.30
		For any finish in group "B" (see below), add.....	.80
		For arranging for closed circuit operation, add.....	.25

EXTRAS

Schedule "E"

Extra glasses with papers for all types of boxes.....	\$0.20
Extra chain and hammer for No. 77 box.....	.25
Extra chain and hammer for other boxes.....	.35

Standard and Special Finishes

Note: Heavy face type indicates finish supplied when not otherwise specified.

FINISH GROUP "A"

FINISH GROUP "B"

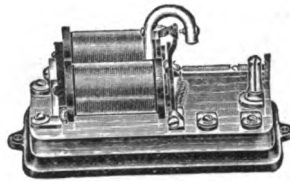
Old English bronze	Polished copper	Gilt	Burnished gilt
Antique or Flemish brass	Polished steel	Satin gold	Polished silver
Oxidized brass	Bauer-barff	Etruscan gilt	Pompeian bronze
English bronze	Acid or statuary bronze	Gold bronze	Roman or dull gold
Mottled copper	Lemon brass	Oxidized silver	Sand blast, antique brass
Oxidized copper	Gun metal	Butler's silver	Sand blast, old brass
Antique copper or	Black	Ormulu or French gilt	Verde antique
Japanese bronze			

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
Electrical House Goods and Novelties

FIRE ALARM APPARATUS



No. 229



No. 238

Central Station Contact Box

NO. 229

Schedule "E"

This instrument consists of a mechanical movement somewhat similar to that installed in the standard fire alarm box. Also a series of brass wheels marked with the numbers which they sound, mounted individually on pins in the case. Case is quartered oak, with glass door supplied with lock and key. This instrument is used for village or town fire alarm systems, for the operation of tower bells, or it is located at fire headquarters, so that any box number may be rung from that point.

It is also available for use in connection with factory signal systems, for the calling of company officers, superintendent, foreman, etc., by sounding numbers of each on single stroke or vibrating bells.

To operate number, wheel bearing proper number is placed on shaft of mechanism, after which the pulling of lever starts it in motion, automatically sounding number of district in which fire is located, or if used for individual signal the number of person it is desired to reach.

Mechanism can be arranged to sound this number 3 or 6 times as may be desired.

List No.	Mfr. No.	Description	*List Price Each
360535	229	Box including 6 number wheels	\$45.00
360536		Extra number wheels	2.00

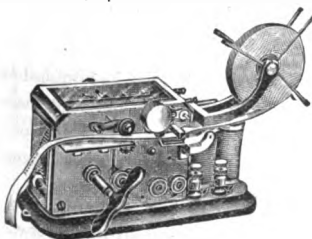
Fire Alarm Relay

NO. 238

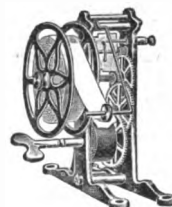
Schedule "E"

Base polished mahogany, metal parts, old brass. Specified with Edwards' Factory or Town Fire Alarm System, with electro-mechanical gongs when used on separate circuits, or any extension work.

List No.	Mfr. No.	Resistance	*List Price
360280	238	20 ohms	\$3.00
360281	238	50 ohms	8.75
260282	238	100 ohms	9.50
260283	238	250 ohms	10.50



No. 2197



No. 5985

Automatic Pen Register

NO. 2197

Schedule "E"

Self-starting and self-stopping. Registers in ink the number of the fire alarm box (by means of short dashes on paper tape) from which call is made. Standard resistance unless otherwise specified, 20 ohms. Other resistances special.

List No.	Mfr. No.	Resistance	Std.	*List Price
360284	2197	Single pen	20 ohms	\$125.00
360285	2197	Double pen	20 ohms	140.00

Automatic Paper Winder

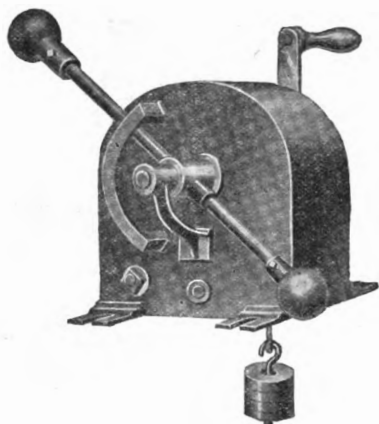
NO. 5985

Schedule "E"

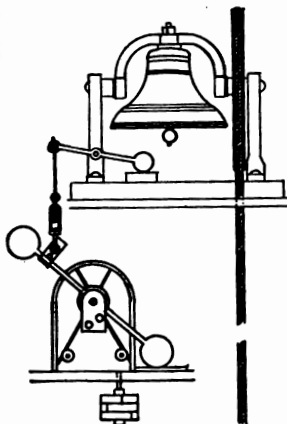
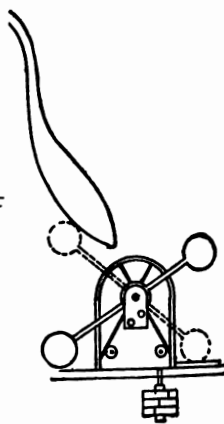
360286 5985 Paper Winder. Japanned finish; operates in connection with either type of pen register. *Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

TOWER BELL STRIKERS

ALTERNATING OR DIRECT CURRENT



No. 127

Showing manner of connection
to tolling hammerShowing position of
stroke on bell

Tower Bell Strikers

NO. 127

Schedule "E"

This apparatus is used to automatically sound fire or general alarms on large bells. It is also available for sounding time or service periods on church bells and can be so installed that it does not in any way interfere with the regular hand tolling hammer.

It is regularly wound to a resistance of 25 ohms for battery operation, but will be furnished for service on direct current up to 600 volts or alternating current 100 to 250 volts, 25 or 60 cycles single phase without additional charge. Where used in connection with fire alarm systems, high voltage may be used for operation of striker only by the introduction of a relay, this being necessary as alarm boxes are not designed to take care of high voltages. Always specify, however, if for open or closed circuit service.

Capacity of striker, about 100 blows at one winding. Weights drop about six inches for each stroke of hammer. From 50 to 75 pounds, depending on size of bell, are required for operation.

This apparatus is well adapted for town or village fire alarm systems, and the Nos. 1180-1181 and 1118 boxes are recommended for use with it.

List No.	Mfr. No.		*List Price
360258	127	For bells up to 2000 lbs. Hand winding.....	\$350.00
360259	127A	For bells up to 3000 lbs. Hand winding.....	400.00

In ordering always state frequency as well as voltage of operating current.

Price includes cable for weights but not the weights.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

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EDWARDS SPECIALTIES

Solenoid Striker

Schedule "E"

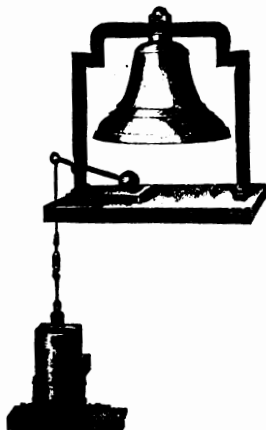
For Striking Electrically, Tower, Fire or General Alarm Bells

Where current is available for operation, the solenoid striker is sometimes preferred to mechanical type as the necessity for winding is entirely done away with.

Strikers can be supplied in various sizes for operation on direct current up to 250 volts, and prices quoted include multiple carbon contact relays which are necessary to take care of sparking due to solenoid discharge at the moment of breaking the circuit.

It is possible by means of a small line relay to connect these strikers directly with the fire alarm line so that the number of any box operated would be sounded on the large bell.

The device is an attractive one for attaching to church bells, as tolling can then be accomplished by means of an ordinary push button.



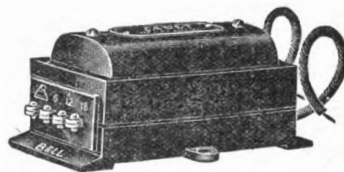
No. 141

List No.	Description	*List Price Each
141	For bells weighing up to 1000 lbs.	\$300.00
141A	For bells weighing up to 2000 lbs.	400.00

When not otherwise specified, solenoid strikers will be arranged for operation on 110 volts D.C.



Dixie No. 207



Cadet No. 208

"Dixie" and "Cadet" Transformers

GENERAL DESCRIPTION

Schedule "E"

Edwards' bell-ringing transformers are self-contained units, encased in japanned iron, for operating small bells, annunciators, door openers, etc., from alternating lighting circuits, avoiding expense and annoyance incidental to the use of batteries, and eliminating any danger that might occur from the use of higher voltages. Lugs in the case accommodate heavy screws for holding the transformer in place. Flexible leads provide for connection to the lighting circuit. Vise grip binding posts are provided for the bell side, plainly marked, making mistakes in connecting impossible and preventing accidental disconnection of the wires.

Every precaution has been taken to make Edwards' transformers reliable and practicable. There are no moving parts; the windings, and laminated core of highly efficient non-aging steel, are entirely enclosed. The insulation is so effective that a direct short circuit on the bell side will not injure the system or the bell-ringer, and the rise in temperature in the ringer is much less than 50 degrees C. The bell-ringer is indestructible and economical, the first cost being a little more than that of a set of good batteries and the instrument requires no adjustment. Each transformer is thoroughly tested—and well packed in corrugated pasteboard boxes.

List No.	Type	Capacity	Current Frequency	Std. Pkg.	*List Price Each
207	Dixie	8V.	25 or 60 cy. 100-125 V.	6	\$5.40
208	Cadet	6, 12 or 18 V.	25 or 60 cy. 100-125 V.	6	8.10

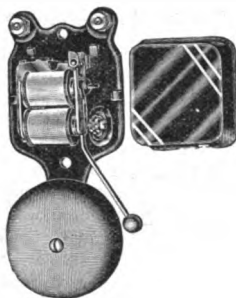
Assortment permitted to make standard package.

Approved by The National Board of Fire Underwriters.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

IRON BOX BELLS AND BUZZERS
 DIRECT CURRENT


No. 1845



No. 1855



No. 1848



No. 1900

Western Electric
Iron Box Bells and Buzzers
 Class "B" Adjustable

This Bell is guaranteed to give satisfaction.

Every part is designed for long and hard service with the possibility of a "ground" or "short circuit" in the bell practically eliminated. Specially formed hard fiber in addition to rubber covering is used to prevent circuit wires coming in contact with the bell frame. The base or back of the bell is made from dead soft steel formed under heavy pressure and arranged with a continuous rim which rests flush on the surface to which the bell is attached, preventing anything getting into the bell mechanism. The armature and magnets are mounted on a separate base which is securely attached to the back. The armature striker rod and ball are made from one piece of metal, therefore, no chance of any parts becoming loose. The armature is pivoted and fitted with an adjustable tension spring which can be adjusted for one to eight cells of battery. The contact post is non-turnable and fitted with a lock nut on the contact screw. The binding posts are non-turnable. Magnet cores are tipped with copper caps to prevent armature from sticking. The cap and frame are protected with a covering of black japan and all other parts are nickel and copper plated to prevent rusting.

List No.		List Price
1855	Class "B" Adjustable Iron Box Bell, 2½ inch gong.....	\$0.54
1856	Class "B" Adjustable Iron Box Bell, 3 inch gong.....	.56
1857	Class "B" Adjustable Iron Box Bell, 4 inch gong.....	.70
1858	Class "B" Adjustable Iron Box Buzzer.....	.52

Class "C" Non-Adjustable

The cover is made of tinned sheet steel, black japanned, and is held rigidly in place by metal projections on top of base, under which the cap is snapped.

The base is of heavy annealed steel, black japanned. Contact post is attached to the magnet head which insures permanent adjustment and no danger of a "ground" on the base as it does not touch it.

The armature, striking rod and ball are all made from one piece of metal—a sure prevention of loose striker rods or balls.

Magnets are standard size and end of upper magnet is fitted with a copper cap to prevent armature sticking.

Binding posts are non-turnable, which prevent holding screws from turning and making loose contact. Every detail of the bell and buzzer is constructed for durability and satisfactory service.

One cell of battery will operate either, and as many as five cells can be used if desired.

List No.		List Price
1845	Class "C" Non-Adjustable Iron Box Bell, 2½ inch gong.....	\$0.50
1846	Class "C" Non-Adjustable Iron Box Bell, 3 inch gong.....	.52
1847	Class "C" Non-Adjustable Iron Box Bell, 4 inch gong.....	.66
1848	Class "C" Non-Adjustable Iron Box Buzzer.....	.48

Improved Monitor Bell

A neat, compact, reliable, round bell with double magnets, non-turning contact spring and binding posts. The gong is nickel plated, and secured in its place so it cannot turn, giving always a clear ring instead of a rattle caused by a loose gong.

List No.		List Price
1900	Improved Monitor Bell.....	\$1.00

BELLS WITH FANCY NICKEL-PLATED GONGS



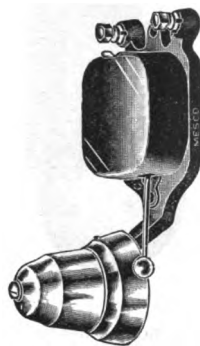
No. 1815, Rectangular



No. 1816, Sleigh



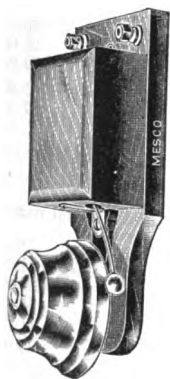
No. 1817, Swiss



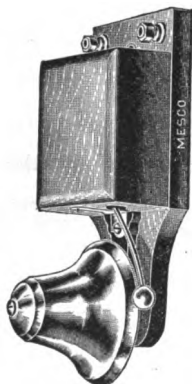
No. 1818, Garland

Fancy Nickel-plated Gong

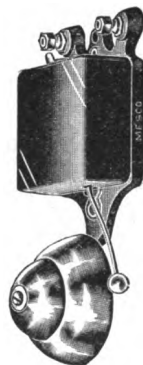
List No.	Mfr. No.			List Price Each			
				Class A Iron Box	Class B Iron Box	Class C Iron Box	Wood Box
361417	1815 Rectangular,	1½ x 2 inches	.....	\$0.90	\$0.84	\$0.80	\$1.20
361419	1816 Sleigh,	1½ inches	.....	.90	.84	.80	1.20
361421	1817 Swiss,	2½ inches	.....	.90	.84	.80	1.20
361423	1818 Garland,	2 inches	.....	.90	.84	.80	1.20



No. 1819



No. 1821



No. 1823



No. 1824

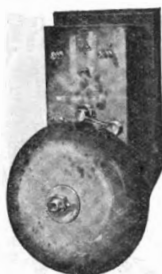
Fancy Nickel-plated Gong

List No.		List Price Each			
		Class A Iron Box	Class B Iron Box	Class C Iron Box	Wood Box
1819 Mikado,	2½ inches	.....	.....	.....	.....
1821 Tea,	2¾ inches	.....	.....	.....	.....
1823 Dome,	2½ inches	.....	.....	.....	.....
1824 Wood,	2½ inches	.....	.....	.....	.....

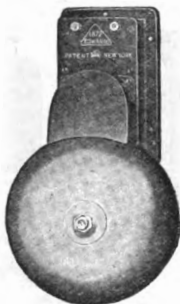
Special size fancy gongs mounted on any of the different style frames to order.

SIGNAL GONGS

ALTERNATING OR DIRECT CURRENT



No. 132
Interior Gong



No. 133
Weatherproof Gong



No. 133
Full Grid

Electro-Mechanical Bells

GENERAL DESCRIPTION

These bells are dust, insect, moisture and weatherproof, or non-weatherproof if for interior use. The method of operation is: The hammer upon being released makes a full revolution, passing under the gong to an inclined plane, where it is raised and permitted to strike the gong with great force gathered in the revolution. The recoil causes it to drop and become locked in its normal position under the gong. As the full force of the blow is spent on the gong, there is no strain on the mechanism. The operation, through an eccentric, produces positive action and requires but a small amount of current. Either open or closed circuit, and can be arranged to operate as a single stroke or constant ringing gong, or to ring continuously until run down upon make or break of circuit. It can also be arranged to operate on 110 volt A.C. or D.C. circuit.

INTERIOR TYPE NO. 132—5 OHMS

Polished hardwood case, nickel plated front. Can be arranged to operate as single stroke, constant or continuous ringing, until run down, on either open or closed circuit. Capacity, 200 blows to each winding.

List No.		Sizes Inches	*List Price
132	Interior type	4	\$20.00
132	Interior type	5	22.00
132	Interior type	6	23.00
132	Interior type	8	25.00
132	Interior type	9	27.50
	Extra keys		.40

WEATHERPROOF NO. 133—5 OHMS

Red enamel for fire alarm purposes, but can be furnished in black.

Resistance up to 10 ohms furnished without extra charge. Capacity, 350 blows to each winding.

Either open or closed circuit, and can be arranged to operate as a single stroke or constant ringing gong or to ring continuously until run down.

List No.		Sizes Inches	*List Price
133	Weatherproof type	6	\$33.00
133	Weatherproof type	8	35.00
133	Weatherproof type	10	37.50
133	Weatherproof type	12	40.00
133	Weatherproof type	14	45.00
133	Weatherproof type	15	50.00
133	Weatherproof type	16	55.00
133	Weatherproof type	18	62.50
	Extra keys		2.00

In ordering, always state operating current.

Grid for Electro-Mechanical Gong

For prices of gridded bells add to list of Nos. 133 or 1331 the following:

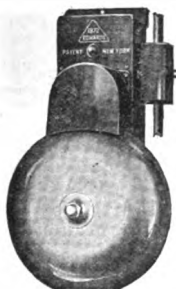
Size	Full Grid
6 inches	\$8.00
8 inches	10.00
10 inches	17.00
12 inches	24.00

In ordering, add letter "G" to No. of bell.

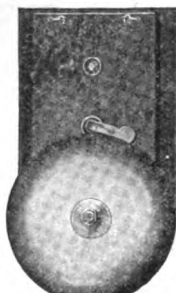
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

SIGNAL GONGS

ALTERNATING OR DIRECT CURRENT



No. 1331



No. 140

Electro-Mechanical Bells

CONDUIT BELLS—NO. 1330-1331—5 OHMS

*No. 1330 Bell for Use With Concealed Conduit

No. 1331 Bell for Use With Surface Conduit

Schedule "R"

This is a recent design which permits of operation on exceedingly small current flow. The mechanism is entirely insulated from the case. Connectors for line wires are at side in conduit box where they are most accessible, as the entire upper half of conduit box may be removed by taking out two screws. It is ordinarily furnished with one opening for $\frac{1}{2}$ inch conduit, but can be supplied with opening for $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit on back or with two in sides of conduit box. Capacity, 350 blows to each winding.

List No.	Sizes Inches	*List Price
1331	8	\$36.20
1331	10	38.50
1331	12	40.80
1331	14	45.40
1331	15	50.00
1331	16	54.00
1331	18	61.50

In ordering always specify voltage of operating current.

Standard finish, red enamel. Black enamel can be furnished if specified. For concealed conduit special box is required which is furnished without extra charge. Resistance up to 40 ohms furnished without extra charge.

*Note: In ordering concealed type add Letter "C" to list number.

INTERIOR TYPE NO. 140—5 OHMS

Schedule "E"

For either open or closed circuit, and can be arranged to operate as a single stroke or constant ringing gong, or to ring continuously until run down. Capacity, 350 blows for each winding.

List No.	Sizes Inches	*List Price
140	6	\$38.00
140	8	40.00
140	10	42.50
140	12	47.50
140	14	50.00
140	15	56.00
140	16	60.00
140	18	72.50
Extra key		2.00

In ordering always specify voltage of operating current.

For special resistance on the above, see table of additions on special page that follows; however, resistance up to 10 ohms furnished without extra charge.

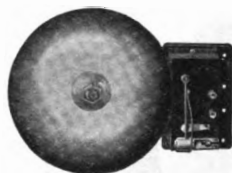
Polished oak case.

Above bells can be equipped with attachment for ringing a small vibrating bell or buzzer to indicate need of winding. Prices for attachment only, list \$6.25.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

SIGNAL BELLS AND GONGS
DIRECT CURRENT

No. 20



No. 21

The Vigilant Single Stroke

No. 20—6 Ohms

Schedule "E"

Magnets and armature are so arranged that the armature is strongly attracted from a considerable distance, giving the hammer a long sweep and a powerful blow.

Striker: The hammer is attached to the hammer rod by a strong flat spring, causing a quick recoil, resulting in clear and distinct signals; tension and strength of blow are adjustable.

Single Stroke: Single stroke bells can be wound to operate on direct current up to 500 volts.

Vibrating: Vibrating bells are furnished up to 110 volts direct current.

Finish: 2½ inch to 6 inch bells, japanned base; all other parts nicked. Larger than 6 inch, japanned base; other parts polished brass.

List No.	Sizes Ins.	List Price Single Stroke	List Price Vibrating	*List Price Combination S. S. & Vib	List No.	Sizes Ins.	List Price Single Stroke	List Price Vibrating	*List Price Combination S. S. & Vib
360175†	2½	\$5.80	\$6.80	\$7.80	360182†	9	\$15.00	\$16.50	\$17.50
360176†	3	6.00	7.00	8.00	360183†	10	16.50	18.50	19.50
360177†	4	6.50	7.50	8.50	360184†	12	18.00	20.00	21.00
360178†	5	7.50	8.50	9.50	360185†	14	35.00	37.50	38.50
360179†	6	8.50	9.50	10.50	360186†	16	42.50	45.00	46.00
360180†	7	9.50	10.50	11.50	360187†	18	55.00	57.50	58.50
360181†	8	14.00	15.50	16.50					

In ordering always state voltage of operating current.

For special resistance, see table of additions on special page that follows.

† In ordering single stroke type use letter "s" after list number, use "v" for vibrating type and "sv" for single stroke and vibrating type.

The Covered Vigilant

No. 21—6 Ohms

Schedule "E"

Characteristics and specifications same as No. 20 (above), except that it is encased to protect it from weather, dust, bugs, and other interference.

List No.	Sizes Ins.	List Price Single Stroke	List Price Vibrating	*List Price Combination S. S. & Vib	List No.	Sizes Ins.	List Price Single Stroke	List Price Vibrating	*List Price Combination S. S. & Vib
360188†	2½	\$7.30	\$8.30	\$8.80	360195†	9	\$16.50	\$18.00	\$18.50
360189†	3	7.50	8.50	9.00	360196†	10	18.00	19.50	20.00
360190†	4	8.00	9.00	9.50	360197†	12	20.00	22.00	22.50
360191†	5	9.00	10.00	10.50	360198†	14	37.00	38.50	39.00
360192†	6	10.00	11.00	11.50	360199†	16	45.00	47.00	47.50
360193†	7	11.00	12.00	12.50	360200†	18	57.50	59.50	60.00
360194†	8	15.50	17.00	17.50					

In ordering always state voltage of operating current.

For special resistance, see table of additions on special page that follows.

† In ordering single stroke type use letter "s" after list number, use "v" for vibrating type and "sv" for single stroke and vibrating type.

NO. 21 F. P. ELECTRIC SINGLE STROKE ALARM BELL Schedule "R"

A special form of the well-known Edwards Vigilant Electric Single Stroke Bell. Designed especially to meet requirements of Fire Prevention laws.

Direct Acting; no loss of power through compound levers or heavy retracting springs and is therefore highly efficient. No winding ever required.

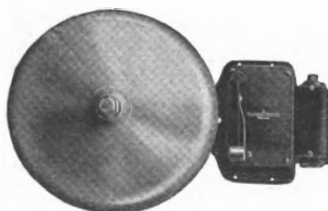
Heavy Hammer; long stroke.

Fully protected; it is weather, dust and bugproof.

Separable conduit fitting, drilled and tapped top and bottom for ½ inch conduit (¾ inch if desired) so that conduit work may be completed and wire pulled in; bells may be attached at any time by machine screws supplied with them. Best results obtained by mounting bell with gong to the left. Finish, red enamel.

For use with surface conduit.

6 Inch \$14.00



No. 21

SIGNAL BELLS AND GONGS

Recti Bells

GENERAL DESCRIPTION

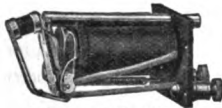
The Recti Bell meets with well-deserved success the demand for a rugged and powerful vibrating bell of lasting durability and of the most rigid construction, for weatherproof use. Of the various styles the No. 100 can be supplied to operate on either battery or higher voltages up to 225 volts direct current. And in sizes 4 to 10 inches, it can be arranged for operation on alternating current voltages 18 to 220, 25, 40 or 60 cycles, single phase. The No. 100A is particularly adapted to electric vehicle service. The No. 217 Recti is for operation on Direct Current Voltages, 250 to 600 directly on the line without external resistance, and operation under any of the foregoing conditions is guaranteed. When used on high voltages they are intended for intermittent service.

Special attention is invited to the action of the hammer, which, unlike any other bell, operates in a straight line, giving a direct blow; and as one end of the solid brass hammer rod is supported by a swinging joint, and the other end passes through the case, it is always secure, and can not get out of order.

Another positive improvement is that carbon is used for contact points. Thus the points can not corrode or oxidize, will not melt and will outwear platinum or other metal. May be replaced without taking the bell apart.

SPECIFICATIONS

Heavy cast jannaped box with oil-soaked felt gasket enclosing mechanism; direct-acting straight line hammer rod; magnets impregnated with moisture-resisting compound; contacts extra heavy, and in No. 100 sizes 5-inch and upward carbon contacts are made from standard size carbon rod; phosphor bronze springs, best grade cast bell metal gongs. Types shown are adapted for fire alarms, automobiles, factories, signal systems, mine or marine use. The mechanism is entirely insulated from the case, which is not, at any time, a part of circuit.



Interior of No. 100



No. 100



No. 220

RECTI NO. 100—3 OHMS DIRECT CURRENT

Schedule "R"

Volts D. C.	*LIST PRICES												
	3 In.	4 In.	5 In.	6 In.	7 In.	8 In.	9 In.	10 In.	12 In.	14 In.	15 In.	16 In.	18 In.
Regular	\$6.60	\$6.90	\$9.00	\$10.20	\$11.40	\$12.60	\$16.20	\$19.80	\$27.00	\$33.00	\$33.00	\$66.00	\$75.00
up to 25	7.20	7.50	9.72	10.92	12.12	13.32	17.04	20.60	27.90	33.90	33.90	66.96	75.90
26 to 50	7.50	7.80	10.14	11.34	12.54	13.72	17.58	21.18	28.50	34.56	34.56	67.56	76.80
51 to 60	8.10	8.70	11.16	12.36	13.56	14.76	18.72	22.32	29.64	35.70	35.70	68.70	77.76
61 to 75	8.70	9.30	11.88	13.08	14.28	15.48	19.56	23.16	30.48	36.60	36.60	69.60	78.60
76 to 90	9.30	9.90	12.60	13.80	15.00	16.20	20.40	24.00	31.50	37.50	37.50	70.56	79.50
91 to 110	9.90	10.50	13.32	14.52	15.72	16.92	21.24	24.90	32.40	38.52	38.52	71.70	80.64
111 to 125	.....	.....	.....	15.12	16.32	17.52	21.96	25.68	33.30	39.48	39.48	69.30	72.60
126 to 150	.....	.....	.....	16.32	17.52	18.72	23.28	27.24	34.80	41.10	41.10	70.80	73.80
151 to 225	.....	.....	.....	18.72	19.92	21.12	25.80	29.70	37.32	43.80	43.80	73.50	76.20

Special resistance, see table of additions on page that follows.

Carbon contacts in sizes 3 inch and 4 inch, add to list 60 cents.

Each bell up to 12 inch size packed in corrugated paper carton.

Platinum contacts any size bell, add to list \$4.50.

RECTI-BUZZER NO. 220—3 OHMS DIRECT CURRENT

Schedule "E"

Construction and specifications, similar to the Recti Bell No. 100.

List No.	Style	Dimensions			*List Price
		Height Inches	Width Inches	Depth Inches	
360130	A No Carbon Contacts.....	4½	3½	2½	\$5.76
360131	B With Carbon Contacts.....	6	4¼	2¾	8.64

For carbon contacts, style "A," add 60 cents list.

For operation on alternating current, add to list, style A, \$4.50, style B, \$5.40.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

RECTI BELLS
DIRECT CURRENT

No. 100U



No. 217

Recti Underwriter Type

No. 100U

Schedule "E"

Specially designed for and approved by National Board of Fire Underwriters, for use on sprinkler systems and on all voltages up to 250 volts. This bell embodies the same scientific proportions of the magnets to obtain maximum strength with greatest battery economy which is found in other types of the Recti bell. This, augmented by the absence of friction and drag at the pivots, produces a long, powerful, direct and rapid blow.

Binding posts are not used; instead, flexible wire leads are brought from the case through insulating bushings, to which line wires can be properly connected. This is a method preferred by the Underwriters' Laboratory and many engineers as superior to a friction contact.

List No.	Size	*List Price Each
100U	3 inch.....	\$6.60
100U	4 inch.....	6.90
100U	5 inch.....	9.00
100U	6 inch.....	10.20
100U	7 inch.....	11.40
100U	8 inch.....	12.60
100U	9 inch.....	16.20
100U	10 inch.....	19.80
100U	12 inch.....	27.00
100U	14 inch.....	33.00
100U	16 inch.....	66.00
100U	18 inch.....	75.00

Special resistances same as No. 100.

Recti High Voltage Type

No. 217

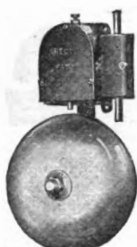
Schedule "E"

Long, quick-break contacts, slate base mounting, operates gong up only. Suitable for use on direct current up to 600 volts. For intermittent service. Not made weatherproof.

List No.	361377	361378	361598	361599	361600	361601	361602
Volts	Sizes: 6 Inches	8 Inches	10 Inches	12 Inches	14 Inches	16 Inches	18 Inches
Up to 299	\$31.00	\$33.50	\$39.00	\$46.50	\$53.00	\$71.50	\$80.00
300 to 499	38.00	41.00	45.00	52.50	59.50	78.10	86.35
500 to 549	40.00	42.00	46.50	54.00	61.00	79.20	87.45
550 to 600	41.50	43.50	49.00	55.50	62.50	81.00	89.10

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
Electrical House Goods and Novelties

**RECTI BELLS
DIRECT CURRENT**



**No. 1001
Conduit Type**



**No. 100A
Automobile Type**

Recti Conduit Type—3 Ohms

This bell is arranged for use with conduit, which is secured to the case, covering the connectors or binding posts, by means of locknuts and bushings. There is an opening at each end of the conduit box, but where bells are used on the end of the line a metal disk is supplied which fits into the hole not used so as to close the opening. The upper half of the conduit box may be taken off by removing two screws, providing an easy access to the connectors. For concealed conduit the ends are closed and opening is at back of box.

**NO. 1000 RECTI BELL
For Concealed Conduit**

Schedule "E"

List No.	Mfr. No.	Size	*List Price
360132	1000	6 inch.....	\$12.50
360133	1000	8 inch.....	14.50
310134	1000	10 inch.....	20.00
360135	1000	12 inch.....	28.00
361606	1000	14 inch.....	30.75

**NO. 1001 RECTI BELL
For Surface Conduit**

Schedule "E"

List No.	Mfr. No.	Size	*List Price
360136	1001	6 inch.....	\$14.50
360137	1001	8 inch.....	16.50
360138	1001	10 inch.....	22.00
360139	1001	12 inch.....	28.00
360140	1001	14 inch.....	32.75

Charges for special resistances same as for 100 Recti, which are shown in table of additions on special page that follows.

Recti Automobile Type

**No. 100A
Standard Up to 88 Volts**

Schedule "E"

The mechanism is positively dust and mudproof, and may be placed on the outside of a vehicle without being encased. In the 100A type the gong is fastened to the base with the concave side in a reverse position, to prevent the accumulation of mud, etc., which would deaden the sound.

The sizes generally used are 5, 6, 7, 8 or 10 inches, and to operate on a direct current from either primary or storage batteries.

In ordering, be particular to state the voltage of battery they are to work on.

General voltages for automobile bells are 22, 44 or 88 volts.

List No.	Sizes Inches	*List Price
360142	5	\$7.50
360143	6	8.50
360144	7	9.50
360145	8	10.50
360146	10	18.50
360147	12	22.50

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

RECTI BELLS AND GRIDS


No. 100AC



No. 219

Recti-Alternating Current Type No. 100AC
SINGLE PHASE, 25, 40 OR 60 CYCLES; CARBON CONTACTS

Schedule "E"

A loud ringing, vibrating bell for operation direct on alternating current up to 220 volts, 25 to 60 cycles.

List No.	Sizes in Inches	For Operation on	*List Price Each
100AC.	4	18 to 110 Volts.....	\$11.28
100AC.	5	30 to 220 Volts.....	15.00
100AC.	6	30 to 220 Volts.....	16.44
100AC.	7	110 to 220 Volts.....	17.88
100AC.	8	110 to 220 Volts.....	19.32
100AC.	9	110 to 220 Volts.....	24.84
100AC.	10	110 to 220 Volts.....	29.16

Recti-Underdome No. 219-3 Ohms

Schedule "E"

DIRECT CURRENT

The Recti movement covered by gong.

List No.	Sizes in Inches	*List Price Each	List No.	Sizes in Inches	*List Price Each
219	6	\$10.20	219	12	\$27.00
219	7	11.40	219	14	33.00
219	8	12.60	219	16	66.60
219	9	16.20	219	18	75.00
219	10	19.80			

For special resistance, see table of additions on special page that follows. For higher voltages, prices same as Recti No. 100.

For general description of the "Recti" Bell, see preceding pages.

In ordering, state frequency as well as voltage of operating current.



Part Grid



Full Grid

Grids for Recti Bells

Schedule "E"

It is sometimes considered necessary to have additional protection for bells to prevent the maliciously inclined from tampering with the hammer rod or from breaking the gong, or so deadening the sound that it would not be heard. For this purpose the "Part Grid" or "Full Grid" is furnished.

Any Recti type bell, except the No. 219, can be furnished with "grids."

In ordering, add to List No. the initials "P. G." for part grid, or "F. G." for full grid.

Sizes	*Add to List Price of Bell	Part Grid	Full Grid
4 in.....	\$1.76		
5, 6 and 7 in.....	2.00		\$8.00
8 in.....	2.00		10.00
10 in.....	2.00		17.50
12 in.....	2.50		24.00
14 in.....	2.50		
15 in.....	5.00		
16 in.....	6.00		
18 in.....	10.00		

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

THE EDWARDS RIOT BELL "Motor Driven" Bells

An absolutely new principle—a very powerful quick responding, loud ringing, weatherproof, revolving stroke bell—bells that obtain all the sound that the gong can produce. A smooth running, high efficiency motor, especially designed for the purpose used. They are designed to operate on battery voltages of 6 and higher, also lighting circuits of 110 volts alternating and direct. The full power of the revolution and its momentum produce a strength of blow never before obtained. No adjustment is needed. No parts to wear out. No gears to stick. No heavy parts to move. Striker is mounted directly on motor shaft.



No. 300
The Riot Bell



No. 320
The Liberty Riot Bell



No. 310
The Double Gong Riot Bell

NO. 300 GENERAL SIGNAL RIOT BELL

Schedule "E"

Available wherever a loud ringing alarm or signal bell is desired. For operation on alternating or direct current lighting circuits or battery. The bells are weatherproof and may be used out of doors. Made in sizes 10 to 18 inches for all voltages and frequencies. Furnished for 6 volt battery circuit when not otherwise specified.

List No.	Size Inches	Voltage	*List Price	List No.	Size Inches	Voltage	*List Price
360103	10	6	\$82.50	360109	15	6	\$100.00
360104	10	110 A.C. or D.C.	102.50	360110	15	110 A.C. or D.C.	120.00
360105	12	6	85.00	360111	16	6	105.00
360106	12	110 A.C. or D.C.	105.00	360112	16	110 A.C. or D.C.	125.00
360107	14	6	90.00	360113	18	6	115.00
360108	14	110 A.C. or D.C.	110.00	360114	18	110 A.C. or D.C.	135.00

NO. 320 LIBERTY RIOT BELL

Schedule "E"

Designed for use on fire fighting apparatus vehicles only. An adaptation of the Riot movement to the engine or locomotive type gong. Replaces the hand operated type of same bell now widely in use. Gives a greater volume of sound than the hand operated bell, and is controlled by the driver from a push button on the steering wheel. It is the different signal so essential to the rapidly moving fire department vehicle. Additional buttons may be placed on other parts of the vehicle if desired, enabling others than the driver to operate the bell. Economical in current consumption, it can be operated on the ignition batteries. Where vehicles are equipped with electric starting and lighting system, the Riot Liberty Bell can be furnished without extra charge to operate on it. This saves the cost of and space for separate battery. Where this type of gong, hand operated, is now used, the Riot attachment can be furnished to fit the gong. By sending gong to the factory, attachment can be applied to best effect.

List No.	Size Inches	Voltage	*List Price
361200	Liberty Riot Bell	10	\$90.00
360097	Riot attachment only		70.00

NO. 310 DOUBLE GONG RIOT BELL

Schedule "E"

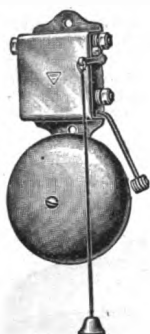
For fire engines, ambulances and patrol wagons. The only signal sufficiently different and with clamorousness enough to meet the urgent necessity of fire fighting and emergency vehicles.

They operate on a 6 volt battery by steering wheel push, and produce a far-reaching, effective and entirely different warning of the approach: a rigorous, emphatic demand for the right of way in a tone loud enough and strong enough to be heard at a distance, enabling pedestrians or traffic to keep the way open.

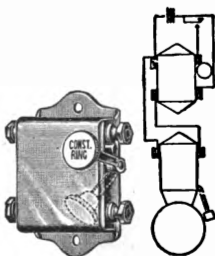
An adaptation of the Riot Bell using two gongs and a double striker. The gongs are struck alternately, and as the gongs are different tones the volume of sound is greatly intensified.

List No.	Size Inches	Voltage	*List Price	List No.	Size Inches	Voltage	*List Price
360115	12	6	\$90.00	361198	16	6	\$110.00
361343	14	6	100.00	361199	18	6	125.00
361197	15	6	105.00				

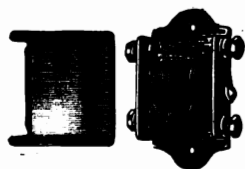
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

BELLS AND DROPS
DIRECT CURRENT

No. 27



No. 26



No. 112

Circuit Closing Devices

CONSTANT RINGING BELL NO. 27—4 OHMS

Schedule "E"

Specifications

Cover, lever and binding posts, nickel. Japanned base.

Operation

When the circuit is closed the lever drops, throwing the bell into direct circuit with the battery, which causes the bell to ring until the circuit is broken by raising the lever.

List No.	Mfr. No.	Sizes Inches	*List Price
360121	27 Bell	2 1/4	\$1.70
360122	27 Bell	3	1.80
360123	27 Bell	4	2.00
360124	27 Bell	5	4.00
360125	27 Bell	6	6.00

CONSTANT RINGING DROP NO. 26—4 OHMS

Schedule "E"

Operation

Is used on main line. Closing the circuit drops the lever, thus closing the local circuit and causing a bell to ring continuously until the lever is raised. Furnished also for magneto, wound to 80 ohms, and as an indicating buzzer.

List No.	Mfr. No.		Std. Pkg.	*List Price
360126	26B	For battery, nickel finish	6	\$1.35
360127	26M	For magneto, nickel finish, 80 ohms	6	1.89
360128	26X	Indicating buzzer, nickel finish	6	1.89

Assortment of B, M and X permitted to make standard packages.

Charges for special resistances the same as for No. 3 Lungon Buzzer.

RELAY NO. 112—10 OHMS

Schedule "E"

This relay is designed to meet the demand for a reliable relay for the handling of small currents. At an extra cost magnets can be wound to any resistance up to 600 ohms. The contacts and clearances are designed to take care of current equal in value to one ampere at 20 volts or 20 watts.

Specifications

Nickel finish. Japanned base. Pure silver contact points; phosphor bronze springs. Used for closing external or secondary circuits.

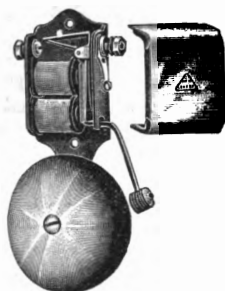
List No.	Mfr. No.		Std. Pkg.	*List Price
360129	112 Relay	Special resistance furnished, see table of additions on special page that follows.	6	\$1.62

*Delivery F. O. B. Factory, New York City.

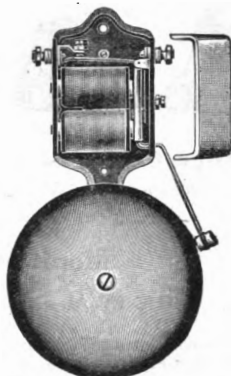
For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

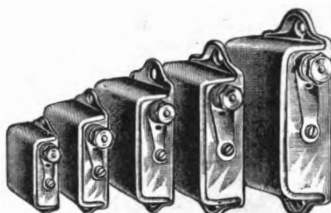
BELLS AND BUZZERS DIRECT CURRENT



No. 13
1 Inch to 4 Inch



No. 14
5 Inch to 12 Inch



Size 0 1 2 3 4
No. 15

The Lungen Bell

This is a very high grade iron box bell and buzzer. It has been made continuously in the various sizes, for a period extending over 30 years. As the hammer rod is so shaped that the opening through which it passes in the side of the case is only slightly larger than the size of the rod, it may justly be described as a dust and insectproof bell. It is worthy of notice that this is the only type bell in which the standard size of 1 inch gong can be obtained.

LUNGEN NO. 13-3 OHMS Specifications

Schedule "E"

Compact, positive acting, durable, insectproof.

- (a)—Cover and base formed steel. (b)—Unit hammer rod and armature. (c)—Pivoted armature. (d)—Small hammer rod channel. (e)—Heavy spring nut adjustment. (f)—Brass gong heavily nickeled. (g)—Ribbed edges, spring cover.

Finish, one inch size, all nickel; other sizes, enameled base, nickel gong and cover.

List No.	361364	361365	361366	361367	361368	361369
Sizes	1 in.	1½ ins.	2 ins.	2½ ins.	3 ins.	4 ins.
*List Price	\$1.08	\$0.98	\$1.00	\$0.76	\$0.81	\$1.08
Standard Package	6	6	6	12	12	12
Fancy Gongs				\$1.08		

Sizes may be assorted in quantity of 12 to make standard package. Special finishes—prices on application. For special resistance see table of additions on special page that follows.

LUNGEN NO. 14-4 OHMS

Schedule "E"

Characteristics and specifications, the same as No. 13, except as follows:

- (a)—Base, cast. (e)—Screw and locknut adjustment. (f)—Cast bell-metal gong.

In 5 and 6 inch case, japanned; gong and binding post, nickel; the other sizes, gongs and binding posts, polished bronze.

List No.	361370	361371	361372	361373	361374	361375	361376
Sizes	5 ins.	6 ins.	7 ins.	8 ins.	9 ins.	10 ins.	12 ins.
*List Price	\$2.70	\$4.32	\$9.18	\$10.26	\$13.50	\$16.20	\$18.90
Standard Package	3	3	3	3	3	2	2

Sizes may be assorted in quantity of 3 to make standard package. Special finishes—prices on application. For special resistance see table of additions on special page that follows.

The Lungen Buzzer

LUNGEN NO. 15-3 OHMS

Schedule "E"

Cover and base formed sheet steel. Pivoted armature. Spring nut adjustment. Ribbed edge spring cover. Positively dust and insectproof.

List No.	Size	—Outside Dimensions, Not Including Binding Posts— Length Inches	Depth Inches	Width Inches	Std. Pkg.	*List Price
360116	0	1½	1½	1½	12	\$0.98
360117	1	2½	1½	1½	25	.71
360118	2	2½	1½	1½	12	.87
360119	3	3	2	1½	12	.92
360120	4	3½	2½	1½	12	.98

Assortment of 25 permitted to make standard package.

Standard finish No. 0 full nickel, larger sizes japanned base, nickel cover.

Special finishes—prices on application.

For special resistance see table of additions on special page that follows.

Platinum Contacts: Bells and buzzers 4 inch and smaller, add to list \$0.81; 5 inch to 8 inch, add to list \$1.08; larger, add to list \$1.62.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

BELLS AND BUZZERS



Garland



Cow



Tea



Mikado



Sleigh



Dome

Fancy Gongs

Schedule "E"

For prices on bells equipped with fancy gongs, see the "Arrow," the "Cadet," the "Dixie" and the "Lungen" bells listed on preceding pages.

List price for gong only, \$0.30.

Monitor Bells

THE RE-AL—NO. 156—3 OHMS Schedule "R"



No. 156

Entire movement a self-contained unit, fastened to base by heavy screws. All adjustments, screws and fastening lugs positively locked. Direct-acting straight line hammer rod; heavy contact springs of phosphor bronze; large wiping contact points; nickel-plated gong; black enameled base.

Weatherproof, bugproof, compact, substantial. Especially adapted to street cars, apartment houses, annunciator work and for positive operation under the most severe conditions.

List No.	*List Price				
	1-5	6-24	25-99	100-299	300 and over
156 Size 3 inch	\$1.00	\$0.84	\$0.80	\$0.74	\$0.66

Special resistance, see table of additions on special page that follows.

STREET CAR BELL NO. 181 Schedule "E"

A special adaptation of the RE-AL Monitor Bell for street car use. The magnets are treated with moisture-repelling compound; extra heavy contacts are used and the gong is securely riveted to base. Outside of base is spotted to indicate hammer point of contact on the gong and a rubber gasket can be supplied for use between base and mounting surface, so that by installing with hammer spot pointing downward maximum operation will be obtained as well as making it waterproof.

List No.	*List Price
181 Street Car Bell.....	Each \$1.25



No. 181

STREET CAR BUZZER NO. 182 Schedule "E"

A distinct departure from the usual form of buzzer in which the vibrations of armature are depended on for the production of sound in that the complete unit movement of the RE-AL Bell is enclosed in substantial iron case without holes or openings of any kind, forming a fully protected, weather and dustproof unit, and in which the sound is very much magnified, by arranging hammer to strike directly on the inside of this iron protecting case, producing, in addition to volume, a character of sound distinctly audible above all others encountered in street car service.

It is safe from attempt of car operatives or other unauthorized persons to adjust or modify its operation, a condition which must at once be appreciated by those interested in maintenance of service.

It is recommended that in mounting on car a suitable gasket be placed between buzzer and car, and when so mounted it will be found to be not only weather and dustproof, but air-tight, thus excluding all external elements which have in the past resulted in serious interruptions of service. As regularly supplied, buzzers are arranged for operation on two dry cells or equivalent.

Finish: Black enamel.

List No.	*List Price
182 Street Car Buzzer.....	Each \$1.25

*Delivery F. O. B. Factory, New York City.

For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

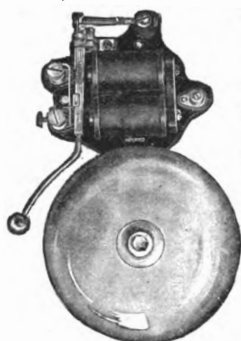
Schedule "E"

TABLE GIVING ADDITIONS TO LIST PRICE FOR SPECIAL RESISTANCE OF BELLS AND BUZZERS

Resistance Ohms	20	50	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400	1600
Up to	21	51	101	151	201	251	301	351	401	451	501	601	701	801	901	1000	1200	1400	1600
to	20	50	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400	1600
Arrow Iron Box Bells and Buzzers.....	\$0.60	\$0.65	\$0.70	\$0.75	\$1.00	\$1.20	\$1.40	\$1.60	\$1.80	\$2.00	\$2.10	\$2.20							
1 In. No. 13 Lungen or No. 18 Eco Bell.....	.25	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.00	3.50							
1½ in. to 2 in.....	.35	.60	.80	1.05	1.30	1.55	1.80	2.05	2.30	2.55	3.05	3.80							
2½ in. to 3 in.....	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.25	4.25							
4 in.....	.60	.85	1.10	1.35	1.60	1.85	2.10	2.35	2.60	3.00	3.35	4.50							
5 In. No. 13.....	.65	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.20	3.50	4.75							
6 in. or 7 in.....	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00	5.00							
8 in., 10 in. or 12 in.....	1.25	1.50	1.75	2.00	2.25	2.50	3.00	3.75	4.50	5.00	5.50	6.00	6.50						
No. 0 Eco or Lungen Buzzer.....	.25	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.00	3.50							
No. 1.....	.35	.60	.80	1.05	1.30	1.55	1.80	2.05	2.30	2.55	3.05	3.80							
No. 2.....	.40	.65	.85	1.10	1.35	1.60	1.85	2.10	2.35	2.60	3.10	3.85							
No. 3.....	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.25	4.25							
No. 4.....	.60	.85	1.10	1.35	1.60	1.85	2.10	2.35	2.60	3.00	3.35	4.50							
No. 20 or 21 Vigilant Bell																			
2½ in., 3 in. or 4 in.....	.65	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.40	4.80	5.25	5.75	\$0.25	\$0.75	\$7.25	\$9.00	\$10.50	\$12.00	
5 in. or 6 in.....	1.00	1.25	1.75	2.25	2.75	3.25	3.75	4.25	4.65	5.00	5.50	6.00	7.00	7.50	8.00	9.25	10.75	12.25	
8 in., 10 in. or 12 in.....	1.25	1.75	2.25	2.75	3.25	3.75	4.25	4.75	5.25	5.75	6.25	7.00	7.75	8.50	9.25	10.00	11.00	12.00	13.25
14 in., 16 in. or 18 in.....	2.00	2.25	3.00	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	10.50	11.75	13.00	14.25	15.50	18.00	19.25	20.50
No. 100 Recti Bell or Buzzer																			
3 in. or 4 in.....	.65	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.80	3.00	3.50	4.00	4.75	5.50	6.25	7.00	7.75	9.00	10.25
5 in., 6 in. or 8 in.....	1.00	1.25	1.50	1.75	2.25	2.75	3.25	3.80	4.40	5.00	5.50	6.00	6.75	7.50	8.25	9.00	9.75	10.25	11.50
10 in.....	1.25	1.50	1.75	2.00	2.50	3.25	4.00	5.00	6.00	6.75	7.25	8.00	8.75	9.50	10.25	11.00	12.25	13.50	14.75
12 in., 14 in., 16 in. or 18 in.....	1.50	1.75	2.25	2.75	3.25	3.50	4.25	5.25	6.25	7.00	7.50	8.25	9.00	9.75	10.50	11.25	12.50	13.75	15.00
No. 19 Duplex																			
4 in. or 6 in.....	1.25	1.50	1.75	2.00	2.50	3.25	4.00	5.00	6.00	6.75	7.25	8.00	8.75	9.50	10.25	11.00	12.25	13.50	14.75
8 in. to 12 in.....	2.00	2.25	2.75	3.25	4.00	4.75	5.75	6.75	7.50	8.00	8.75	9.50	10.25	11.00	11.75	13.00	14.25	15.50	
14 in. to 18 in.....	3.00	3.50	4.50	6.00	7.50	9.25	11.00	13.00	14.50	16.00	17.50	20.00	22.00	24.00	26.00	28.00	31.00	34.00	37.00
No. 132—5 in. to 9 in.....	.75	1.10	1.75	2.25	2.75	3.50	4.25	5.00	5.75	6.25	7.00	8.00	9.00	10.00	11.00	12.00	13.00	15.00	16.50
No. 133—6 in. to 18 in.....	1.50	1.75	2.25	2.75	3.25	3.75	4.50	5.50	6.25	7.00	7.75	8.75	9.75	10.75	11.75	12.75	14.00	15.50	17.00
No. 140—6 in. to 18 in.....	1.50	1.75	2.25	2.75	3.25	3.75	4.50	5.50	6.25	7.00	7.75	8.75	9.75	10.75	11.75	12.75	14.00	15.50	17.00
No. 156 RE-AL Bell																			
2½ in. or 3 in.....	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25							
No. 112 Relay.....	.30	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25							

FARADAY SKELETON BELLS

VIBRATING TYPE, BELL METAL GONGS, CLASS A



Faraday Skeleton Bell

"High-Power" Armature.—Patented "High-Power" armature allows the keeping of armature in magnetic field up to the moment of striking the gong. Breakage of Springs Cannot Disable Bell.

Insulated Mechanism.—Frame of bell carries no current at any time, as entire electrical mechanism is insulated from frame casting. Bells may be mounted on metal without fear of grounding.

Solid Back.—Solid back prevents dampness from getting into insulation washers on back of bell, or affecting magnet windings. All insulation washers sealed in with waterproof wax.

Locking Side-Contact Post.—New patented split-section side-contact post compresses both sections against thread of platinum contact screw and positively locks with cone cap piece having taper thread; no injuring of platinum screw thread and adjusting to a thousandth of inch assured at all times.

Solid Trunnion Frame.—Solid trunnion frame cannot work loose or move in any direction. Improved split section, replacing old locknut on trunnion frame, compresses against upper trunnion screw, and no amount of jarring can loosen the upper bearing.

Cylindrical Trunnion Bearings, Extra Heavy Cylindrical Type.—There is no possibility of armature breaking away from either upper or lower bearing; construction utilizes full strength of both upper and lower trunnion frame casting.

Non-Turning Contact and Binding Posts.—Non-turning and non-loosening binding posts equipped with split steel lock-washers prevent connections from ever jarring loose.

Contact Points.—Contact points are made of platinoïd or pure platinum, as specified, and are always plainly marked on both screw and spring. Platinoïd contacts furnished, unless otherwise specified.

Note: Faraday Skeleton Bells will be wound, when specially ordered, to any resistance up to 2000 ohms; however, we do not recommend Skeleton Bells for 110, 220 or 500 volts service. For this service, Faraday Enclosed Type Bells (with no exposed terminals), shown on other pages, should be invariably used.

Faraday Skeleton Bells up to 6-inch, inclusive, will operate on both A. C. and D. C. circuits when wound to proper resistance (1750 to 2500 ohms for 100-120 volts D. C.; 110 ohms for 60-cycle, 100-115 volts A. C.). Above 6-inch these gongs will not give satisfactory service on A. C. circuits, and Faraday Double-Gong Bells must be used.

Faraday Skeleton Type Gongs will be furnished single-stroke, when specially ordered, at \$0.50 net additional, but for important single-stroke work the Faraday Single-Stroke Gong is recommended, and the slight advance in price will be found more than justified.

PRICE LIST

List No.	Size, Gong Inches	Frame No.	Resistance in Ohms	List Price Each				
				Less than 6	6-11	12-24	25 to 49	50 and Over
FS- 2½	2½	1	1.5	\$3.08	\$2.76	\$2.56	\$2.24	\$2.12
FS- 3	3	1	1.5	3.18	2.86	2.62	2.32	2.20
FS- 4	4	1	1.5	3.60	3.22	2.98	2.60	2.48
FS- 5	5	2	2.1	5.20	4.66	4.30	3.74	3.58
FS- 6	6	2	2.1	5.86	5.26	4.86	4.26	4.04
FS- 7	7	3	3	8.34	7.48	6.90	6.04	5.74
FS- 8	8	3	3	9.16	8.22	7.56	6.64	6.30
FS-10	10	4	5.2	14.62	13.12	12.10	10.60	10.08
FS-12	12	X-5	5.2	18.30	16.40	15.12	13.34	12.60
FS-14	14	X-5	5.2	36.56	32.76	30.24	26.48	25.20
FS-15	15	X-5	5.2	47.52	42.60	39.32	34.40	32.76
FSL-15	15	6	8	65.80	58.98	54.44	47.64	45.36
FS-16	16	6	8	69.44	62.26	57.46	50.28	47.88
FS-18	18	6	8	80.40	72.08	66.54	58.24	55.44

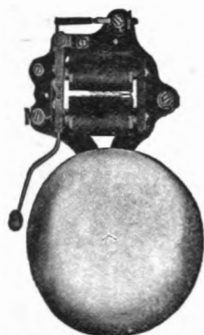
Add to above prices for pure platinum contacts, 78 cents list for bells up to and including 6 inches in diameter; \$1.30 list for bells 7 inches and larger. Add for Triplex Platinum Contacts, \$1.50 net to above prices. Special resistance gongs to order—for prices, see special listing elsewhere.

Assortment of all sizes of Faraday Skeleton and Competition Skeleton Bells permitted to make up quantity, but Enclosed Type Bells cannot be included with Skeleton Bells to make up quantity.

Note: The Underwriters' Laboratories approve only the Enclosed Type Bell for signal systems coming under their supervision.

BELLS AND BUZZERS

COMPETITION SKELETON BELLS, CLASS B



Competition Class B Bells differ from the Faraday Class A principally in the following details:

Stamped steel gongs in place of bell-metal gongs.

Old style armature in place of "High-power" armature.

Mechanism not insulated from frame casting as in Faraday Class A.

Silver contacts in place of platinum and platinoid.

Less accurate trunnion construction and not "solid-back."

Binding posts simply non-turning, in place of Faraday Patented Duplex Posts, non-turning and non-loosening.

If bells are required wound to special resistance, or with any special features other than regularly embodied in Competition Bells, Faraday Class A Bells must be specified.

Competition Skeleton Bell

List No.	Size Gong Inches	Frame No.	Resistance in Ohms	List Price Each		
				Less than 6	6 to 11	12 to 24
SC-2½	2½	1	1.5	\$2.70	\$2.40	\$2.22
SC-3	3	1	1.5	2.72	2.46	2.26
SC-4	4	1	1.5	2.88	2.60	2.40
SC-5	5	2	2.1	4.20	3.80	3.48
SC-6	6	2	2.1	4.48	4.02	3.70
SC-7	7	3	3	7.32	6.50	6.06
SC-8	8	3	3	8.12	7.28	7.92
SC-10	10	4	5.2	12.58	11.28	10.40
SC-12	12	X-5	5.2	14.00	12.56	11.58

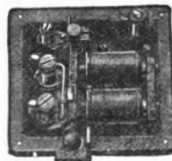
Class B bells are not wound to any special resistance. They are made and carried in stock only as listed. Assortment of all sizes of Competition Skeleton and Faraday Skeleton Bells permitted to make up quantity, but Enclosed Type Bells cannot be included.



Nos. 93, 99 and 101 Buzzers, Cover in Position



Mechanism of Nos. 91, 93, 99, 95, 925 and 101 Buzzers



Nos. 94, 924 Buzzer Cover Removed



Faraday Car Signal Buzzer Standard Lettered Cover

FARADAY ENCLOSED TYPE BUZZERS

The Standard Nos. 91, 93, 99, 95, 925 and 101 have the Faraday "High-power" armature; Nos. 94 and 924 Extra Loud, in addition to the "High-power" armature, has a heavy steel ball at the end of the armature rod—this steel ball striking on extension of the base frame casting with such force and rapidity as to make the signal three times as powerful as the No. 99 or No. 101.

The mechanism of these buzzers (except No. 91) is protected by a heavy bauer-barff iron case; all connections for circuit wires are within the case itself, no outside terminals.

Frame of buzzer carries no current at any time, as entire electrical mechanism is insulated from frame casting. These buzzers may be mounted on metal without fear of grounding. Breakage of tension spring will not disable mechanism.

Side contact adjustment is of patented micrometer-lock-type. Triplex Contacts will be furnished when specially ordered. Contacts are always pure platinum.

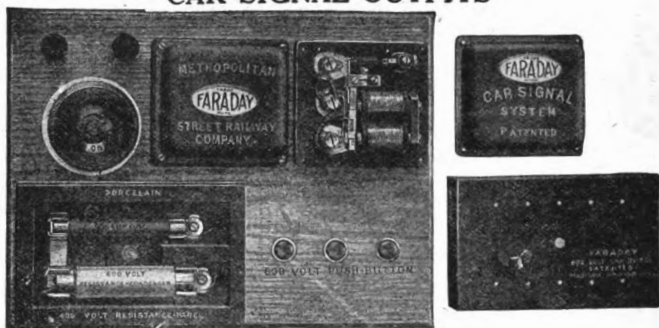
Car-Signal Buzzers Nos. 94, 95, 924 and 925 are made in two types, 600 volts and battery type. The first, two numbers covering battery type and the last two 600 volt type.

List No.	Style	Frame No.	Resistance in Ohms	Size Inches	List Price Each
93	Enclosed	00	1.4	2½ x 2½ x 1½	\$3.60
91	No Cover	00	1.4	2½ x 2½ x 1½	3.30
99	Enclosed	0	1.4	3½ x 3½ x 1½	4.20
101	Enclosed	1	1.5	4¼ x 4 x 2½	4.80
94	Enclosed	1	1.5	4¼ x 4 x 2½	5.10
95	Enclosed	1	1.5	4¼ x 4 x 2½	4.80
924	Enclosed	1	1000.	4¼ x 4 x 2½	7.80
925	Enclosed	1	1000.	4¼ x 4 x 2½	7.50

Triplex Platinum Contacts, \$1.50 net per buzzer; Triplex Contacts not furnished on Nos. 91 and 93 Buzzers.

NOTE: Special resistance buzzers to order—for prices, see special listing elsewhere.

CAR SIGNAL OUTFITS



High Voltage Car Signal Outfit
High Voltage Outfit
 Weatherproof—550 to 660 Volts

Car Signal Outfits consist of two buzzers wound to a resistance of 1000 ohms and one 600 volt resistance panel. The resistance panel is mounted in a substantial porcelain base with necessary barriers between metal-fuse, and the outfit has protection fuse in the panel itself. Resistance condenser cartridge is as easily removable as an enclosed

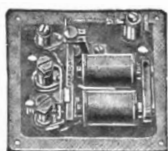
Resistance panel measures $4\frac{3}{4}$ inches wide by $6\frac{1}{4}$ inches long by 3 inches high over all.

The buzzers are wound to a resistance of 1000 ohms and all insulation details tested at 2000 volts A.C., making positive, satisfactory operation on 550-600 volt street car circuits without any chance of insulation-breakdown.

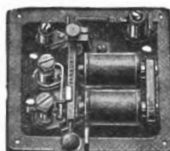
List No.	General Description	List Price Each
CS-800	Two Faraday Car Signal Buzzers, wound to operate on 550-600 volts, with resistance-condenser panel, fuses, etc., complete equipment for 1 car, with 28 push buttons..	\$28.00
CS-900	Resistance-condenser panel, complete.....	6.80
CS-925	Faraday Car Signal Buzzer, wound to 1000 ohms, to operate on 550-600 volt circuit in connection with resistance-condenser panel, No. CS-900, each.....	7.80
CS-950	Extra resistance-condenser cartridge with terminal clips, each.....	2.80
CS-930	Extra push buttons, each.....	.80



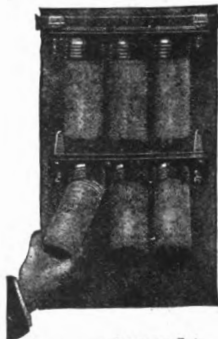
Patterson Battery Set
Box Type BB



Model SA-95 Buzzer
Cover Removed



Model SA-94 Buzzer
Cover Removed



Patterson Battery Set
Strip Type B

Low Voltage Outfit

These outfits consist of either the Model SA-95 or Model SA-94 Faraday Car Signal Buzzer with Patterson Battery Sets either of the Strip Type B or the Steel Box Type BB.

Both Nos. SA-94 and SA-95 buzzers will be furnished in lots of 100 or more with name of railway company cast on the cover and brought out in gilt, without extra charge. Special resistance buzzers furnished to order. Prices same as for No. 1 frame enclosed type bells. Triplex pure platinum contacts, \$3 net per buzzer extra.

15908	Faraday Car Signal Buzzer, No. SA-95 standard.....	\$4.80
15909	Faraday Car Signal Buzzer, No. SA-94 extra loud.....	5.10
15910	Box Type Patterson Battery Set, street railway Type BB-2 (2 cell size) complete, with steel case and padlock (no cells).....	7.20
15911	Same as above, except 3 cell size.....	9.36
15912	Same as above, except 4 cell size.....	11.40
15913	Strip Type Patterson Battery Set, street railway Type B (2 cell size), no cells.....	3.60
15914	Same as above, except 3 cell size.....	5.40
15915	Same as above, except 4 cell size.....	7.20

NOTE: Buzzers for operation on 4 cell outfits should be ordered wound to 5 ohms resistance. No extra charge for this. No battery cells are included in the above prices.

FARADAY BELLS WITH FANCY GONGS



Skeleton Bell
With Cow Gong



Enclosed Type
Model A
With Cow Gong



Rectangular or Cow Gong



Garland Gong



Sleigh Gong



Open Breakfast,
Tea or House Gong

Skeleton and Enclosed Types

Both Faraday Skeleton and Faraday Enclosed Type Bells will be furnished with what is termed "fancy gongs" in place of regular round gongs, and, when so ordered on skeleton frames, same may be included to make up quantity.

Fancy gong equipment is usually required when a different sounding gong is wanted, and for this we particularly recommend the rectangular or cow gong as by far the most penetrating as well as the most different from regular round gongs.

These bells cannot be wound to special resistance to operate on A. C. circuits above the No. 2 frame; when required above this, "Double Gong" Bells shown on another page must be used.

These gongs will be furnished "Single-Stroke" when specially ordered at \$0.50 net additional, but for important single-stroke work the special Faraday Single-Stroke Gong shown on another page is recommended, and the slight advance in cost found more than justified.

NOTE: The Underwriters' Laboratories approve only the Enclosed Type Bell for signal systems coming under their supervision.

FARADAY SKELETON BELLS WITH FANCY GONGS

List No.	Style Gong	Size, Gong Inches	Frame No.	Resistance Ohms	List Price Each		
					Less than 6	6 to 11	12 to 24
360905	Rectangular or Cow	1½ x 2½	1	1.5	\$5.34	\$4.90	\$4.42
360906	Rectangular or Cow	2 x 3	1	1.5	5.54	5.10	4.60
360907	Rectangular or Cow	3½ x 5	2	2.1	9.34	8.58	7.72
360908	Rectangular or Cow	4¼ x 6	3	3	19.58	18.00	16.20
360909	Sleigh	1½ x 2½	1	1.5	5.34	4.90	4.42
360910	Garland	2 x 2½	1	1.5	5.16	4.80	4.32
360911	Tea or House	2½ x 1¾	1	1.5	5.16	4.80	4.32

Any of the above may be included with standard Skeleton Bells to make up quantity.

FARADAY ENCLOSED TYPE BELLS, MODEL A, WITH FANCY GONGS

List No.	Style Gong	Size, Gong Inches	Frame No.	Resistance Ohms	List Price Each
					Each
360912	Rectangular or Cow	1½ x 2½	0	1.4	\$7.44
360913	Rectangular or Cow	2 x 3	0	1.4	7.62
360914	Rectangular or Cow	1½ x 2½	1	1.5	8.40
360915	Rectangular or Cow	2 x 3	1	1.5	8.58
360916	Rectangular or Cow	3½ x 5	2	2.1	13.20
360917	Rectangular or Cow	4¼ x 6	3	3	21.60
360918	Sleigh	1½ x 1¾	0	1.4	7.44
360919	Sleigh	1½ x 1¾	1	1.5	8.40
360920	Garland	2 x 2½	0	1.4	7.20
360921	Garland	2 x 2½	1	1.5	8.10
360922	Tea or House	2 x 2½	0	1.4	7.20
360923	Tea or House	2 x 2½	1	1.5	8.10

Special resistance bells made to order. For prices, see special listing elsewhere.

Any of the above may be included with standard Enclosed Type Bells to make up quantity.

ENCLOSED-TYPE FARADAY SIGNAL BELLS

Standard Models A, B and C

Faraday Enclosed-Type Bells are recommended whenever the gong is exposed to dust, dampness or mechanical injury. They are used for important signal work by leading railroads, fire alarm companies, etc. The mechanism is protected by a heavy bauer-barff iron case.

Faraday Bells have "High-power" mechanism, keeping armature in magnetic field up to the moment ball strikes gong in place of opening at contact points at beginning of stroke as all other mechanisms do.

Breakage of springs cannot disable bell.

Frame of bell carries no current at any time, as the entire mechanism is insulated from frame casting.

Contacts are always pure platinum. Model C is the best design for exposed locations, and Model B the most popular for all-around work.

Faraday Enclosed-Type Bells cannot be wound to special resistance to operate on A. C. circuits above the 6 inch size; when required above 6 inch, "Double-Gong" Bells shown on another page must be used.

Faraday Enclosed-Type Gongs will be furnished "Single-Stroke" when specially ordered, at \$0.50 net additional, but for important single-stroke work the special Faraday Single-Stroke Gong shown on another page is recommended, and the slight advance in cost found more than justified.

NOTE: The Underwriters' Laboratories approve Faraday Enclosed-Type Bells for signal systems coming under their supervision.



Model A



Model B
MODEL A



Model C

Size Gong	Frame No.	Reg. Resistance in Ohms	List Price Each
1 1/4	00	1.4	\$4.20
2	00	1.4	4.60
2 1/2	0	1.4	4.80
3	0	1.4	5.52
3 1/2	1	1.5	6.72
4	1	1.5	6.90
5	2	2.1	9.00
6	2	2.1	10.20
7	3	3	11.40
8	3	3	12.62
9	4	5.2	16.80
10	4	5.2	19.00
12	X-5	5.2	27.00
14	X-5	5.2	33.00
15	6	8	63.00
16	6	8	66.00
18	6	8	75.00
MODEL B			
3 1/2	1	1.5	\$7.62
4	1	1.5	7.80
5	2	2.1	10.20
6	2	2.1	12.00
7	3	3	13.20
8	3	3	15.00
9	4	5.2	18.60
10	4	5.2	22.20
12	X-5	5.2	30.00
14	X-5	5.2	36.00
MODEL C			
5	2	2.1	\$18.60
6	2	2.1	19.80
7	3	3	25.80
8	3	3	27.00
9	4	5.2	37.80
10	4	5.2	41.40
12	X-5	5.2	65.80

Add for Triplex Platinum Contacts, \$1.50 net to above figures. "Triplex" Contacts not furnished on 1 1/4 and 2 inch bells listed above.

Special resistance bells made to order. For prices, see special listing elsewhere.

INSPECTORS' TYPE FARADAY SIGNAL BELLS



Model AI



Model BI



Model CI

Enclosed Vibrating Type Weatherproof

The above illustrations show Faraday Enclosed Inspectors' Type Bells with three styles of covers, A, B and C.

In Inspectors' Type Models AI, BI, CI, the cover, instead of being held down by four machine screws as in Models A, B and C, fits down onto four brass corner dowel pins, and, while held firmly in place by large nickel plated knurled thumb nut in center of cover, is removable in a second without tools. Models AI, BI and CI were specially designed to permit frequent inspection of signal equipment.

Inspectors' Type Bells cannot be wound to special resistance to operate on A. C. circuits above the 6 inch size; when required above 6 inch, "Double Gong" Bells shown on another page must be used.

Inspectors' Type Gongs will be furnished "Single-Stroke" when specially ordered, at \$0.50 net additional, but for important single-stroke work the special Faraday Single-Stroke Gong shown on another page is recommended, and the slight advance in cost found more than justified.

NOTE: The Underwriters' Laboratories approve Faraday Enclosed-Type Bells for signal systems coming under their supervision.

MODEL AI

Style	Size Gong Inches	Regular Resistance in Ohms	List Price Each
Inspectors.....	3½	1.5	\$9.12
Inspectors.....	4	1.5	9.30
Inspectors.....	5	2.1	12.00
Inspectors.....	6	2.1	13.20
Inspectors.....	7	3	15.00
Inspectors.....	8	3	16.20
Inspectors.....	9	5.2	20.40
Inspectors.....	10	5.2	24.00
Inspectors.....	12	5.2	31.20
Inspectors.....	14	5.2	37.20
Inspectors.....	15	8	70.20
Inspectors.....	16	8	73.20
Inspectors.....	18	8	82.20

MODEL BI

Style	Size Gong Inches	Regular Resistance in Ohms	List Price Each
Inspectors.....	3½	1.5	\$10.02
Inspectors.....	4	1.5	10.20
Inspectors.....	5	2.1	13.20
Inspectors.....	6	2.1	14.40
Inspectors.....	7	3	16.80
Inspectors.....	8	3	18.00
Inspectors.....	9	5.2	22.80
Inspectors.....	10	5.2	26.40
Inspectors.....	12	5.2	34.20
Inspectors.....	14	5.2	40.20

MODEL CI

Style	Size Gong Inches	Regular Resistance in Ohms	List Price Each
Inspectors.....	5	2.1	\$21.60
Inspectors.....	6	2.1	24.00
Inspectors.....	7	3	29.40
Inspectors.....	8	3	30.60
Inspectors.....	9	5.2	42.00
Inspectors.....	10	5.2	45.60
Inspectors.....	12	5.2	60.00

Add for "Triplex" Platinum Contacts, \$1.50 net to above figures.

Special resistance bells made to order. For prices, see special listing elsewhere.

SURFACE-CONDUIT FARADAY BELLS

Model AC
For Conduit WorkModel BC
For Conduit WorkModel CC
For Conduit WorkEnclosed Vibrating Type
Weatherproof

These illustrations show Faraday Enclosed Conduit Type Models with three styles of covers, A, B, and C.

Faraday Conduit Type Signal Gongs make possible the installation of a signal gong system on the outside of a building or on the inside with positive assurance that no breakdown can occur.

Heavy marine gaskets between conduit box back and bell frame prevent entrance of dampness or water, and mechanism of gong, connections, etc., is absolutely protected at all times.

Surface-Conduit Bells cannot be wound to special resistance to operate on A. C. circuits above the 6 inch size; when required above 6 inch, "Double-Gong" Bells shown on another page must be used.

Surface-Conduit Gongs will be furnished "Single-Stroke" when specially ordered, at \$0.50 net additional, but for important single-stroke work the special Faraday Single-Stroke Gong shown on another page is recommended, and the slight advance in cost found more than justified.

NOTE: The Underwriters' Laboratories approve Faraday Enclosed-Type Bells for signal systems coming under their supervision.

MODEL AC			
Style	Size of Gong Inches	Regular Resistance in Ohms	List Price Each
Surface Conduit.....	3½	1.5	\$16.32
Surface Conduit.....	4	1.5	16.50
Surface Conduit.....	5	2.1	21.00
Surface Conduit.....	6	2.1	22.20
Surface Conduit.....	7	3	25.80
Surface Conduit.....	8	3	27.00
Surface Conduit.....	9	5.2	33.00
Surface Conduit.....	10	5.2	36.60
Surface Conduit.....	12	5.2	45.00
Surface Conduit.....	14	5.2	51.00
MODEL BC			
Style	Size of Gong Inches	Regular Resistance in Ohms	List Price Each
Surface Conduit.....	3½	1.5	\$17.22
Surface Conduit.....	4	1.5	17.40
Surface Conduit.....	5	2.1	22.20
Surface Conduit.....	6	2.1	24.00
Surface Conduit.....	7	3	27.60
Surface Conduit.....	8	3	29.40
Surface Conduit.....	9	5.2	35.40
Surface Conduit.....	10	5.2	39.00
Surface Conduit.....	12	5.2	48.00
Surface Conduit.....	14	5.2	54.00
MODEL CC			
Style	Size of Gong Inches	Regular Resistance in Ohms	List Price Each
Surface Conduit.....	5	2.1	\$28.20
Surface Conduit.....	6	2.1	29.40
Surface Conduit.....	7	3	37.80
Surface Conduit.....	8	3	39.00
Surface Conduit.....	9	5.2	54.60
Surface Conduit.....	10	5.2	58.20
Surface Conduit.....	12	5.2	73.80

Add for "Triplex" Platinum Contacts, \$1.50 net to above figures.

Special resistance bells made to order. For prices, see special listing elsewhere.

CONCEALED-CONDUIT FARADAY BELLS



Enlarged View of
Wall Outlet Box on Which
Bell Is Mounted



Model AFC



Model BFC



Model CFC

Enclosed Vibrating Type

Illustrations show the standard Faraday Enclosed Type Signal Gong with flush-setting outlet box for concealed conduit installations. This makes an ideal installation for new building construction, particularly for buildings where gongs are to be placed in each hall, one above the other, from the basement to the top floor, as is so generally required nowadays for fire alarm work.

Outlet boxes are cast iron, with broad rubber gaskets on face. They are regularly drilled to slip $\frac{1}{2}$ inch conduit.

Frame of bell carries no current at any time, as entire electrical mechanism is insulated from frame casting.

Faraday Gongs will be furnished, when specially ordered, wound to special resistance to operate direct in multiple without external resistance, on 110 or 220-volt D. C. circuits. For 600-volt D. C. circuits, they will be wound to a resistance of 1000 ohms and should be used with special Faraday External Resistance, as shown in blue print attached to each gong sent out, or will be wound to 150 ohms for use in the old fashioned way with bank of 5 lamps.

Faraday Gongs up to 6-inch, inclusive, will, when wound to proper resistance (1750 to 2500 ohms for 100-125 volts D. C. and 110 ohms for 100-115 volts A. C., 60-cycle), operate on D. C. and A. C. circuits. Above 6-inch these bells will not give satisfactory service on A. C., and Faraday Double-Gong Bells must be used.

Other model Faraday Gongs wanted for concealed conduit installations can be furnished at proportionate advance in price.

These bells cannot be wound to special resistance to operate on A. C. circuits above the 6 inch size; when required above 6 inch, "Double-Gong" Bells shown on another page must be used.

These gongs will be furnished "Single-Stroke" when specially ordered, at \$0.50 net additional, but for important single-stroke work the special Faraday Single-Stroke Gong shown on another page is recommended, and the slight advance in cost found more than justified.

Note: The Underwriters' Laboratories approve only the Enclosed-Type Bell for signal systems coming under their supervision.

FLUSH-CONDUIT BELLS, MODELS AFC, BFC AND CFC

Enclosed Type—For Concealed Work

Size Gong Inches	Frame No.	Resistance in Ohms	Model AFC	Model BFC	Model CFC
			List Price Each	List Price Each	List Price Each
3 1/4	1	1.5	\$16.32	\$17.22	\$28.20
4	1	1.5	16.50	17.40	29.40
5	2	2.1	21.00	22.20	37.80
6	2	2.1	22.20	24.00	39.00
7	3	3	25.80	27.60	54.60
8	3	3	27.00	29.40	58.20
9	4	5.2	33.00	35.40	73.80
10	4	5.2	36.60	39.00	79.80
12	X-5	5.2	45.00	48.00	94.80
14	X-5	5.2	51.00	54.00	.....

For "Triplex" Platinum Contacts, add \$1.50 net to above figures.

Special resistance gongs made to order. For prices, see special listing elsewhere.

SCREEN-ENCLOSED FARADAY GONGS



Model CS
Regular Pattern



Model CCS
Conduit Pattern

Vibrating Weatherproof Type

Faraday Screen-Enclosed Type Signal Gongs have been brought out to meet the increasing demand for a signal gong with mechanism, gong, hammer rod and ball, all protected from external injury, nesting of birds, etc.

Model CS is not arranged for conduit work, whereas Model CCS is made for conduit work.

Both Models CS and CCS gongs are identical with other Faraday Enclosed Type Models in detail of mechanism; both have new patented "High-Power" armature, micrometer side contact adjustment, mechanism fully insulated from frame casting which at no time carries any current; bells may be mounted on metal without fear of grounding; rubber gaskets between frame and cover prevent dampness from getting at interior; coils are waterproof.

These bells cannot be wound to special resistance to operate on A. C. circuits above the 6 inch size; when required above 6 inch, "Double-Gong" Bells shown on another page must be used.

These gongs will be furnished "Single-Stroke" when specially ordered, at \$0.50 net additional, but for important single-stroke work the special Faraday Single-Stroke Gong shown on another page is recommended, and the slight advance in cost found more than justified.

NOTE: The Underwriters' Laboratories approve Faraday Bells for signal systems coming under their supervision.

SCREEN-ENCLOSED GONGS

Bell Metal Gongs, Pure Platinum Contacts, No Outside Terminals

Size Gong Inches	Frame No.	Resistance Ohms	Model CS List Price Each	Model CCS List Price Each
5.....	2	2.1	\$18.60	\$28.20
6.....	2	2.1	19.80	29.40
7.....	3	3	25.80	37.80
8.....	3	3	27.00	39.00
9.....	4	5.2	37.80	54.60
10.....	4	5.2	41.40	58.20
12.....	X-5	5.2	55.80	73.80

Add for "Triplex" Platinum Contacts, \$1.50 net to above prices.

Faraday Gongs shown above will be furnished, when specially ordered, wound to special resistance to operate direct in multiple without external resistance on 110 or 220-volt D. C. circuits. For 600-volt D. C. circuits, they will be wound to a resistance of 1000 ohms and should be used with special Faraday External Resistance, as shown in blue print attached to each gong sent out, or will be wound to 150 ohms for use in the old-fashioned way with bank of 5 lamps.

Faraday Gongs up to 6-inch, inclusive, will, when wound to proper resistance (1750 to 2500 ohms for D. C., 100-125 volts, and 110 ohms for 60 cycle A. C., 100-115 volts), operate on D. C. and A. C. circuits above 6-inch, these bells will not give satisfactory service on alternating current and Faraday Double Gong Bells must be used.

Above models Faraday Enclosed Type Gongs will be furnished single stroke when specially ordered at a price of \$0.50 net additional.

Special resistance bells made to order. For prices, see special listing elsewhere.

Electrical House Goods and Novelties

"HAMMER-BLOW" FARADAY BELLS

Vibrating Weatherproof and Skeleton Types



Model "AVH"
"Hammer-Blow"



Model "BVH"
"Hammer-Blow"



Mechanism of "Hammer-Blow"
Faraday Gong



Model "CVH"
"Hammer-Blow"

Hammer-Blow "High-Power" Gongs

For Battery and D.C. Circuits

Hammer-Blow High-Power Faraday Signal Gongs, Models "AVH," "BVH" and "CVH" are superior to any type of signal gong made, except the Under-Dome model, which has similar mechanical detail. This mechanism gives a long, slow, hammer-blow movement—very similar to a powerful electro-mechanical gong—but having no clockwork mechanism, of course, requires no winding up, as does the electro-mechanical type.

The long, slow, powerful movement in this mechanism is obtained by means of the Faraday multiple gear between armature and hammer-rod—a feature that with a $\frac{3}{8}$ inch movement of armature permits, for example, in a 10 inch size gong a 3 inch movement of the hammer-ball.

Semi-flexible recoil type hammer-rod guarantees a clear, unmuffled blow on the gong—a most valuable advantage over the usual hammer-rod construction of other makes.

No other type of gong on the market can be operated with the long, powerful hammer-blow feature, for without the patented Faraday High-Power armature construction, this type of gong would be impossible; with this patented feature in models "AVH," "BVH" and "CVH" Gongs, the armature is held in the magnetic field with current on coils up to the moment the hammer-rod ball strikes the gong; this design gong gives twice the power of any other make of gong, because in the Faraday construction, contact points don't open with the forward movement of the armature to cut off current, but current is allowed to stay on the field coils until the end of stroke.

Breakage of springs cannot disable this model Faraday Gong, whereas with every competing make of gong a broken spring means the failure of the signal.

Pure platinum contacts, waterproof magnet coil windings, micrometer pattern contact posts, non-turning and non-loosening binding posts, bell metal gongs, rubber gasketed weatherproof and dustproof casings, sealed-in-back connections, no exposed terminals, lock washers on all binding posts, etc.—all Enclosed Type Faraday Gong standards are embodied in these models "AVH," "BVH" and "CVH."

ENCLOSED TYPES "AVH," "BVH" AND "CVH"

MODEL "AVH" (No Guard Over Gong)				MODEL "BVH" (Half-guarded Gong)				MODEL "CVH" (Full-guarded Gong)			
Size Gong Ins.	Frame No.	Resistance Ohms	List Price Each	Size Gong Ins.	Frame No.	Resistance Ohms	List Price Each	Size Gong Ins.	Frame No.	Resistance Ohms	List Price Each
4	1	1.5	\$9.30	4	1	1.5	\$10.20	4	1	1.5	\$11.60
6	2	2.1	12.00	6	2	2.1	13.20	6	2	2.1	22.80
8	3	3	15.00	8	3	3	16.80	8	3	3	29.40
10	4	5.2	16.20	10	4	5.2	18.60	10	4	5.2	30.60
12	5	5.2	21.00	12	5	5.2	23.40	12	5	5.2	42.60
14	X-5	5.2	24.60	14	X-5	5.2	27.00	14	X-5	5.2	46.20
16	6	8	31.80	16	6	8	35.00	16	6	8	60.60
18	8	8	37.80	18	8	8	40.80	18	8	8	.....
			81.00				.....				.....
			84.00				.....				.....
			93.00				.....				.....

SKELETON TYPE "SVH" (See cut "SSS" on other page)

List Price Each						List Price Each					
Size Gong Ins.	Less than 6	6 to 11	12 to 24	25 to 49	50 and Over	Size Gong Ins.	Less than 6	6 to 11	12 to 24	25 to 49	50 and Over
4	\$8.87	\$7.94	\$7.20	\$6.30	\$5.98	10	\$24.58	\$22.00	\$19.96	\$17.67	\$16.56
6	11.34	10.16	9.22	8.16	7.65	12	28.24	25.28	22.94	20.30	19.04
8	12.00	10.74	9.75	8.63	8.09	14	56.46	50.52	45.84	40.56	38.04
	16.76	14.99	13.60	12.04	11.28						

"SVH" Gongs same resistances as corresponding sizes Enclosed Types. Add for Triplex Platinum Contacts, \$1.50 net to above prices. Above cannot be assorted with other types to make up quantity.

The above gongs will be furnished at no extra cost to operate in any position (not solely with gong up as cuts show) but to obtain same, it must be specially noted that gongs are required with tension springs. Special resistance gongs to order. For prices see special listing elsewhere.

SINGLE-STROKE FARADAY BELLS ENCLOSED AND SKELETON TYPES For Battery and D.C. Circuits



Model "ASS"
Single-Stroke Enclosed Type, with Multiple Gear



Model "BSS"
Single-Stroke Enclosed Type, with Multiple Gear



Model "CSS"
Single-Stroke Enclosed Type, with Multiple Gear



Model "SSS"
Single-Stroke Skeleton Type, with Multiple Gear

"ASS," "BSS" and "CSS" Gongs are the most powerful and longest movement single-stroke gongs made—see mechanism cut on page showing "AVH" Models.

These enclosed types are far superior to skeleton types, and the use of the open-skeleton type should be limited to work where expense is the controlling factor, not long service and reliability.

The wonderfully long stroke of this gong is very similar to a powerful electro-mechanical gong, but, having no clockwork mechanism, of course requires no winding up, as does the electro-mechanical type.

Semi-flexible recoil-type hammer-rod guarantees a clear, unmuffled blow on gong, with never a double stroke possible—a most valuable advantage over the usual hammer-rod construction of other makes.

Single-stroke gongs are best connected in series (unlike vibrating gongs), but may be connected in multiple, if for some special reason multiple connection is necessary.

MODEL "ASS" (No Guard Over Gong)

Size Gong Ins.	Frame No.	Resistance Ohms	List Price Each
4	1	1.5	\$9.30
5	2	2.1	12.00
6	2	2.1	13.20
7	3	3	15.00
8	3	3	16.20
9	4	5.2	21.00
10	4	5.2	24.70
12	X-5	5.2	31.80
14	X-5	5.2	37.80
15	6	8	81.00
16	6	8	84.00
18	6	8	93.00

MODEL "BSS" (Half-guarded Gong)

Size Gong Ins.	List Price Each
4	\$10.20
5	13.20
6	15.00
7	16.80
8	18.60
9	23.40
10	27.00
12	34.80
14	40.80
..
..
..

MODEL "CSS" (Full-guarded Gong)

Size Gong Ins.	List Price Each
..
5	\$21.60
6	22.80
7	29.40
8	30.60
9	42.60
10	46.20
12	60.60
..
..
..

COMBINATION SINGLE-STROKE AND VIBRATING GONGS

ENCLOSED TYPES "AVS," "BVS," "CVS"

Models "AVS," "BVS" and "CVS" have hammer-blow type mechanism and three terminal binding-posts; they should be wired up to a three-wire circuit and should always, of course, be connected in multiple; when this is done, gongs may be operated, both single-stroke and vibrating at will; the operation of these gongs is perfect for both vibrating and single-stroke; they are like cuts, except that they have two (2) additional terminals on the outside of base-castings.

MODEL "AVS" (No Guard Over Gong)

Size Gong Ins.	Frame No.	Resistance Ohms	List Price Each
4	1	1.5	\$10.50
5	2	2.1	13.80
6	2	2.1	15.00
7	3	3	16.80
8	3	3	18.60
9	4	5.2	24.00
10	4	5.2	27.60
12	X-5	5.2	34.80
14	X-5	5.2	40.80
15	6	8	87.00
16	6	8	90.00
18	6	8	99.00

MODEL "BVS" (Half-guarded Gong)

Size Gong Ins.	List Price Each
4	\$11.40
5	15.00
6	16.80
7	19.20
8	21.00
9	26.40
10	30.00
12	37.80
14	43.80
..
..
..

MODEL "CVS" (Full-guarded Gong)

Size Gong Ins.	List Price Each
..
5	\$23.40
6	24.60
7	31.80
8	33.00
9	45.60
10	49.20
12	63.60
..
..
..

SINGLE-STROKE GONGS—SKELETON TYPE—"SSS"

Skeleton type single-stroke gongs are not recommended except where limitation of expense is controlling factor; the mechanism of these skeleton type gongs is, however, well made and same are still used, though enclosed types listed at top of page are preferable.

Size Gong Ins.	Frame No.	Resistance Ohms	List Price Each
4	1	1.5	\$7.09
5	2	2.1	9.54
6	2	2.1	10.20
7	3	3	14.36
8	3	3	21.58
10	4	5.2	25.24
12	X-5	5.2	50.46
14	X-5	5.2	50.46

Faraday Gongs shown above will be furnished, when specially ordered, wound to special resistance to operate direct in multiple or series if specified without external resistance, on 110 or 220-volt D. C. circuits; for 600-volt D. C. circuits, they will be wound to a resistance of 1000 ohms, and should be used with special Faraday External Resistance, as shown in blue print attached to each gong sent out or will be wound to 150 ohms for use in the old-fashioned way with bank of 5 lamps.

Faraday single-stroke gong shown on this page will not give satisfactory service on alternating current, and Faraday Electro-Mechanical Gongs or Faraday A. C. Relay Outfits, as shown on other pages, must be used for A. C. single-stroke work.

Special resistance gongs made to order. For prices see special listing elsewhere.

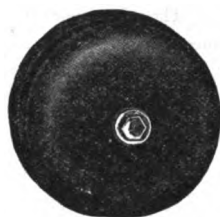
UNDER-DOME FARADAY GONGS NATIONAL CODE STANDARD



Model DB
Regular Pattern



Mechanism of Under-Dome Bell



Model DBC
For Exposed Conduit Work

Under-Dome Faraday Gong

These gongs are far superior to projecting-neck type of signal-gong heretofore almost universally used. The entire mechanism of an Under-Dome Gong, including hammer rod and ball, are within the gong, completely housed and protected; nothing can possibly injure or derange the mechanism and, in addition, the design of the Under-Dome Faraday Gong lends itself to the requirements of building work, i.e., that the gong shall not in any way mar the general building lines.

The clean, graceful lines of the design harmonize with surrounding interiors to a degree that was never possible in the old-style projecting-neck type of gong.

Under-Dome Faraday Gongs are regularly furnished in bauer-barff all over, i.e., gong and base; when specially ordered, will be furnished at slight additional cost, in any color to match walls or decorations.

Under-Dome Faraday Gongs have the following advantages in mechanism, viz.:

(a) Patented "High-Power" armature allows the keeping of armature in magnetic field up to the moment of striking the gong—twice the power of any other mechanism made, because contact points do not open or cut off current till the end of stroke.

(b) Bronze-steel power-multiplying gears between armature and hammer rod.

(c) No springs can break to stop operation of gong.

(d) Frame-casting of bell carries no current at any time, as entire electrical mechanism is insulated.

Faraday Bells may be mounted on metal without fear of grounding.

Under-Dome Faraday Gongs are made in three (3) models, viz.:

"DB"—for surface-mounting without conduit.

"DBC"—with outlet box for surface-mounting with conduit.

"DBFC"—with outlet box for flush-mounting with conduit.

Under-Dome Faraday Gongs will operate only on D. C. circuits; they will be furnished to work without external resistance on 110 volt D. C. circuits, wound to 1750 ohms; for 120 volts D. C. circuit, they will be furnished wound to 2500 ohms. For operation on 600-volt circuits, they will be furnished wound to a resistance of 1000 ohms; for this 600-volt service best results will be obtained from use in connection with special external Faraday Resistance-panel, or will be wound to 150 ohms for use in the old-fashioned way with bank of five (5) lamps. Connections must invariably be made exactly as per diagram sent out with 600-volt bells and when directions are followed, absolutely satisfactory results will be obtained with practically no sparking at contacts of bell.

Under-Dome Faraday Gongs will not work on A. C. circuits; Faraday Double-gongs, listed on other pages, must be used for A. C. circuits.

Under-Dome Faraday Gongs will be furnished "Single-stroke," when specially ordered, at \$0.50 net per bell additional.

PRICE LIST **MODEL DB—FOR REGULAR WORK**

List No.	Size, Gong Inches	No. of Frame	Resistance Ohms	List Price Each
DB- 8	8	3	3	\$16.20
DB-10	10	4	5.2	24.60

MODEL DBC—WITH OUTLET BOX FOR EXPOSED CONDUIT WORK

List No.	Size, Gong Inches	No. of Frame	Resistance Ohms	List Price Each
DBC- 8	8	3	3	\$27.00
DBC-10	10	4	5.2	36.60

MODEL DBFC—WITH OUTLET BOX FOR CONCEALED CONDUIT WORK

List No.	Size, Gong Inches	No. of Frame	Resistance Ohms	List Price Each
DBFC- 8	8	3	3	\$27.00
DBFC-10	10	4	5.2	36.60

NOTE: Add for Triplex Platinum Contacts, \$1.50 net.

Special resistance bells made to order—for prices see special listing elsewhere.

NOTE: Under-Dome Faraday Bells are ideal for electric vehicle work; will be furnished wound to any resistance required; generally used for 88 volts.

SPECIAL RESISTANCE FARADAY BELLS

For Direct Current Circuits Only

The tables shown herewith give the amounts that are to be added to the list prices of standard resistance for special resistance Faraday Skeleton and Enclosed Type Bells and Buzzers; for data, see paragraph "Ohms Resistance for various D.C. voltages" below.

SPECIAL RESISTANCE WINDING LIST ADDITIONS

Ohms per Bell	Frame No. 00-0-1	Frame No. 2	Frame Nos. 3-4-X5 & 6
5 to 10	\$0.60	\$0.96	\$1.20
11 to 20	.72	1.44	1.68
21 to 50	1.08	1.68	2.04
51 to 100	1.44	1.92	2.40
101 to 150	1.68	2.28	2.76
151 to 200	1.92	2.64	3.12
201 to 250	2.16	3.38	3.84
251 to 300	2.40	4.32	4.80
301 to 350	2.88	5.28	5.76
351 to 400	3.38	6.24	6.72
401 to 450	4.32	6.72	7.20
451 to 500	4.80	7.20	8.16
501 to 1000	5.28	7.80	9.00
1001 to 2000	6.00	8.70	10.20

Ohms Resistance for Various D. C. Voltages

For A.C., See Last Paragraph Below

Ohms Resistance per Bell	Adapted to Operate on Voltage of	Ohms Resistance per Bell	Adapted to Operate on Voltage of
5 ohms	6-10 volts	300 ohms	55-65 volts
10 ohms	10-15 volts	350 ohms	65-80 volts
20 ohms	15-20 volts	400 ohms	80-95 volts
50 ohms	20-25 volts	450 ohms	95-105 volts
100 ohms	25-30 volts	500 ohms	105-110 volts
150 ohms	30-35 volts	550 ohms	110-120 volts
200 ohms	35-45 volts	1000 ohms	120-130 volts
250 ohms	45-55 volts	2000 ohms	220-240 volts

NOTE: Above data is approximate, and may be varied from, in actual practice, without bad results; for example, a 20 ohm bell will operate O.K. on a 30 volt circuit, but as on this voltage there will be more sparking at contact points, best results would be obtained with a 100 ohm bell as shown in table.

NOTE: For high voltage gongs (from 60 to 220 volts) we can furnish Faraday Spark Eliminators, when specially ordered, at an extra price of \$1.00 Net per gong. When spark eliminators are used lower resistance than those shown in above tables may be used for high voltage circuits.

Faraday Gongs will be furnished, when ordered, wound to special resistance to operate direct in multiple without external resistance, on 110 or 220 volt D.C. circuits. For 600 volt D.C. circuits, they will be wound to a resistance of 1000 ohms and should be used with special Faraday External Resistance, as shown in blue print attached to each gong sent out; or will be wound to 150 ohms for use in the old-fashioned way with bank of 5 lamps.

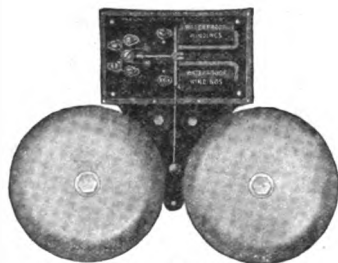
Faraday Gongs up to 6 inch, inclusive, will, when wound to proper resistance (500-1000 ohms for 100-125 volts D.C. and 106 ohms for 100-115 volts A.C., 60 cycle), operate on D.C. and A.C. circuits. Above 6 inch single gong bells will not give satisfactory service on A.C. and Faraday Double Gong Bells must be used.

A. C. DOUBLE-GONG FARADAY ENCLOSED-TYPE BELLS

for
A. C. ELECTRIC LIGHT AND POWER CIRCUITS 100-220 VOLTS—25-60 CYCLES
and for
TRANSFORMER CIRCUITS—18 VOLTS—25 TO 60 CYCLES
National Code Standard



Model "DG"
Double-Gong Bell



Mechanism, Model "DG"
Double-Gong Bell

A. C. Double-Gong Faraday Enclosed-Type Bells

These bells are designed for five different A. C. service conditions. All five types on this page are designed to be connected direct in multiple on line without external resistance of any sort; but there are two distinctly different types of bells, viz.: Multiple-Type and Series-Type.

Multiple-Type Gongs for 100 to 220 volt A. C. circuits should always be connected in multiple, like an incandescent lamp is connected to circuit. Multiple-Type Gongs must never be connected in series.

Series-Type Gongs, while requiring no external resistance, may be connected either in multiple or in series—the latter being particularly advantageous, however, under some conditions when lines are long and size copper small; the Series-Type Gong, in operation, never opens the circuit, minimizing sparking at contacts, etc.; the operation of any one or more gongs in the series may be stopped without interfering with the working of other gongs in circuit.

Faraday Double-Gong Bells listed on this page are entirely different from any A. C. gongs on the market, because of the new patented quick-break pole-reversing commutator device, which automatically reverses the pull on the armature at extreme position, and keeps pull on the armature till it is up against the core; all other double-gong bells reverse the current when armature is in the middle position, causing the magnets to pull the armature in the opposite direction before the end of the stroke.

PRICE LIST

List No.	Size Each Gong Inches	Frame No.	MULTIPLE				SERIES					
			MULTIPLE-TYPE A. C. 100-110 Volts 25 to 60 Cycles Direct in Multiple on Line		MULTIPLE-TYPE A. C. 220 Volts 25 to 60 Cycles Direct in Multiple on Line		SERIES-TYPE A. C. 100-110 Volts 25 to 60 Cycles Direct in Series on Line		SERIES-TYPE A. C. 220 Volts 25 to 60 Cycles Direct in Series on Line		SERIES-TYPE A. C. Transformers 18 Volts 25 to 60 Cycles Direct in Series on Terminals No External Resistance	
			No External Resistance		No External Resistance		No External Resistance		No External Resistance		No External Resistance	
			Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each
DG-3.....	3	1	400	\$14.28	800	\$15.48	1000	\$15.48	2000	\$16.32	30	\$11.76
DG-4.....	4	1	400	15.00	800	16.20	1000	16.20	2000	17.04	30	12.48
DG-5.....	5	1	400	18.20	800	19.38	1000	19.38	2000	20.22	30	15.66
DG-6.....	6	3	30	22.02	600	23.94	1000	24.06	2000	25.02	30	20.94
DG-7.....	7	3	30	23.82	600	25.74	1000	25.86	2000	26.82	30	22.74
DG-8.....	8	3	30	25.62	600	27.54	1000	27.66	2000	28.62	30	24.54
DG-10.....	10	4	24	36.60	500	39.54	1000	39.78	2000	40.26	30	36.00
DG-12.....	12	4	24	47.40	500	50.34	1000	50.58	2000	51.06	30	46.89
DG-14.....	14	4	24	62.40	500	65.34	1000	65.58	2000	66.06	30	61.80
DG-16.....	16	4	24	79.20	500	82.14	1000	82.38	2000	82.98	30	78.60
DG-18.....	18	4	24	97.20	500	100.14	1000	100.38	2000	100.86	30	96.60

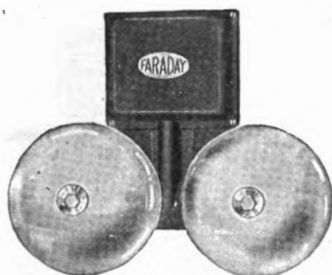
NOTE: Resistance in ohms shown in "Ohms Resistance" columns is the resistance of both coils combined; the actual resistance in circuit is only 1/2 that shown above, but it will, of course, be understood that each coil is wound to take the entire line-voltage, not the pair as in single-gong bells.

Don't fail to specify which of five types is required, voltage and cycles, in addition to "List No." and "Model No." otherwise order cannot be filled.

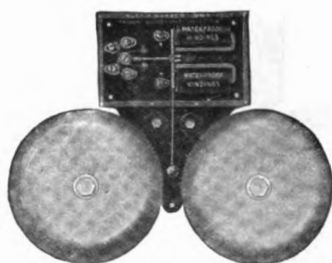
When "Series" type gongs are required, order must state: (a) How many gongs are to be connected in each series. (b) Voltage and cycles of circuit. (c) Length of line (both legs) and size of wire.

D. C. DOUBLE-GONG FARADAY ENCLOSED-TYPE BELLS

for
D. C. ELECTRIC LIGHT AND POWER CIRCUITS 100-250 VOLTS
 and for
BATTERY CIRCUITS OF ANY VOLTAGE
 National Code Standard



Model DG
Double-Gong Bell



Mechanism, Model DG
Double-Gong Bell

D. C. Double-Gong Faraday Enclosed-Type Bells

These bells are designed for five different D. C. service conditions, as shown in headings above price columns below. All five types on this page are designed to be connected direct in multiple on line without external resistance of any sort, but there are two distinctly different types of bells, viz.: Multiple-Type and Series-Type.

Multiple-Type Gongs for 100-125 and 220-250 volts and battery circuits of all voltages should always be connected in multiple, like an incandescent lamp is connected to circuit. Multiple-Type Gongs must never be connected in series.

Series-Type Gongs, while requiring no external resistance, may be connected either in multiple or in series—the latter being particularly advantageous, however, under some conditions when lines are long and size copper small; Series-Type Gong, in operation, never opens the circuit, minimizing sparking at contacts, etc.; the operation of any one or more gongs in the series may be stopped without interfering with the working of other gongs in circuit.

Faraday Double-Gong Bells listed on this page are entirely different from any double-gong bells on the market, because of the new patented quick-break pole-reversing commutator device, which automatically reverses the pull on the armature at extreme position, and keeps pull on the armature till it is up against the core; all other double-gong bells reverse the current when armature is in the middle position, causing the magnets to pull the armature in the opposite direction before the end of the stroke.

PRICE LIST

List No.	Size Each Gong Inches	Frame No.	MULTIPLE						SERIES			
			MULTIPLE-TYPE		MULTIPLE-TYPE		MULTIPLE-TYPE		SERIES-TYPE		SERIES-TYPE	
			D. C. 100-125 Volts		D. C. 220-250 Volts		D. C. Battery		D. C. 100-125 Volts		D. C. 220-250 Volts	
			Direct in Multiple on Line No External Resistance		Direct in Multiple on Line No External Resistance		Direct in Multiple on Line		Direct in Series on Line No External Resistance		Direct in Series on Line No External Resistance	
			Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each	Ohms Resistance per Pair Coils	List Price Each
DG-3.....	3	1	1000	\$15.48	2000	\$16.32	3	\$9.60	1000	\$15.48	2000	\$16.32
DG-4.....	4	1	1000	16.20	2000	17.04	3	10.32	1000	16.20	2000	17.04
DG-5.....	5	1	1000	19.38	2000	20.22	3	13.52	1000	19.38	2000	20.22
DG-6.....	6	3	1000	24.06	2000	25.02	6	15.30	1000	24.06	2000	25.02
DG-7.....	7	3	1000	25.88	2000	26.82	6	17.12	1000	25.88	2000	26.82
DG-8.....	8	3	1000	27.66	2000	28.62	6	18.90	1000	27.66	2000	28.62
DG-10.....	10	4	1000	39.78	2000	40.26	10	29.70	1000	39.78	2000	40.26
DG-12.....	12	4	1000	50.58	2000	51.06	10	40.50	1000	50.58	2000	51.06
DG-14.....	14	4	1000	65.58	2000	66.06	20	49.50	1000	65.58	2000	66.06
DG-16.....	16	4	1000	82.38	2000	82.98	20	72.30	1000	82.38	2000	82.98
DG-18.....	18	4	1000	100.38	2000	100.86	20	90.30	1000	100.38	2000	100.86

NOTE: Double-Gong Bells, above described, will be wound to any desired special resistance for use on D. C. circuits. For list prices for such winding, see special listing elsewhere, being careful to note that double-gong bells always have to be wound to maximum resistance per coil, not per pair as single-gong bells; therefore, list prices of double the resistance of single-gong bells must be figured. For example, a single-gong bell to operate without excessive sparking on a given D. C. voltage might be wound to 500 ohms, but a double-gong for same use 500 ohms per coil or 1000 ohms per pair.

Don't fail to specify which of five types is required and voltage in addition to "List No." and "Model No." otherwise order cannot be filled.

When Series type gongs are required order must state: (a) How many gongs are to be connected in each series. (b) Voltage of circuit. (c) Length of line (both legs) and size of wire.

FARADAY DOUBLE-GONG BELLS



Model DGM
Double-Gong Mine Bell



Model ME
Loud-Ringing Extension Bell

A.C. Non-Sparking Mine Type Faraday Double-Gong Bells

FOR A.C. ELECTRIC LIGHT AND POWER CIRCUITS

100-220 Volts—25-60 Cycles

A.C. Non-sparking Faraday Double-Gong Bells are designed to operate direct on line without external resistance of any kind and without sparking. There are no contacts of any sort in the mechanism of this bell. In mine work and, in fact, in many places where a spark at contact points is dangerous or objectionable, these Faraday DGM Bells are extremely advantageous.

FOR A.C. 110 VOLTS—25-60 CYCLE CIRCUITS

List No.	Size Gong	Frame No.	Resistance in Ohms per Pair Magnets	List Price Each
DGM-6	6 ins.	3	1000	\$24.06
DGM-8	8 ins.	3	1000	27.66
DGM-10	10 ins.	3	1000	39.78

FOR A.C. 220 VOLTS—25-60 CYCLES

List No.	Size Gong	Frame No.	Resistance in Ohms per Pair Magnets	List Price Each
DGM-6	6 ins.	3	2000	\$25.02
DGM-8	8 ins.	3	2000	28.62
DGM-10	10 ins.	3	2000	40.74

Loud-Ringing Magneto-Extension Faraday Double-Gong Bells

FOR A.C. MAGNETO-GENERATOR CIRCUITS

Are for use on telephone lines or on circuits where the source of current supply is an A.C. Magneto Generator of 16 $\frac{2}{3}$ cycles.

Model ME bells are of polarized type with permanent magnets—entirely different in principle from the standard double-gong bell.

These Model ME bells are made only in three sizes: 6 inches, 8 inches and 10 inches.

Operation of Faraday Magneto-Extension Bells is under certain line conditions improved by the use of condensers.

All Model ME Faraday Gongs are weatherproof, with rubber-gasketed covers and no external binding-posts; they may be mounted outside without additional housings.

List No.	Size Gong	Frame No.	Resistance Ohms per Pair Magnets	List Price Each	List No.	Size Gong	Frame No.	Resistance Ohms per Pair Magnets	List Price Each
ME-680	6 ins.	3	80	\$18.85	ME-8500	8 ins.	3	500	\$22.95
ME-6160	6 ins.	3	160	19.25	ME-81000	8 ins.	3	1000	23.05
ME-6300	6 ins.	3	300	19.85	ME-81200	8 ins.	3	1200	23.85
ME-6500	6 ins.	3	500	19.95	ME-81600	8 ins.	3	1600	23.85
ME-61000	6 ins.	3	1000	20.05	ME-1080	10 ins.	3	80	30.85
ME-61200	6 ins.	3	1200	20.85	ME-10160	10 ins.	3	160	31.25
ME-61600	6 ins.	3	1600	20.85	ME-10300	10 ins.	3	300	31.85
ME-880	8 ins.	3	80	21.85	ME-10500	10 ins.	3	500	31.95
ME-8160	8 ins.	3	160	22.25	ME-101000	10 ins.	3	1000	32.05
ME-8300	8 ins.	3	300	22.85	ME-101200	10 ins.	3	1200	33.55
					ME-101600	10 ins.	3	1600	33.55

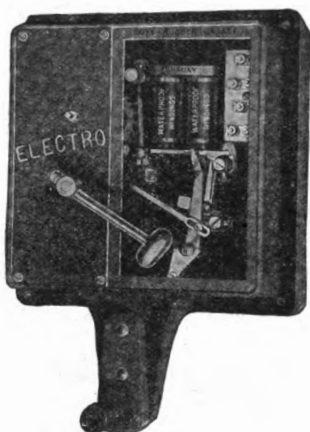
Above prices do not include condensers.

CONDENSERS

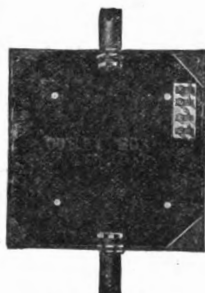
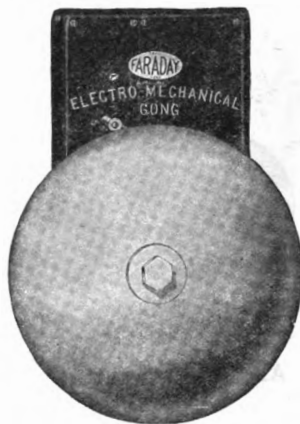
List No.	Capacity
CMF-2	2MF
CMF-4	4MF

List Price Each
\$2.40
4.56

ELECTRO-MECHANICAL FARADAY GONGS



Mechanism, Model EMW

Outlet Box for
Pipe Entrance

Model EMW

For Open or Closed Circuit Systems

Electro-mechanical Gong are made for use where requirements demand a heavier and more powerful blow than is possible to obtain from an electric signal gong of regular design.

In an Electro-mechanical Gong the blow on the gong is struck by a heavy ball on the end of a lever released by the electric current, but operated by a powerful clock-spring.

The mechanism of the Faraday Electro-mechanical Gong is an extremely high-grade product, and rarely does the same fail to draw strong praise when examined in detail by signal-engineers who know their business.

Faraday Electro-mechanical Gongs are designed to give the proper prearranged signal at all times and have not a single failure in their whole history—a strong claim, but one that's positively backed up and proven by actual records.

Cases are designed for the easy, comfortable installation, that has always, in other makes, been entirely lacking; the back of the case is in reality an outlet-box, in which box all terminals are mounted; when the mechanism of the gong itself is to be put up, it's an easy, convenient operation.

Front may be taken completely off for inspection of mechanism, contacts, oiling of bearings, etc.—all without disturbing mechanism; the entire mechanism may also be removed from the case without opening circuit, if so desired.

Cases are of cast-iron, finely japanned; heavy soft-rubber gaskets guard against dampness getting into the case; cases are regularly drilled to "slip" $\frac{1}{2}$ inch rigid iron conduit, but entrances are plugged and provision made for wires entering from "open-work" type of wiring; when specially ordered, will be drilled to "slip" any size conduit desired.

"Tell-Tale" attachment furnished when specially ordered at \$6.00 per bell extra; with "Tell-Tale" attachment, notification is insured whenever spring of the movement needs rewinding.

Faraday Electro-mechanical Gongs will give approximately 500 blows to each winding.

The following types of mechanism are made and orders cannot be filled unless type is specified:

- Single-stroke, for open-circuit work.
- Single-stroke, for closed-circuit work.
- Continuous-ringing, for open-circuit work.
- Continuous-ringing for closed-circuit work.
- To ring continuously until run down, for open-circuit work.
- To ring continuously until run down, for closed-circuit work.

FARADAY ELECTRO-MECHANICAL GONGS

MODEL EMW

List Prices and Data

List No.	Size Gong	Regular Resistance in Ohms	List Price Each
EMW- 6	6	20	\$45.60
EMW- 8	8	20	48.00
EMW-10	10	20	51.00
EMW-12	12	20	57.00
EMW-14	14	20	60.00
EMW-15	15	20	96.00
EMW-16	16	20	102.00
EMW-18	18	20	117.00

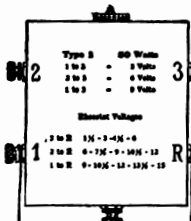
Special resistance gongs to order. For price see special listing using price of No. 3 frame regardless of Electro-mechanical Gong size frame.

Electrical House Goods and Novelties

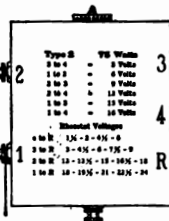
TOY TRANSFORMERS



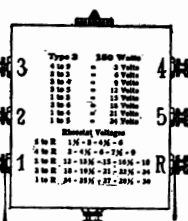
No. 1 Toy with Switch



No. 1 Connection



No. 2 Connection



No. 3 Connection

"Jefferson" Flexible Toy Transformers

The Jefferson Flexible Toy Transformers reduce the ordinary A.C. house lighting current to low voltage suitable for operating and regulating the speed of electric engines, small motors and electric trains; may be also used for ringing bells, signals, buzzers, lighting small lamps, etc. In fact, the different uses they may be put to are unlimited.

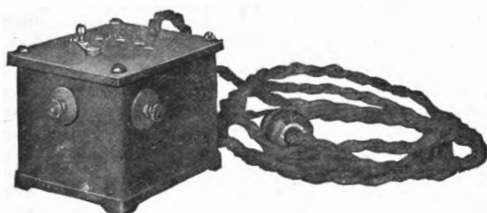
These toy transformers are mounted in handsome black enameled steel cases, equipped with extension cord and attachment plug, so that they can be attached to any alternating current lamp socket. They are sturdily built and make a very handsome appearance. With ordinary care will last a lifetime.

Standard stock transformers are wound to operate on 100 to 130 volts, 60 to 133 cycles. Transformers of special voltage or cycle furnished to order. No extra charge for 25 cycle or 220 volt, 60 cycle.

Transformer With Switch

List No.	Description	Capacity	Dimensions	Wgt.	List Price Each
1	10 voltage, $1\frac{1}{2}$ to 15 volts in $1\frac{1}{2}$ volt steps	50	$4\frac{1}{4} \times 3\frac{3}{4} \times 3\frac{1}{4}$ ins.	5 lbs.	\$4.80
2	16 voltage, $1\frac{1}{2}$ to 24 volts in $1\frac{1}{2}$ volt steps	75	$5 \times 4 \times 3\frac{3}{4}$ ins.	7 lbs.	6.60
3	20 voltage, $1\frac{1}{2}$ to 30 volts in $1\frac{1}{2}$ volt steps	150	$5\frac{5}{8} \times 5\frac{1}{4} \times 4$ ins.	10 lbs.	9.00

NOTE: The above show ranges of voltage obtainable from different sizes of flexible type transformers.



50 and 100-Watt Transformer

Wayne Toy Transformer

The Wayne Toy Transformer is a medium through which electricity at low voltage may be obtained from an alternating current lighting circuit for operation of electrical toys, such as railways, locomotives, aeroplanes, automobiles, motors or any electrical toys which may be operated from alternating current.

On account of the numerous sizes and types of toys it is necessary to have a wide variation in secondary voltage because the smaller toys take from 4 to 10 volts and the larger toys from 10 to 24 volts.

On these transformers the variation in voltage is accomplished by means of three terminals and a switch with a number of contacts. The different voltages are thus made available with only one change in the secondary connections.

This flexibility of the voltage control not only permits of the operation of practically all of the various electrical toys but permits operating them at variable speeds.

CONSTRUCTION

The same care and workmanship is given to the Wayne Toy Transformers as if found in large power transformers, particular attention being given to insulation.

The transformer core is built up of steel laminations of the best quality Silicon steel. The transformer proper is then mounted in a sheet steel case with a black fiber cover. The case is completely filled with insulating compound. This compound makes the transformer impervious to moisture and practically indestructible.

List No.	Type	Form	Frequency	Watts	Volts Primary	Volts Secondary	List Price
191372	ND	L-2	50 to 140	50	110	4, 6, 8, 10, 12, 14, 16, 18, 20, 22	\$5.50
191373	ND	L	50 to 140	100	110	6, 8, 10, 12, 14, 16, 18, 20, 22, 24	8.50

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Electrical House Goods and Novelties

BELL RINGING TRANSFORMERS



No. 190546



No. 190552

Bell Ringing Transformers

Transformer No. 190546 is a small, self-contained, tamper-proof, indestructible device made especially for service in residences, flats, etc., for operating the door bells, annunciators, burglar alarms and door openers. It is to be connected to the house lighting circuit of 60 cycles, 110 volts, alternating current, and gives 12 volts across the binding posts for the bell circuit.

It will ring three 4 inch bells connected in multiple; when a 6 inch bell is to be operated two of these transformers should be used, their primaries connected in multiple across the lighting circuit and the secondaries connected in series to supply the current for the bell. With two transformers connected in this manner three 6 inch bells can be operated at one time.

The No. 190552 is designed especially for service in connection with the larger bells used in factories, public buildings, etc., which require more energy to ring them than is furnished by the transformer previously described.

It has a capacity of five 5 to 7 inch bells, or ten 2 to 4 inch transformer bells, the bells to be connected in multiple across the secondary circuit.

The No. 99192 is in construction and outward appearance similar to Transformer No. 190552, but has a capacity of three 10 to 12 inch bells, five 8 inch bells, ten 5 to 7 inch bells, or twenty 2 to 4 inch transformer bells, the bells to be connected in multiple across the secondary circuit.

The above are built to conform to the requirements of the Underwriters and bear their approval.

List Prices and Data

List No.	Primary	Voltage Secondary	Watts	Frequency	Height Inches	Width Inches	Depth Inches	Weight Lbs.	**List Price Each
190546	110	12	10	25 to 140	6½ in.	3½ in.	2½ in.	4½	\$2.80
99192	110	10, 20 and 30	125	40 to 140	6½ in.	6½ in.	4½ in.	11½	16.50
190552	110	8, 16 and 24	60	40 to 140	5¾ in.	5¾ in.	3¾ in.	8	12.30
190885	220	12	10	40 to 140	6½ in.	3½ in.	2¾ in.	5½	4.50



Junior



Type B

Bell Ringing Transformers

The "Junior" bell ringer is suitable for residence door bells, buzzers and all classes of light signal work. For heavier signal work and bells that require more power than is generated by the "Junior," we recommend either type "A" or "B." For extra heavy signal work, we recommend the heavy output "A" or "B."

List No.	Type	Secondary Voltages	Length	Width	Height	Watts	Weight	**List Price Each
361215	Junior.....	.....	5 ins.	2½ ins.	2 ins.	16	2 lbs.	\$2.70
361216	"A".....	6	5 ins.	3¾ ins.	4 ins.	25	5 lbs.	4.80
361217	"B".....	6, 14 & 20	5 ins.	3¾ ins.	4 ins.	25	5 lbs.	6.00
361218	Heavy output "A"...	6	6 ins.	4¾ ins.	4¾ ins.	60	7½ lbs.	7.20
361219	Heavy output "B"...	6, 14 & 20	6 ins.	4¾ ins.	4¾ ins.	60	7½ lbs.	8.40
361945 SS	Extra Heavy Output	.....	6 ins.	4¾ ins.	4¾ ins.	100	9 lbs.	10.80

**Delivery F. O. B. Factory, New York City.

**Delivery F. O. B. Factory, Chicago, Ill.

For warehouse deliveries write nearest house.

TOY TRANSFORMERS



Without Circuit Breaker



With Circuit Breaker

Thordarson Toy Transformers

In toy transformer operation short circuits occur continually, due to the ignorance of the operator, bridging of the tracks when toy trains are derailed and many other causes over which the manufacturer has no control.

These transformers have, therefore, been provided with a device effectively protecting the transformer itself from operating abuse, consequently minimizing repair expense.

This device, to be absolute in its operation, must essentially be a part of the transformer, and to protect it from other causes of derangement must be inherent in the transformer itself. Therefore, there has been placed within the transformer case its protective device. When the transformer is overloaded from whatever cause—either short circuits or unintentional overloads—this device automatically opens the transformer circuits, cutting same out of service. By means of a push button protruding through the side of the case the transformer can be readily replaced in service after short-circuit condition has been removed, and then only, it being impossible to close the circuit until overload condition is removed. This feature is particularly important where the transformers are operated by children. In order that the secondary voltage can be varied in steps of one volt from the minimum to the maximum range of the transformer, there is provided a regulating switch and universal connection terminal placed upon the top of the transformer where the operator can easily read the directions and operate the regulator lever conveniently with no chance of making a mistake.

List No.	Watts	Range of Voltages	List Price with Circuit Breaker	List Price without Circuit Breaker
1-B Transformer	60	1 to 20	\$9.36	\$7.36
2-B Transformer	120	1 to 25	11.36	10.00
5-B Transformer	40	1 to 15	7.36	5.36

Sign Lighting Transformers

The multiple lighting transformers are designed to be used in connection with low voltage Mazda lamps, either for sign or residence lighting. These transformers embody all essentials of a perfect design, electrical, magnetic and mechanical. They are double wound and insulated to withstand a breakdown of 2500 volts between the primary, secondary and core. Standard transformers can be furnished for two and three wire systems, 110 and 220 volt primaries, 11 and 22 volt secondaries.



List No.	Watts	Length	Width	Height	Efficiency	Weight	*List Price Each
361224	100	4 7/8 ins.	3 3/8 ins.	3 1/4 ins.	91.2%	6 lbs.	\$9.00
361225	150	5 ins.	4 ins.	3 1/2 ins.	92%	8 lbs.	12.00
361226	250	5 3/4 ins.	4 7/8 ins.	4 ins.	93%	13 lbs.	16.00
361227	500	6 5/8 ins.	5 ins.	4 5/8 ins.	94.2%	19 lbs.	18.00
361228	750	6 7/8 ins.	5 1/4 ins.	4 3/4 ins.	94.9%	25 lbs.	20.00
361229	1000	7 5/8 ins.	5 3/8 ins.	5 ins.	95.2%	28 lbs.	22.00
361230	1500	7 3/4 ins.	5 5/8 ins.	5 1/4 ins.	95.9%	35 lbs.	28.00
361231	2000	8 5/8 ins.	6 ins.	6 ins.	96.1%	46 lbs.	35.00
361232	2500	9 ins.	6 3/4 ins.	6 3/4 ins.	96.5%	55 lbs.	40.00

Approved by the National Board of Fire Underwriters.

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

PUSH BUTTONS



No. 1375



No. 1386



No. 1382

Watertight Push Button

This push button is for use in boats, ice houses, cold storage plants, mines, or any place where the atmosphere is continuously damp. A watertight pigskin cap is held in place over the push center by a threaded ring. The base is solid bronze with two cast lugs projecting, through which connecting wires pass.

List No.	Mfr. No.	Diameter	†List Price Each
360794	*1375	2½ in. With platinum contacts	\$1.84
360795	*1376	2½ in. Without platinum contacts	1.80

Prices include any finish from Nos. 1 to 11 inclusive.

Improved Watertight Push Button

Navy Standard

This push button has heavy German silver springs with platinum contacts. Screw cap, rubber gaskets under the base and between the base and screw cap. Hard rubber back. Push center covered by pigskin, which is held in place by rim and four screws.

360796	1386	2½ in. Improved Watertight Push Button	\$2.00
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Non-Watertight Push Button

Navy Standard

This push button has heavy platinum contacts; screw cap.

360797	1382	2½ in. Non-Watertight Push Button	\$1.14
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No. 1258



No. 1396



No. 1364

Paper Weight Wood Desk Push

This is a polished wood push, with lead in bottom which can be used as a paper weight. It is very convenient and neat.

List No.	Mfr. No.		†List Price Each
360798	1258	Wood Push, oak only	\$0.60

Wood Push Buttons

List No.	Mfr. No.	Style	Size	Finish	†List Price Each
360799	1396	Walnut	2½ in.	Polished	\$0.09
360800	1398	Ash	2½ in.	Polished	.09
360801	1399	Stained Cherry	2½ in.	Polished	.09
360802	1401	Antique Oak	2½ in.	Polished	.09
360803	1397	Oak	2½ in.	Polished	.09
360804	1402	Mahogany	2½ in.	Polished	.09

Extension Push Buttons

This can be used as a regular push button, and by attaching a double conductor flexible cord with pear push or table clamp on the end, the circuit can be extended to a bed for the convenient use of a sick person or to desk, table, etc.

List No.	Mfr. No.		†List Price Each
360805	1364	Walnut or Oak	\$0.44

*The price quoted with each push is for the finish designated by the following numbers:

Finish No. 1, bronze, polished (natural color of metal). 2, nickel plated. 3, polished bronze, inlaid with black. 4, silver plated. 5, silver oxidized (mottled). 6, antique copper (dark color). 7, copper oxidized (mottled). 8, Bauer barff (dead black). 9, brass (plated). 10, appearance of a dull, wrought copper finish. 11, lemon brass (brushed brass).

†Delivery F. O. B. Factory, New York City.

For warehouse deliveries write nearest house.

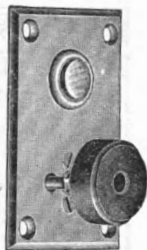
Electrical House Goods and Novelties

S3

MISCELLANEOUS PUSHES



No. 1263



No. 1142



No. 1264

Regular Floor Foot Push

This push is especially adapted for use under dining-room table for signaling attendant.

List No.	Mfr. No.		*List Price Each
360806	1263	Regular Floor Push, nickel plated.....	\$0.38

Combination Push and Plug

This article consists of a bronze metal wall plate with push button and a detachable extension plug. A flexible cord of suitable length and a pear push may be attached to plug, enabling call to be made from any part of room.

Especially adapted for private rooms in hospitals, bedrooms, dining-rooms, etc.

Finished in nickel plate and polished bronze for stock. Special finishes to order.

360808	1142	Wall plate and plug.....	Size 2 x 3 in. \$1.20
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Combination Floor Push

This push is the same as the Regular Floor Push, with extension attachment for connecting flexible conducting cord with pear push or table clamp.

360807	1264	Combination Floor Push nickel plated.....	\$0.42
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No. 1335



No. 1369



No. 1378



No. 1381

Car and Elevator Push

Fits 1/2 inch hole. Solid brass nickel plated. Has plate for fastening against wall.

List No.	Mfr. No.		*List Price Each
360812	1335	Black center, with binding posts.....	\$0.20
360813	1336	Black center, without binding posts.....	.18
360814	1285	Black center, with binding posts.....	.26
360815	1286	Black center, without binding posts.....	.24

Pear Shape Pushes

No. 1369.—Finely finished in ash, oak, cherry, walnut and mahogany.

No. 1378.—Extra fine finish, with polished bone extension and push, ash, oak, walnut or mahogany.

360809	1369	Pear Shape Push.....	Length 2 1/8 in. \$0.14
360810	1378	Pear Shape Push.....	Length 3 1/4 in. .28

Electric Presselles

A Presselle is used for the same purposes as a Pear Shape Push, and is operated by simply pressing the sides together. It can be covered with a fringe of a color to match the furnishings of a room, and will resemble a tassle. Finished in oak only.

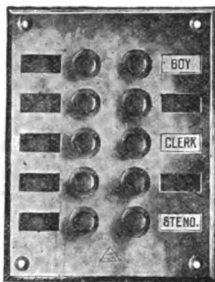
360811	1381	Electric Presselle.....	\$0.22
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*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MISCELLANEOUS PUSH BUTTONS



No. 190



No. 191



No. 71

Edwards Directory Push

No. 190 or 191

Schedule "R"

The Edwards Directory Push is equipped with unusually substantial connectors with formed ears to prevent the wire from spreading or slipping out. The button head screws have lower ends upset so that they cannot be backed out or lost. These screws make connections easy and most secure. Phosphor bronze, scraping, self-cleaning contacts, allow pleasant uniform push. The contact bridge and all current carrying parts are fully insulated from the front plate, making push available for use on metal if desired, without fear of grounding. The spaces for name cards are liberal in size; any single card may be inserted or removed without dismounting block or disturbing the others. The buttons ordinarily are supplied in black, but pearl buttons can be furnished if desired. A large metal eyelet is provided in end of block to facilitate the introduction and protection of cable. Type No. 191 is for flush mounting directly on desk or wall. The wood block of the No. 190 is weighted so it may be used as a paper weight.

List No.	No. Buttons	*List Price	List No.	No. Buttons	*List Price	List No.	No. Buttons	*List Price
360377	1	\$2.68	360380	4	\$5.60	360383	7	\$8.48
360378	2	3.68	360381	5	6.54	360384	8	9.34
360379	3	4.54	360382	6	7.48	360385	10	11.34

*The list numbers apply to 190; for 191 add "F" after the number letter.

For larger sizes, add to list for each button, \$1.33.

For pearl buttons, add to list per button, 27 cents.

For silk covered cable connected, add to list per foot, per button, 20 cents.

Standard finish, **nickel**; **dark oak**, mahogany and brush brass can be supplied without extra charge.

Standard package, 3 or more plates, totalling 40 buttons.

Paper Weight Push

Schedule "E"

Finish: **Nickel plate**, brush brass, old brass or bronze.

Made of pressed steel, weighted back, felt-covered, 8 to 12 button, cast case. Price includes No. 63 pushes matched finished rims. Special finishes group A or group B add to list 20 cents or 75 cents per push.

List No.	Mfr. No.	No. of Pushes	Size Inches	*List Price	List No.	Mfr. No.	No. of Pushes	Size Inches	*List Price
360386	71	2	2½ x 1½	\$2.88	360390	71	6	2½ x 1½	\$5.36
360387	71	3	2½ x 1½	3.52	360391	71	8	4 x 1½	7.14
360388	71	4	2½ x 1½	4.12	360392	71	10	4 x 1½	7.84
360389	71	5	2½ x 1½	4.72	360393	71	12	5½ x 1½	8.54

Other sizes up to 20 buttons.

For attaching green silk cord, per foot for each button, 16 cents.

Special finishes group "A" add to list 21 cents.

Special finishes group "B" add to list 81 cents.

Note: Heavy face type indicates finish supplied when not otherwise specified.

Standard and Special Finishes

Note: Heavy face type indicates finish supplied when not otherwise specified.

Finish Group "A"

Old English bronze	Polished copper
Antique or Flemish brass	Polished steel
Oxidized brass	Bauer-barff
English bronze	Acid or statuary bronze
Mottled copper	Lemon rass
Oxidized copper	Gun metal
Antique copper or Japanese bronze	Black

Finish Group "B"

Gilt	Burnished gilt
Satin gold	Polished silver
Etruscan gilt	Pompeian bronze
Gold bronze	Roman or dull gold
Oxidized silver	Sand blast, antique brass
Butler's silver	Sand blast, old brass
Ormolu or French gilt	Verde antique

*Delivery F. O. B. Factory, New York City.

Electrical House Goods and Novelties

For warehouse deliveries write nearest house.

FLUSH PUSH BUTTONS



No. 620



No. 621

Midget and Mite Types

Schedule "R"

NO. 620 DIXIE, JR.

Finish: Nickel plate, brush brass, old brass or bronze.

Non-turnable centers. Fully insulated. Scraping contact. Economy binding post takes all sizes of wire. Screws cannot come out. A high-grade reliable push. No. 60 escutcheon may be used with this push.

List No.	Mfr. No.	Fits Hole Inches	Std. Center	Pkg.	*List Price
360298	620	$\frac{5}{8}$	Light or dark pearl	50	\$0.28
360299	621	$\frac{5}{8}$	Pearl, protruding $\frac{1}{8}$ in.	25	.56



No. 1062



No. 1162



No. 63

NO. 1062 NEW MIDGET, JR.

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Same as No. 62, but with scraping contact and shallow contact springs. No. 60 escutcheon may be used with this button.

List No.	Mfr. No.	Fits Hole Inches	Center	Std. Pkg.	*List Price
360303	1062	$\frac{5}{8}$	Light or dark pearl	200	\$0.17

NO. 1162 NO CONTACT

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Same as No. 62 Midget, Jr., but without back springs or binding posts. Spring clip fasteners.

List No.	Mfr. No.	Fits Hole Inches	Center	Std. Pkg.	*List Price
360304	1162	$\frac{5}{8}$	Light or dark pearl	50	\$0.14

NO. 63 NEW MITE

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Formed shell, over all, $\frac{5}{8}$ x $\frac{5}{8}$ inches; non-turnable centers, spring clip fasteners. Binding posts take up to No. 12 B. & S. wire

List No.	Mfr. No.	Fits Hole Inches	Center	Std. Pkg.	*List Price
360305	63	$\frac{1}{2}$	Light or dark pearl	50	\$0.36

Note: Heavy face type indicates center and finish supplied when not specified. For ivory centers or special finishes see following page.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

FLUSH PUSH BUTTONS



No. 59



No. 1059

Midget Types

NO. 59 MIDGET

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Non-turnable centers, secure spring clip fasteners, phosphor-bronze contacts. Binding posts take any size wire. No. 61 escutcheon may be used with this button.

List No.	Mfr. No.	Fits Hole	Center	Std. Pkg.	* List Price
360308	59	3/4 in.	Light or dark pearl	50	\$0.38

NO. 1059 MIDGET

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Non-turnable centers, secure spring clip fasteners, phosphor-bronze spring, scraping contacts. Connectors take any size wire. No. 61 escutcheon may be used with this button.

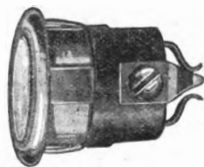
List No.	Mfr. No.	Fits Hole	Center	Std. Pkg.	* List Price
360310	1059	3/4 in.	Light or dark pearl	50	\$0.33



No. 1159



No. 1160



No. 260

NO. 1159 MIDGET

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Two scraping contacts to close two circuits; non-turnable centers, recommended for telephone or annunciator work; No. 61 escutcheon may be used with this button.

List No.	Mfr. No.	Fits Hole	Center	Std. Pkg.	* List Price
360314	1159	3/4 in.	Light or dark pearl	50	\$0.65

NO. 1160 MIDGET

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Same as No. 1159, but for return-call use. No. 61 escutcheon may be used with this button.

List No.	Mfr. No.	Fits Hole	Center	Std. Pkg.	* List Price
360316	1160	3/4 in.	Light or dark pearl	50	\$0.65

NO. 260 VAN TASSELL

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Formed shell; durable insulation; scraping contacts; non-grounding phosphor-bronze contact springs recessed in insulator, locking in place. For closing 2, 3 or 4 circuits; 4 contacts furnished unless otherwise ordered.

List No.	Mfr. No.	Fits Hole	Center	Std. Pkg.	* List Price
360319	260	3/4 in.	Light or dark pearl		\$0.65

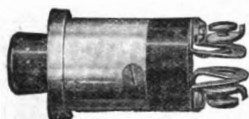
Special Centers and Finishes

For any ivory center, add	\$0.54
For hard rubber, insulating bushing, add	.22
For any group "A" finish, listed previously, add	.11
For any group "B" finish, listed previously, add	.33
For engraving, per letter	.14

Note: Heavy face type indicates center and finish supplied when not specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

FLUSH PUSH BUTTONS



No. 85



No. 116

Special Types

NO. 85 QUICK BREAK

High Voltage

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

No. 85 for 110 volts. No. 85A for 220 volts. Long, quick break, heavy phosphor-bronze contact springs, shell solid brass with condensite insulation, and rubber push, perfectly insulated.

List No.	Mfr. No.	Style	Fits Hole Inches	Center	Std. Pkg.	*List Price
360292	85	High Voltage	$\frac{3}{4}$	Hard rubber	6	\$1.95
360293	85A	High Voltage	$1\frac{1}{8}$	Hard rubber	6	4.32

Extra hard rubber bushings, for 110 volts, \$0.81.

Extra hard rubber bushings, for 220 volts, \$1.08.

Either of above for closed circuit, add to list, \$2.70.

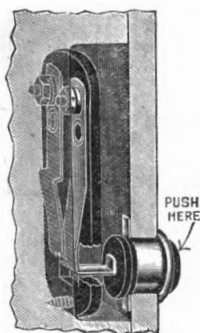
NO. 116 SLOW BREAK

Schedule "E"

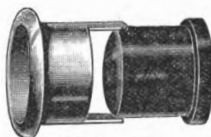
Finish: Nickel plate, brush brass, old brass or bronze.

Used in electric automobile controller handles, etc. It is supplied with wiping contacts and phosphor bronze springs.

List No.	Mfr. No.	Style	Fits Hole Inches	Center	Std. Pkg.	*List Price
360294	116	Slow Break	$\frac{1}{2}$	Hard rubber	6	\$0.81



No. 183 Showing Interior



No. 183 Button Only



Fiber Base and Contact Spring

NO. 183 STREET CAR BUTTON

Schedule "E"

Two units, the button shell and center, and a fiber base containing two phosphor-bronze contact springs so arranged that a perfect scraping contact is made. This construction makes it possible to mount the contact piece in the window post permanently, so that the replacing of glass or removal of sash does not derange the wiring. The shell is equipped with fingers, which when the shell is placed in the trim are bent over, locking the shell in place. The center has a flange at base, so that it cannot be removed except by taking off window trim.

The construction is extremely rugged and was designed to meet severe requirements of railroad service at a low cost.

List No.	Mfr. No.	Fits Hole Inches	Center	*List Price
360297	183	$\frac{3}{4}$	Hard rubber	\$0.30

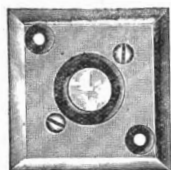
Note: Heavy face type indicates finish supplied when not specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

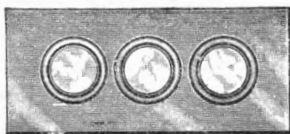
PUSHES AND PUSH PLATES



No. 9627



No. 9628



No. 180



No. 157D

Square and Diamond Pushes

Schedule "E"

List No.	Mfr. No.	Type	Description	Size Inches	Std. Pkg.	*List Price
360338	9627	Flush	Diamond Shape	2½ x 3	25	\$0.38
360339	9628	Flush	Square Shape	1⅞ x 1⅞	25	.38

Finish: Nickel plate, brush brass, old brass or bronze; for any group A finish add 22 cents; for any group B finish, add 54 cents.

Metal Plates for Pushes

METAL PLATE NO. 180

Plate Only for No. 147 and No. 148 Wood Blocks

Schedule "E"

Prices do not include buttons, but in ordering, specify whether size A, ⅝ inch, or size B, ¾ inch, is required.

List No.	Mfr. No.	No. of Pushes	Size "A" ⅝ Inch Button Inches	Size "B" ¾ Inch Button Inches	*List Price
360340	180	1	1⅞ x 1⅞	1¾ x 1¾	\$0.50
360341	180	2	2⅞ x 1⅞	3 x 1¾	.55
360342	180	3	3½ x 1⅞	4¼ x 1¾	.60
360343	180	4	4½ x 1⅞	5½ x 1¾	.65
360344	180	5	5½ x 1⅞	6¾ x 1¾	.70
360345	180	6	6½ x 1⅞	8 x 1¾	.85
360346	180	8	4½ x 2⅞	5½ x 3	1.00
360347	180	10	5½ x 2⅞	6¾ x 3	1.30
360348	180	12	6½ x 2⅞	8 x 3	1.75

PLATE NO. 157

For ⅝ Inch or ½ Inch Pushes Only

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Diamond or square shaped, bevel edge, drilled for 1 button. No. 157S square, size 1⅞ inch; No. 157D diamond, size between points 2½ x 3⅞ inches. Assortment permitted to make standard package.

List No.	Mfr. No.		Std. Pkg.	*List Price
360349	157S	Square Plate.....	12	\$0.22
360350	157D	Diamond.....	12	.22

For any group A finish, add 22 cents. For any group B finish, add 54 cents.

For engraving per letter, \$0.14.

In ordering, state for which button plates are intended. Size ⅝ inch, nickel plate finish, furnished if not otherwise ordered.

Note: Heavy face type indicates kind furnished unless otherwise specified.

Standard and Special Finishes

Finish Group "A"

Old English bronze	Polished copper
Antique or Flemish brass	Polished steel
Oxidized brass	Bauer-barff
English bronze	Acid or statuary bronze
Mottled copper	Lemon brass
Oxidized copper	Gun metal
Antique copper or	Black
Japanese bronze	

Finish Group "B"

Gilt	Burnished gilt
Satin gold	Polished silver
Etruscan gilt	Pompeian bronze
Gold bronze	Roman or dull gold
Oxidized silver	Sand blast, antique brass
Butler's silver	Sand blast, old brass
Ormolu or French gilt	Verde antique

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
Electrical House Goods and Novelties

PUSHES AND ACCESSORIES



No. 158



No. 159



No. 136

Flush or Switch Box Plate PLATE NO. 158

Schedule "E"

Finish: **Nickel plate**, brush brass, old brass or bronze.

For standard switch box, drilled for 1, 2 or 3 buttons, $\frac{5}{8}$ inch, or 1 or 2 buttons $\frac{3}{4}$ inch. Screw hole centers are $3\frac{1}{2}$ inches. Machine screws furnished. In ordering, state for which button plates are intended, $\frac{5}{8}$ inch, or $\frac{3}{4}$ inch.

List No.	Mfr. No.		Std. Pkg.	*List Price
360295	158	Switch box plate, size, $4\frac{1}{4} \times 2\frac{1}{2}$ inches.....	6	\$0.65

Add for special group A finish as listed on previous page, 54 cents. Add for special group B finish, 81 cents.

Elevator Push Buttons

Schedule "E"

For use on floor landings and for the operation of elevator annunciators described elsewhere.

List No.		*List Price
159	Up and down.....	\$2.25
159U	Up.....	2.10
159D	Down.....	2.10

Finish: Bauer Barff, other finishes special.

Combination Bell and Push

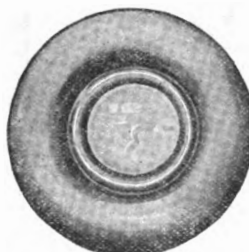
Schedule "E"

Consisting of bell and push for call and return call in connection with annunciators.

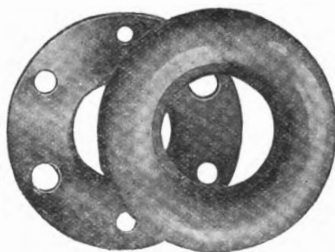
List No.	Mfr. No.		*List Price
361201	136	Combination bell, oxidized copper finish.....	\$1.87



No. 60 or 61
Sectional View on Plaster Wall



No. 60 or 61
Complete



No. 60 or 61
Escutcheon and Plate

No. 60 Flush Push Escutcheon

Schedule "E"

This is an exceptionally neat fitting for a midget push on plaster or where larger push than the midget is required. The iron plate is secured to the wall first; there being a number of screw holes it is always possible to have the screw engage a lath; the brass top is placed over the iron plate and a midget or midget junior button is then slipped into the hole and pressed tight. The spring clips on the side of button grips the iron plate and holds the button and brass plate securely in place.

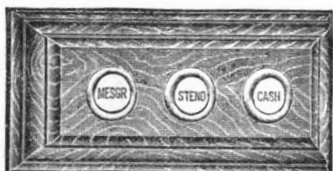
List No.	Mfr. No.	Style	Fits Hole Inches	Std. Pkg.	*List Price
360394	60	Escutcheon Metal	$\frac{5}{8}$ inch	12	\$0.17
360395	61	Escutcheon Metal	$\frac{3}{4}$ inch	12	.17

Finish: **Nickel plate**, brush brass, old brass or bronze.

For any finish in group A as listed on previous page add \$0.11. For any finish in group B add \$0.27.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MISCELLANEOUS PUSH BUTTONS



No. 147



No. 148

Compound Pushes

*NO. 147 TYPE

Schedule "E"

Two piece separable block in oak, ash, cherry or mahogany; other woods special. Front hollowed for connections. Back solid, felt protected. Cord outlet not cut unless ordered. Price does not include buttons, but in ordering specify whether size "A," $\frac{5}{8}$ inch, or size "B," $\frac{3}{4}$ inch, is required.

List No.	Mfr. No.	No. of Pushes	Size "A" Inches	Size "B" Inches	Std. Qty.	*List Price	List No.	Mfr. No.	No. of Pushes	Size "A" Inches	Size "B" Inches	Std. Qty.	*List Price
360320	147	1	2 $\frac{1}{8}$ x 2 $\frac{1}{8}$	2 $\frac{1}{8}$ x 2 $\frac{1}{8}$	24	\$0.54	360325	147	6	8 $\frac{1}{4}$ x 2 $\frac{1}{8}$	9 $\frac{1}{4}$ x 2 $\frac{1}{8}$	18	\$1.84
360321	147	2	3 $\frac{1}{8}$ x 2 $\frac{1}{8}$	4 $\frac{1}{8}$ x 2 $\frac{1}{8}$	24	.76	360326	147	8	5 $\frac{1}{8}$ x 3 $\frac{1}{8}$	6 $\frac{1}{8}$ x 4 $\frac{1}{8}$	16	2.16
360322	147	3	4 $\frac{1}{8}$ x 2 $\frac{1}{8}$	5 $\frac{1}{8}$ x 2 $\frac{1}{8}$	24	.92	360327	147	10	6 $\frac{1}{8}$ x 3 $\frac{1}{8}$	7 $\frac{1}{8}$ x 4 $\frac{1}{8}$	16	2.70
360323	147	4	5 $\frac{1}{8}$ x 2 $\frac{1}{8}$	6 $\frac{1}{8}$ x 2 $\frac{1}{8}$	18	1.08	360328	147	12	8 $\frac{1}{8}$ x 3 $\frac{1}{8}$	9 $\frac{1}{8}$ x 4 $\frac{1}{8}$	16	3.24
360324	147	5	6 $\frac{1}{8}$ x 2 $\frac{1}{8}$	7 $\frac{1}{8}$ x 2 $\frac{1}{8}$	18	1.52							

For larger sizes, add to 12 button \$0.27 per button.

If weighted for paper weight, add per button, list, 22 cents.

*NO. 148 TYPE

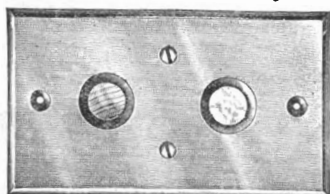
Schedule "E"

Same as No. 147, except block is in one piece with hollow back. In ordering, specify whether size "A," $\frac{5}{8}$ inch, or size "B," $\frac{3}{4}$ inch, is required.

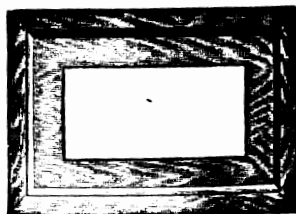
List No.	Mfr. No.	No. of Pushes	Size "A" Inches	Size "B" Inches	Std. Qty.	*List Price	List No.	Mfr. No.	No. of Pushes	Size "A" Inches	Size "B" Inches	Std. Qty.	*List Price
360329	148	1	2 $\frac{1}{4}$ x 2 $\frac{1}{4}$	2 $\frac{1}{4}$ x 2 $\frac{1}{4}$	24	\$0.38	360334	148	6	7 $\frac{3}{4}$ x 2 $\frac{1}{4}$	8 $\frac{3}{4}$ x 2 $\frac{1}{4}$	18	\$0.98
360330	148	2	3 $\frac{1}{4}$ x 2 $\frac{1}{4}$	3 $\frac{3}{4}$ x 2 $\frac{1}{4}$	24	.54	3 0335	148	8	5 $\frac{1}{2}$ x 3 $\frac{1}{4}$	6 $\frac{1}{2}$ x 3 $\frac{3}{4}$	16	1.08
360331	148	3	4 $\frac{1}{4}$ x 2 $\frac{1}{4}$	5 x 2 $\frac{1}{4}$	24	.65	360336	148	10	6 $\frac{3}{4}$ x 3 $\frac{1}{4}$	7 $\frac{1}{2}$ x 3 $\frac{3}{4}$	16	1.19
360332	148	4	5 $\frac{1}{4}$ x 2 $\frac{1}{4}$	6 $\frac{1}{4}$ x 2 $\frac{1}{4}$	18	.76	360337	148	12	7 $\frac{3}{4}$ x 3 $\frac{1}{4}$	8 $\frac{3}{4}$ x 3 $\frac{3}{4}$	16	1.30
360333	148	5	6 $\frac{1}{4}$ x 2 $\frac{1}{4}$	7 $\frac{1}{4}$ x 2 $\frac{1}{4}$	18	.87							

*Sizes may be assorted in quantities of 24 to make standard packages. If size is not specified, size A will be furnished.

147 and 148 furnished in paper cartons, six in each.



No. 187



No. 196

Flush Pushes

GANG PUSHES NO. 187

Schedule "E"

Metal plate, nickel plate, brush brass, old brass or bronze, bevel edge, light or dark pearl centers. wood backs, phosphor-bronze springs; for any group A finish as listed on previous page add 51 cents; for any group B finish, add 81 cents; assortment permitted to make standard package.

List No.	Mfr. No.	No. of Buttons	Rows	Size Plate Inches	Std. Pkg.	*List Price	List No.	Mfr. No.	No. of Buttons	Rows	Size Plate Inches	Std. Pkg.	*List Price
360351	187	2	1	2 $\frac{1}{4}$ x 4 $\frac{1}{4}$	6	\$1.08	360355	187	6	2	3 $\frac{1}{2}$ x 4 $\frac{5}{8}$	6	\$2.81
360352	187	3	1	2 $\frac{1}{4}$ x 4 $\frac{1}{4}$	6	1.52	360356	187	8	2	3 $\frac{1}{2}$ x 5 $\frac{5}{8}$	4	3.68
360353	187	4	2	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$	6	1.95	360357	187	10	2	3 $\frac{1}{2}$ x 6 $\frac{3}{4}$	4	4.54
360354	187	5	1	2 $\frac{1}{2}$ x 6 $\frac{3}{4}$	6	2.38	360358	187	12	2	3 $\frac{1}{2}$ x 7 $\frac{1}{8}$	4	5.40

WOOD MATS ONLY NO. 196

Schedule "E"

Material: Oak, or any plain wood

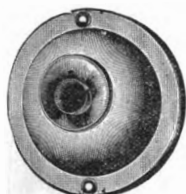
List No.	Mfr. No.	No. Buttons	Std. Pkg.	*List Price	List No.	Mfr. No.	No. Buttons	Std. Pkg.	*List Price
360359	196	2	25	\$0.54	360363	196	6	25	\$0.87
360360	196	3	25	.65	360364	196	8	25	.98
360361	196	4	25	.76	360365	196	10	25	1.03
360362	196	5	25	.81	360366	196	12	25	1.08

Assortment to make standard package permitted.

Note: Heavy face type indicates kind furnished unless otherwise specified.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

PUSH BUTTONS



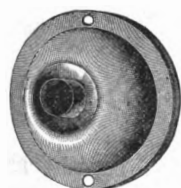
No. 25575



No. 25577



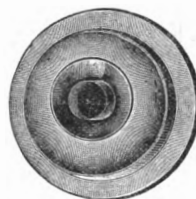
No. 25587



No. 25578



No. 25585



No. 25651

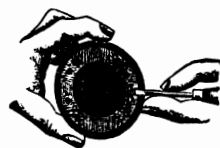
Wrought Metal Pushes

Schedule "R"

List No.	Mfr. No.	Description	Size Inches	Number in Carton	*List Price per Doz.
360411	25575	Wrought bronze, loose back	1 1/2	12	\$2.58
360412	25578	Wrought bronze, loose back	2 3/8	12	2.58
360413	25577	Wrought bronze, loose back	1 3/4	12	2.58
360414	25579	Wrought bronze, loose back	2 3/8	12	2.58
360415	25585	Wrought bronze, loose back	2 3/8	12	2.58
360416	25587	Wrought bronze, loose back	2 3/8	12	2.58
360417	25651	Cast bronze, screw cap	2 3/8	12	6.84

Black centers only. For return call service extra contact is supplied for which add to list per button, \$0.18.

Any of these pushes furnished in bronze, nickel plate, antique copper, oxidized copper, bauer barff, or brush brass, without extra charge. **Polished bronze** furnished when not otherwise ordered.



Anti-Wood Push Buttons

STAMPED STEEL

Schedule "R"

To take the place of wood pushes. Better than screw cap buttons.

List No.	Mfr. No.	Style	Finish	Size Inches	*List Price per 100
360418	03	Wrought steel	Red bronze	2 1/4	\$9.34
360419	04	Wrought steel	Planished bronze	2 1/4	12.00
360420	08	Wrought steel	Oxidized copper	2 1/4	12.00
360421	010	Wrought steel	Nickel plated	2 1/4	12.00
360422	011	Wrought steel	Satin brass	2 1/4	12.00

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

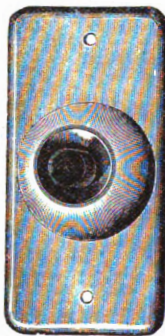
PUSH BUTTONS Wrought Metal Pushes



No. 25750



No. 25753



No. 25755



No. 25793

PLAIN STYLES

List No.	Mfr. No.	Description	Size Inches	Number in Carton	*List Price per Dozen
360423	25750	Wrought bronze, loose back.....	4 1/8 x 1 3/8	6	\$5.76
360424	25753	Wrought bronze, loose back.....	4 x 2	6	5.76
360425	25755	Wrought bronze, loose back.....	4 x 2	6	5.76
360426	25793	Wrought bronze, loose back.....	4 1/4 x 2	6	5.76

Equipped for return call, add to list per button, \$0.12.



No. 25794



No. 25795



No. 25792



No. 25770

FANCY STYLES

List No.	Mfr. No.	Description	Size Inches	Number in Carton	*List Price per Dozen
360427	25794	Wrought bronze, loose back.....	4 3/4 x 2	6	\$5.76
360428	25795	Wrought bronze, loose back.....	4 1/4 x 1 3/8	6	5.76
360429	25792	Wrought bronze, loose back.....	4 x 2	6	5.76
360430	25770	Wrought bronze, loose back.....	4 x 2	6	5.76

Equipped for return call, add to list per button, \$0.18.

For variety of finishes, see preceding page.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MISCELLANEOUS PUSH BUTTONS



No. 67



No. 268



No. 68



No. 69



No. 173

Pendant Pushes

NOS. 67 AND 268 PUSHES

List No.	Mfr. No.	Case	Equipped with Push	Schedule "E" Std. Qnty.	*List Price
360367	67	Ash, oak, cherry or stained mahogany	No. 620 Dixie, Jr.	25	\$0.33
360368	67	Black walnut, maple, cypress or mahogany	No. 620 Dixie, Jr.	12	.54
360369	67	White enamel	No. 620 Dixie, Jr.	6	.81
360370	67	Genuine rosewood	No. 620 Dixie, Jr.	6	3.24
360371	268	White or black celluloid	No. 620 Dixie, Jr.	6	.81

Assortment of 25 constitutes a standard package.

NO. 68 METAL PUSH

Finish: Nickel plate, brush brass, old brass or bronze.

List No.	Mfr. No.	Case	Equipped with Push	Schedule "E" Std. Qnty.	*List Price
360372	68	Single, corrugated metal	No. 620 Dixie, Jr.	12	\$0.33

Group A finish, add 27 cents. Group B finish, add 54 cents.
Assortment of finishes permitted to make standard package.

NO. 69 METAL PUSH

Finish: Nickel plate, brush brass, old brass or bronze.

List No.	Mfr. No.	Case	Equipped with Push	Schedule "E" Std. Qnty.	*List Price
360373	69	Duplex, corrugated metal	No. 63 New Mite	6	\$1.08

Group A finish, add 43 cents. Group B finish, add \$1.08.
Assortment of finishes permitted to make standard package.

NO. 173 MULTIPLE PUSH

Finish: Wood part, any ordinary wood. Oak shipped unless otherwise ordered. Metal part, nickel plate, brush brass, old brass or bronze.

List No.	Mfr. No.	Case	Equipped with Push	Schedule "E" Std. Qnty.	*List Price
360374	173	Two button	No. 63 New Mite	12	\$2.05
360375	173	Three button	No. 63 New Mite	6	2.70
360376	173	Four button	No. 63 New Mite	3	3.35
361589	173	Five button	No. 63 New Mite		4.32
361590	173	Six button	No. 63 New Mite		5.40
361591	173	Seven button	No. 63 New Mite		6.48
361592	173	Eight button	No. 63 New Mite		7.56

Additions: For attaching flexible green silk cord, 1 or 2 conductor, per foot. 17 cents. 3 or more conductors, per foot per conductor. 9 cents list. For white enamel, add to list \$1.08.

Note: Heavy face type indicates finish supplied when not otherwise specified.

Standard and Special Finishes

Note: Heavy face type indicates finish supplied when not otherwise specified.

Finish Group "A"

Old English bronze	Polished copper
Antique or Flemish brass	Polished steel
Oxidized brass	Bauer-barff
English bronze	Acid or statuary bronze
Mottled copper	Lemon brass
Oxidized copper	Gun metal
Antique copper or Japanese bronze	Black

Finish Group "B"

Satin gold	Burnished gilt
Etruscan gilt	Polished silver
Gilt	Pompeian bronze
Gold bronze	Roman or dull gold
Oxidized silver	Sand blast, antique brass
Butler's silver	Sand blast, old brass
Ormolu or French gilt	Verde antique

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MISCELLANEOUS PUSHES



No. 237



No. 235



No. 72

Floor and Extension Types

NO. 237 REGULAR FLOOR PUSH

Heavy contacts and indestructible insulation. A reliable push. No attachment for cord.

Schedule "E"

List No.	Mfr. No.	Std. Pkg.	*List Price
360401	237	6	\$0.65

NO. 235 WITH REMOVABLE PLUG

Schedule "E"

Has extension attachment for connecting flexible cord with table clamp or pear push. Eyelets can be placed in carpet or rug for entrance of plug without injury.

Heavy contacts and indestructible insulation. A reliable push.

List No.	Mfr. No.	Std. Pkg.	*List Price
360402	235	6	\$0.92
361194			.22

Finish: Nickel plate, brush brass, old brass or bronze.

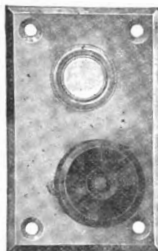
ATTACHMENT PLUG AND PLATE NO. 72

Schedule "E"

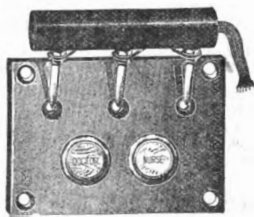
For flexible cord connection. Size of plate, 2 inches diameter.

List No.	Mfr. No.	Std. Pkg.	*List Price
360537	72	6	\$0.81
360403			.44

Finish: Nickel plate, old brass, brush brass or bronze.



No. 205



No. 160



No. 69 Pear Push

Combination Wall Plates

COMBINATION WALL PLATE NO. 205

Schedule "E"

Finish: Nickel plate, brush brass, old brass or bronze.

Metal plate 2 x 3 inches, with No. 620 Midget, Jr., push and No. 72 detachable extension plug, with flexible cord and pear push furnished if desired.

List No.	Mfr. No.	*List Price
360404	205	\$1.35

For any group A finish, add 44 cents. For any group B finish, add 81 cents. For 6 feet of silk cord and pear push, add \$1.08.

COMBINATION WALL PLATE AND PLUG NO. 160

Schedule "E"

Especially adapted for bedsides where a call is needed. A flexible cord can be attached to connect the calls to a pendant or desk push button. Can be used for any number of calls using pendant push No. 173. We can also furnish plug and plate without buttons. Plug is made of hard rubber and is so arranged that it cannot be inserted the wrong way. The No. 620 Dixie Junior push is used in plate.

List No.	Mfr. No.	No. Points	No. Buttons	*List Price	List No.	Mfr. No.	No. Points	No. Buttons	*List Price
360405	160	3	2	\$4.34	360408	160	4	None	\$3.78
360406	160	3	None	3.24	360409	160	5	4	5.94
360407	160	4	3	5.13	360410	160	5	None	4.32

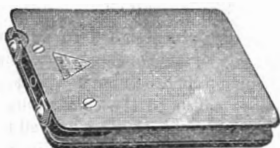
Add for No. 69 Double Pear push \$1.08. Finish: Nickel plate, brush brass, old brass, or bronze. Group A finish, extra 44 cents; group B, extra \$1.08. Engraving on centers, per letter, 14 cents.

For green silk covered flexible cable connected, per foot, per conductor, 9 cents.

Note: Heavy face type indicates finish supplied when not otherwise ordered.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

PUSHES AND MISCELLANEOUS PLATES



No. 290



No. 206

DIXIE FLOOR TREAD NO. 290

Schedule "E"

Double heavy brass contact plates, felt-covered bottom. Can be used under rug to avoid cutting. Constructed sufficiently rigid to bear weight of rug. Strain removed from connections by passing wire over 3 rounded corners. Vise grip, solderless connections.

List No.	Mfr. No.		Std. Pkg.	*List Price
360399	290	Dixie tread.....	6	\$1.08

TABLE CLAMP NO. 206

Schedule "E"

Finish: **Nickel plate**, brush brass, old brass or bronze.

May be used in connection with floor push or wall plug.

A self-contained unit, buttons and contacts built into spring clamp-base. Contacts open to inspection and are self-cleaning, wire connections easy of access and very substantial.

List No.	Mfr. No.		Std. Pkg.	*List Price
360400	206	Table clamp.....	6	\$0.65



No. 66



No. 170



No. 25

Number and Name Plates

NUMBER PLATE NO. 66

Schedule "E"

For $\frac{1}{2}$ inch or $\frac{3}{4}$ inch push. Is held in place by snug fitting of the spring clip on push. Finish, **nickel plate**, brush brass, old brass or bronze.

List No.	Mfr. No.		Std. Pkg.	*List Price
360396	66	Number plate.....	50	\$0.11
		Numbering or lettering on plates, per figure.....		.07
		Engraving plates.....		.14

NUMBER PLATE NO. 170

Schedule "E"

For a permanent designation. Styles, half round, or oblong. Size $2 \times \frac{1}{2}$ inches. Finish, **nickel plate**, brush brass, old brass or bronze.

List No.	Mfr. No.		Std. Pkg.	*List Price
360397	170	Number plate.....	12	\$0.27
		Numbering or lettering on plates, per figure.....		.07
		Engraving plates.....		.14

CARD RACK NO. 25

Schedule "E"

Screw hole projections turned in. Takes card $1\frac{1}{4} \times \frac{3}{4}$ inches. Finish, **nickel plate**, brush brass, old brass or bronze. For special finishes add for group "A," 22 cents, group "B," 54 cents.

List No.	Mfr. No.		Std. Pkg.	*List Price
360398	25	Card rack.....	20	\$0.17

Note: Heavy face type indicates finish supplied unless otherwise specified.

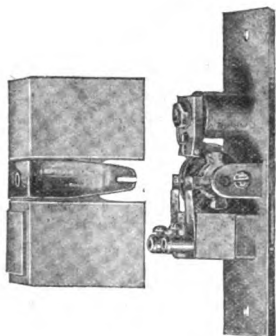
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MISCELLANEOUS SWITCHES

Door Switches

Fit Standard Switch Boxes
GENERAL DESCRIPTION

Eco and Lungen Door Switches are designed to automatically light and extinguish electric lamps by the opening or closing of a door. They are used in telephone booths, bank vaults, closets, dressing-rooms, etc. Attention is called to the compactness of the switches; the springs and contacts are phosphor bronze; all types are guaranteed mechanically and electrically perfect. Finish, brass, unless otherwise specified. Add for group A finish, 44 cents. Group B finish, 81 cents.



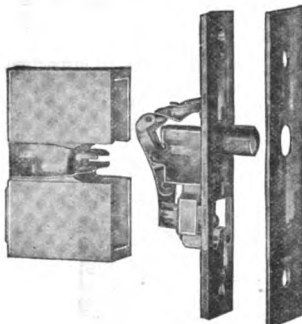
No. 174

ECO NO. 174

Schedule "E"

Made to operate every other time; operates as follows: when door is shut, light is off; open door, lamp lights; after entering, shut door, lamp remains lighted; open door for exit, lamp goes out; shut door, lamp remains out.

List No.	Mfr. No.	Style	Capacity	Std. Pkg.	*List Price
360493	174	Eco	Capacity 110 V. 5 amp...	6	\$3.78



No. 175

LUNGEN NO. 175

Schedule "E"

360495	*175A	Lungen	110 V. 5 amp.....	6	\$2.70
360496	†175B	Lungen	110 V. 5 amp.....	6	2.70

*Lights lamp when door is opened; turns it off when door is shut.
†Lights lamp when door is shut; turns it off when door is open.

SWITCH BOXES

Schedule "E"

Switch boxes are specially designed for placing in mortise of door frame. If sufficient space is available any standard flush switch case may be used, as the screw centers on Eco and Lungen switches are the same as on standard push switches.

List No.	Mfr. No.	Width	Length	Depth	Std. Pkg.	*List Price
360499	2000	Box	1¼ in.	3½ in.	2½ in.	6..... \$0.81



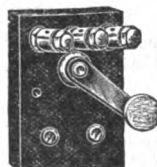
No. 172



No. 171



No. 178



No. 168



No. 165

Battery Switches

HARD RUBBER BASE

Schedule "E"

List No.	Mfr. No.	Style	Nickel trimmings, hollow back.	Regular up to 3 pt.	Std. Pkg.	1-pt.	2-pt.	Adv. per pt.	*List Price
360500	172	Keystone	Nickel trimmings, hollow back.	Regular up to 6 pt.	6	\$0.38	\$0.44	\$0.11	
360501	171	Round	Nickel trimmings, hollow back.	Regular up to 3 pt.	6	.38	.44	.11	
360502	178	Square	Nickel trimmings, hollow back.	Regular up to 3 pt.	6	.44	.54	.11	
360503	168	Square	Nickel plate binding posts and trimmings.	.....	6	.76	.98	.33	
360504	165	Pole-changing	Nickel trimmings, back connections.	.....	3	1.35	Special		
360505	165A	Pole-changing	Nickel trimmings, front connections.	.....	3	1.62	Special		

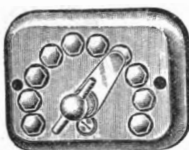
Engraving on knobs, per letter, list, 14 cents additional.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
Electrical House Goods and Novelties

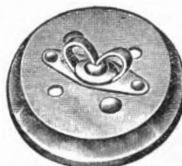
MISCELLANEOUS BATTERY SWITCHES



No. 109 Metal



No. 107 Metal



No. 164 Metal



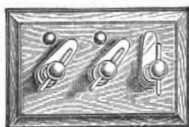
No. 164 Wood

SINGLE AND MULTIPLE CONTACTS

Schedule "E"

List No.	Style Control	Description	Std. Pkg.	*List Price 1 pt.	Advance 2 pt. per pt.
109	Metal base	Insulated.....	12	\$0.33	\$0.38
107	Metal base	Insulated 4 pt.....	6	.54	\$0.11
164	Crown	Metal base, quick double break. Single pole.....	12	.27	Special
104	Crown	Same as above, but wood base.....	12	.27	Special

Brush brass finish, any metal switch, \$0.11. An assortment of twelve also constitutes a standard package.



No. 103 Wood

GANG SWITCHES

Schedule "E"

List No.	Style Control	Description	*List Price
103	Section	Mounted on any regular wood—2 points.....	\$1.25
		Mounted on any regular wood—3 points.....	1.50
		Mounted on any regular wood—each additional point.....	.30
104	Crown	Mounted on any regular wood—2 switches.....	1.25
		Mounted on any regular wood—3 switches.....	1.50
		Mounted on any regular wood—each additional switch.....	.30

Wood base switches furnished oak finish, metal switches nickel plate, unless otherwise ordered. For white enamel finish on wood base, add to list \$0.50.



Rear View No. 102



Front View No. 102



No. 108

NO. 102, WOOD BASE

Schedule "E"

Has polished oak base with nickel plated metal parts. Made regularly up to 6 points. Can be furnished up to 25 points.

List No.	Description	Std. Pkg.	*List Price
102	1 point, Spring Clip Contacts.....	1	\$0.27
102	2 point, Spring Clip Contacts.....	1	.33
	Each additional point.....		.11

NO. 108, WOOD BASE

Schedule "E"

A substantial spring lever switch arm which snaps over contact point, making it jar proof. For use wherever a high class positive lever switch is desired.

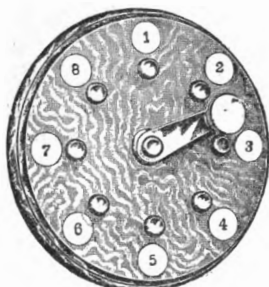
List No.	Description	Std. Pkg.	*List Price
108	1 point.....	12	\$0.54
108	2 point.....	12	.81
108	3 point.....	12	1.03

Oak or any Regular Wood Finish

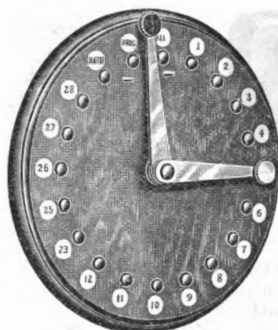
If ordered assorted with Number 102 switch, thirty-five may constitute a standard package.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MISCELLANEOUS SWITCHES AND STRAP KEYS



No. 166



No. 167

Battery and Bell Ringing Switches

NO. 166 TELEPHONE SWITCH

Schedule "E"

Has oak base, nickel plated button contacts and inlaid celluloid for numbering or other engraving.

List No.	Mfr. No.		Std. Pkg.	*List Price
360526	166	4 points, numbered.....	1	\$2.35
		Each additional point.....		.35
360527	166	4 points, not numbered.....	1	1.25
		Each additional point.....		.25

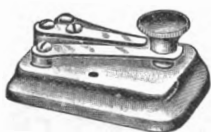
NO. 167 DIAL SWITCH

Schedule "E"

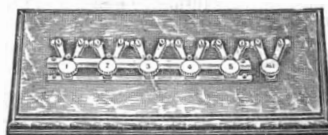
Designed for selective or program bell-ringing where a number of bells are to be operated singly or all at once. For operating a certain bell singly the short arm is moved to the number corresponding to the bell to be rung and pressed down onto the contact point. To ring all bells the long arm is moved to a contact point marked "All." Base is oak with nickel plated metal parts. Numbering is done on celluloid which is inlaid so as to be flush with the wood base.

List No.	Mfr. No.		Std. Pkg.	*List Price
360528	167	10 points.....	1	\$15.00
		Each additional point.....		1.50

Circuit Closing Keys



No. 111



No. 119

STRAP KEYS

These are very well made and exceptionally rigid. The arm cannot become loosened or the points separated. Furnished with upper or lower contacts, or both. Both furnished when not otherwise specified.

NO. 111 STRAP KEY

Schedule "E"

Furnished with either metal or wood base. Wood base is oak finish with metal parts nickel plated.

Metal base is finished nickel plate, brush brass, old brass or bronze.

List No.	Mfr. No.		*List Price
360529	111	Wood base, nickel trimmings.....	\$0.80
360530	111	Metal base, nickel plated.....	.80

For any group "A" finish on metal key, add 25 cents. For any group "B" finish, add 60 cents.

Note: Heavy face type indicates finish supplied unless otherwise ordered.

KEYBOARD NO. 119

Schedule "E"

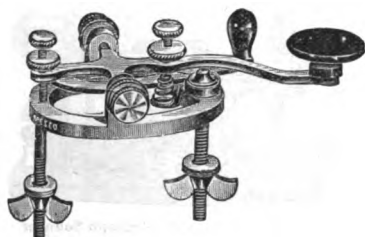
These are arranged for any number of keys. The Master key is connected through upper contact bar with each key. By pressing that key all circuits are closed. Back of board recessed to allow for wiring. Panel of oak, keys nickel plated, old brass, brush brass or bronze.

List No.	Mfr. No.		*List Price
360531	119	Keyboard with two keys and Master key.....	\$3.50
360532	119	Keyboard with three keys and Master key.....	4.76
360533	119	Keyboard with four keys and Master key.....	6.00
360534	119	Keyboard with five keys and Master key.....	7.26
		Each additional key.....	1.50

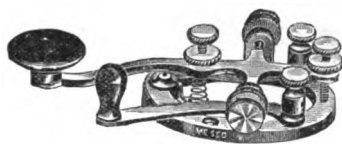
Letters are stamped on keys without charge. For engraving, add to list, per letter, 12 1/2 cents.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

TELEGRAPH APPARATUS



No. 103 With Legs



No. 108 Legless

Steel Lever Keys

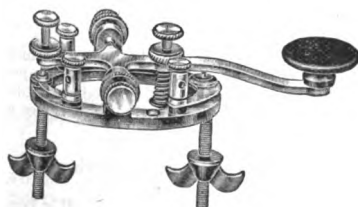
The lever and trunnion is made of one piece of fine wrought steel, polished and nickel plated, giving a perfect bearing and avoiding the loose trunnion trouble so common in other types. All other metal parts finely finished and lacquered.

Each key is fitted with improved adjustment spring holder.

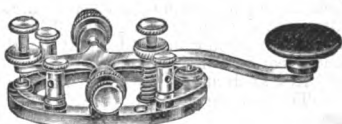
Both knobs are of hard composition rubber.

The durability, lightness and quick action of the steel lever pattern are recognized by experts and operators. The Postal and Western Union Telegraph Companies have adopted this type as their standard.

List No.	Mfr. No.		*List Price Each
360539	103	Key, with nickel-plated lever, brass frame, with legs.....	\$1.86
360540	105	Key, with nickel-plated lever, and frame, with legs.....	2.38
360541	106	Key, with silver-plated lever, and frame, with legs.....	2.72
360542	108	Key, with nickel-plated lever, brass frame, legless.....	2.44
360543	109	Key, with nickel-plated lever, and frame, legless.....	2.52



No. 246 With Legs



No. 244 Legless

Open Circuit Keys

These keys are identical in construction to the regular steel lever solid trunnion keys, except that they have no circuit closing attachment.

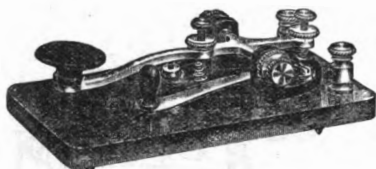
Each key is fitted with improved adjustment spring holder. Lever and trunnion made of one piece of finely wrought steel, nickel plated and polished. All other metal parts finely finished and lacquered.

Regular finish brass frame, nickel-plated lever.

List No.	Mfr. No.		*List Price Each
360544	244	Open Circuit Key, N. P. lever, brass frame, legless.....	\$3.90
360545	245	Open Circuit Key, fully nickel plated, legless.....	4.16
360546	246	Open Circuit Key, N. P. lever, brass frame, with legs.....	3.56
360547	247	Open Circuit Key, fully nickel plated, with legs.....	3.82

*Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

TELEGRAPH APPARATUS



No. 101 Reliable Telegraph Key



No. 143 Reliable Telegraph Sounder

Reliable Key and Sounder

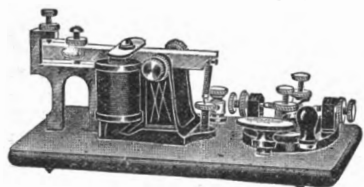
The Reliable Key and Sounder shown is the "Eureka" type of instruments mounted on separate bases. Under some conditions this arrangement of key and sounder is preferable to the single base, because of limited space or a desire to place the sounder at some convenient location.

The steel key lever is nickel plated and polished. The sounder lever, sounder yoke or anvil, adjusting screws, etc., are finely finished composition metal, such as is used in all high-grade instruments. The sounder base is japanned and striped with gilt.

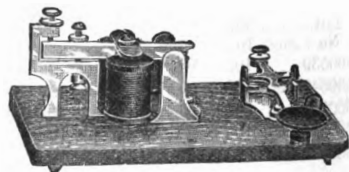
Key knob and circuit closer knob are of polished hard rubber composition.

Two extra binding posts are mounted on the key base for convenience in making electrical connections.

List No.	Mfr. No.		*List Price Each
360548	101	Reliable Telegraph Key	\$1.20
360549	143	Reliable Telegraph Sounder, 5 ohms	1.70
360550	144	Reliable Telegraph Sounder, 20 ohms	1.96



No. 178 Eureka Type



No. 180 Excelsior Type

Eureka Learner's Instrument

The Eureka Instrument is a first-class, standard size telegraph set. All of the working parts—which includes key lever, sounder lever, sounder yoke or anvil, adjusting screws, etc.—are finely finished composition metal, such as is used in all high-grade instruments. Sounder base is japanned, striped with gilt. The base is mahogany and highly polished. The key is of the steel lever pattern, and sounder gives a loud, clear and distinct sound.

Key knob and circuit closer knob are of polished hard rubber composition.

This instrument will operate on a single standard dry cell. But key must be left open when not in use.

List No.	Mfr. No.		*List Price Each
360551	178	Eureka Telegraph Instrument, 5 ohms	\$2.20
360552	179	Eureka Telegraph Instrument, 20 ohms	2.46

Excelsior Learner's Instrument

The Excelsior Learner's Instrument is designed to fulfill all the requirements of a short line apparatus at the least possible cost.

The sounder magnets, lever, anvil and key lever are the same as used on the Eureka outfit.

The frames for holding sounder lever and key lever are stamped from wrought iron and heavily japanned. This method of assembling insures permanent adjustment of the side motion of both key and sounder lever as there are no screws to become loose.

The base is mahogany finish highly polished.

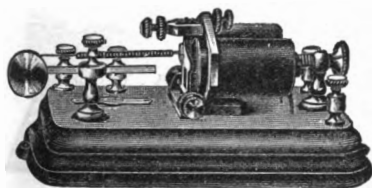
This is a neat and compact learner's instrument and will give entire satisfaction on lines up to five miles in length.

List No.	Mfr. No.		*List Price Each
360553	180	Excelsior Telegraph Instrument, 5 ohms	\$1.96
360554	181	Excelsior Telegraph Instrument, 20 ohms	2.22

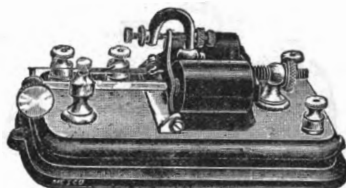
A copy of "Philosophy and Practice of Morse Telegraphy" is furnished gratis with each set.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

TELEGRAPH APPARATUS



No. 119 R. R. Pattern Standard Type



No. 125 Commercial Standard Type

R. R. Pattern Standard Relay

This is a high-grade instrument having all metal parts highly finished, silk-covered wire, polished rubber-covered coils, mahogany base, mounted on ornamental sub-base, extension adjustment and one piece armature.

List No.	Mfr. No.		*List Price Each
360555	119	R. R. Pattern Relay, 150 ohms.....	\$7.64
360556	149	R. R. Pattern Relay, 250 ohms.....	8.18

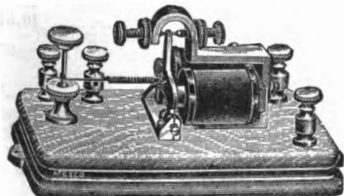
Special resistances to order.

Commercial Standard Relay

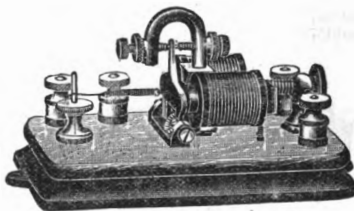
This instrument embodies all modern improvements.

Polished rubber-covered coils, mahogany base, ornamental sub-base and extension adjustment.

List No.	Mfr. No.		*List Price Each
360557	125	150 ohms resistance.....	\$6.80
360558	145	250 ohms resistance.....	7.30



No. 115 Standard Pony Relay



No. 162 Improved Pony Relay

Standard Pony Relay

Mounted on Polished Mahogany Base, With Metallic Sub-Base

This relay will operate on lines up to 20 miles, with perfect ease, in cases where main line sounders fail to give satisfaction.

List No.	Mfr. No.		*List Price Each
360559	114	5 ohms for burglar alarm work.....	\$3.06
360560	115	20 ohms for lines up to 10 miles.....	3.06
360561	116	50 ohms for lines 10 to 30 miles.....	3.32
360562	118	75 ohms for lines 30 to 50 miles.....	3.56

Improved Pony Relays

This relay is an improvement on the Standard Pony type. It has adjustable magnets, one-piece armature and lever.

With Cloth-Covered Magnets

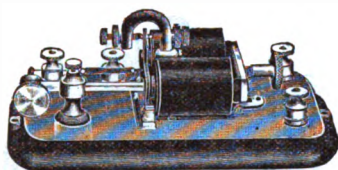
List No.	Mfr. No.		*List Price Each
360563	162	Relay, 5 ohms, for burglar alarm work.....	\$3.84
360564	163	Relay, 20 ohms, for lines up to 10 miles.....	3.84
360565	164	Relay, 50 ohms, for lines 10 to 30 miles.....	4.08
360566	165	Relay, 75 ohms, for lines 30 to 50 miles.....	4.34

With Polished, Rubber-Covered Magnets

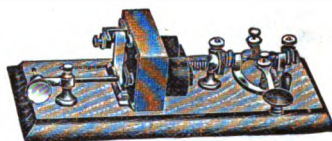
List No.	Mfr. No.	*List Price Each	List No.	Mfr. No.	*List Price Each
360567	201	Relay, 5 ohms..... \$4.18	360569	202	Relay, 20 ohms..... \$4.18
360568	203	Relay, 50 ohms..... 4.42	360570	204	Relay, 75 ohms..... 4.68

*Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

TELEGRAPH APPARATUS



No. 122
20th Century Type



No. 230
Barclay Box Type

20th Century Relay

This is a high-grade instrument. Every telegrapher realizes the advantage of quick adjustment of magnets when there is heavy "escape" on the line. With the 20th Century Relay the magnets can be moved back by simply pulling on the magnet adjusting screw, and if found necessary to keep them away from the armature, a few turns of the adjusting screw will hold them firmly in place.

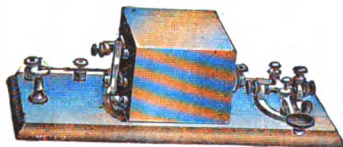
Every part of the relay is most carefully constructed and assembled, and the best selected materials are used.

List No.	Mfr. No.		*List Price Each
360571	122	20th Century Relay, 150 ohms.....	\$8.50
360572	123	20th Century Relay, 200 ohms.....	9.00
360573	124	20th Century Relay, 250 ohms.....	9.00
360574	148	20th Century Relay, 300 ohms.....	9.28

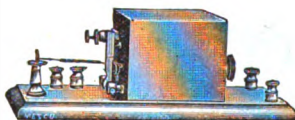
Barclay Box Relay

This relay is noted for its ease of adjustment and its loud, clear sound.

List No.	Mfr. No.		*List Price Each
360575	230	150 ohms resistance, with key on base.....	\$11.90
360576	231	250 ohms resistance, with key on base.....	12.40
360577	232	150 ohms resistance, without key on base.....	10.04
360578	233	250 ohms resistance, without key on base.....	10.54



No. 127
Box-Sounding Relay With Key



No. 129
Box-Sounding Relay Without Key



No. 160
Little Giant Pocket Relay

Box-Sounding Relay
With Key

The box relay is designed to combine all the advantages to be obtained by the use of a relay, and at the same time dispense with the usual local sounder and local battery, but it is arranged so that local sounder and battery can be connected if desired.

List No.	Mfr. No.		*List Price Each
360579	127	150 ohms resistance, with key.....	\$10.20
360580	133	250 ohms resistance, with key.....	10.72

Special resistances to order.

Box-Sounding Relay
Without Key

This set is made with box and base of polished mahogany, without key. Adjustment screws permit the volume of sound to be increased or decreased as desired.

List No.	Mfr. No.		*List Price Each
360581	129	150 ohms resistance, without key.....	\$8.32
360582	131	250 ohms resistance, without key.....	8.84

Special resistances to order.

Little Giant Pocket Relay

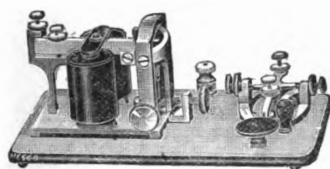
This is an improved pocket relay; all the parts are finely finished and nickel plated; a perfect working instrument enclosed in leather case; magnets rubber covered and wound any resistance required.

List No.	Mfr. No.		*List Price Each
360583	160	Little Giant Pocket Relay, 150 ohms, with case.....	\$20.40

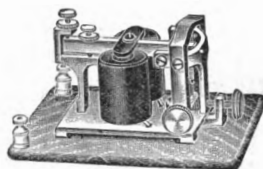
Special resistances to order.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

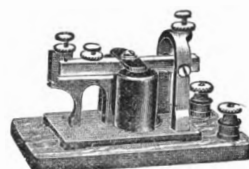
TELEGRAPH APPARATUS



No. 135
Main Line Sounder with Key



No. 136
Main Line Sounder Only



No. 111
Improved Giant Sounder

Main Line Sounders

This sounder is recommended for wrecking, testing, switchboard or temporary office use, and all places where it is desirable to dispense with local batteries.

They are made with full size relay magnets of 150 ohms resistance having a special armature adjustment and are fully suited for doing in a greatly improved manner the work of regular main line box relays. They are sensitive to weak currents, giving a clear working sound on currents where, without them, a relay with local sounder and battery would be absolutely necessary.

Main Line Sounder With Key

List No.	Mfr. No.		*List Price Each
360584	135	150 ohms, with key.....	\$10.20
360585	138	250 ohms, with key.....	10.72

Special resistances to order.

Main Line Sounder Without Key

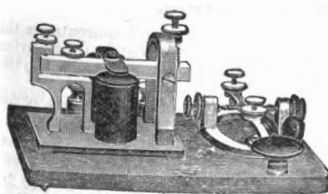
List No.	Mfr. No.		*List Price Each
360586	136	150 ohms without key.....	\$8.32
360587	140	250 ohms without key.....	8.84

Improved Giant Sounder

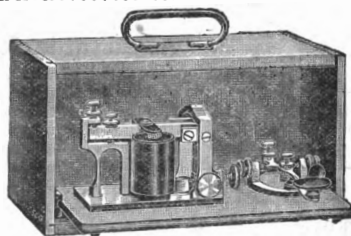
This instrument is rapid in action and has a loud clear tone. It is the type of sounder adopted by the Western Union and Postal Telegraph Companies and nearly all railroads.

The clear and distinct sound makes it very popular.

List No.	Mfr. No.		*List Price Each
360588	111	Improved Giant Sounder, 5 ohms, aluminum lever.....	\$2.72
360589	113	Improved Giant Sounder, 20 ohms, aluminum lever.....	2.98



No. 182



No. 154

Improved Giant Combination Set

The Improved Giant Sounder is finely finished with rubber-covered coils, mounted on polished mahogany base, with the regular steel lever key. A book of instructions for amateurs is furnished with each instrument.

List No.	Mfr. No.		*List Price Each
360590	182	Wound 5 ohms, aluminum lever.....	\$4.68
360591	183	Wound 20 ohms, aluminum lever.....	4.92

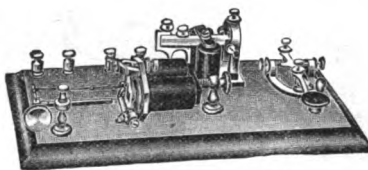
Portable Main Line Outfits

This outfit consists of a main line sounder, with key mounted on base in a mahogany carrying case, with handle. Makes a desirable outfit for temporary office use.

List No.	Mfr. No.		*List Price Each
360592	154	Portable Improved Main Line Outfit, 150 ohms.....	\$12.24
360593	153	Portable Improved Main Line Outfit, 200 ohms.....	12.74
360594	157	Mahogany carrying case only.....	3.40

*Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

TELEGRAPH APPARATUS



No. 158 Combination Set

Main Line Combination Sets

This set comprises the standard Relay Improved Giant Sounder, and steel lever key, mounted on a highly polished mahogany base. It is used extensively in private offices and other places where all of the apparatus on one base is preferable to having them on different parts of the desk.

List No.	Mfr. No.		*List Price Each
360595	158	Combination set, standard size relay, 150 ohms.....	\$14.78
360596	159	Combination set, standard size relay, 250 ohms.....	15.30
360597	151	Combination set, large magnet relay, 150 ohms.....	19.00
360598	152	Combination set, large magnet relay, 250 ohms.....	19.54

Relay and sounder can be wound any desired resistance to order.

No. 661
Adjustable ResonatorNo. 654
Portable ResonatorNo. 666
British P. O. Pattern Resonator

Adjustable Resonator for Local Sounder

The position of the sounder, incased in the resonator, which greatly increases and concentrates the sound, is adjustable both as to its height and lateral place, so as to be entirely convenient to the receiving operator without affecting the work at other instruments, the sound being almost entirely confined to the immediate locality of the instrument.

Especially adapted for receiving operators using the typewriter and for noisy railroad stations, or for all situations where the sound of the instrument is subject to interference from outside noises.

List No.	Mfr. No.		*List Price Each
360599	661	Complete with cord and sounder.....	\$10.38
360600	662	Without sounder.....	7.64

"Perfect" Portable Resonator

The base of this instrument is broad and heavy. Conducting cords pass through the base and hollow standard.

List No.	Mfr. No.		*List Price Each
360601	654	Complete with sounder and 6 foot cord.....	\$5.96
360602	655	Resonator and base only.....	2.98

British P. O. Pattern Resonator

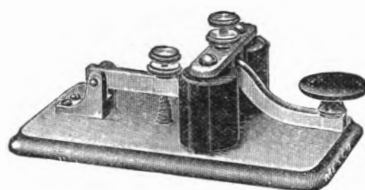
This type instrument is arranged to be screwed to the desk. Conducting cord passes through the hollow standard.

List No.	Mfr. No.		*List Price Each
360603	666	Complete with sounder (no cord).....	\$5.96
360605	668	Resonator without sounder or cord.....	2.98

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

TELEGRAPH APPARATUS



No. 194
Mechanical Telegraph Instrument

Mechanical Learner's Instrument

A mechanical set requiring no battery whatever. Has full size key, complete set of adjustments and provided with special resonators that give the correct sounder "click" to the instrument.
Japanned iron finish; also in brass, nickel plated.

List No.	Mfr. No.		*List Price Each
360608	194	Mechanical Telegraph Instrument, japanned	\$0.86
360609	195	Mechanical Telegraph Instrument, nickel plated	1.30



No. 1024



No. 732



No. 1650

Two Point Safety Contact Switch

Oak Base

This switch has spring contacts attached to binding posts, which insure a positive connection with lever.

List No.	Mfr. No.		*List Price Each
360610	1024	Safety Contact Switch	\$1.02

Quick Switch

This switch is designed for throwing an instrument from one line into another by a single movement of the lever without making the slightest break in either circuit.

It can also be used as a Cut-Out Switch in place of the plain plug cut-out.

List No.	Mfr. No.		*List Price Each
360611	732	Quick Switch, polished hard rubber base	\$6.38

Pole Changing Switch

With Hard Rubber Base

All metal parts made of brass, nickel plated. Polished rubber knob and base.

List No.	Mfr. No.		*List Price Each
360612	1648	Hard rubber base with binding post	\$1.28
360613	1649	Hard rubber base without binding post	1.28

With Wood Base

Walnut or oak polished bases, metal parts nickel plated.

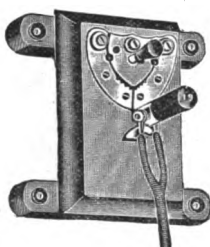
List No.	Mfr. No.		*List Price Each
360614	1650	Wood base with binding post	\$1.28
360615	1651	Wood base without binding post	.94

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TELEGRAPH APPARATUS



No. 737
Spring Cut-Out



No. 733
Spring Cut-Out and Lightning
Arrester



No. 749
Union Lightning Arrester
and Ground Wire

Spring Cut-Out

Spring Cut-Out without lightning arresters, for any situation where it is desired to connect a single instrument to any one of a number of lines by inserting plug.

They are used extensively for telegraph as well as telephone systems.

List No.	Mfr. No.		*List Price Each
360616	737	1 wire without plug and cord	\$1.54
360617	738	2 wire without plug and cord	2.38
360618	739	3 wire without plug and cord	3.06
360619	740	4 wire without plug and cord	3.74
		(Over four wires 50 cents per line extra.)	
360620	736	Plug and 3 ft. silk cord	2.14
360621	747	2 ft. Cords with plug on each end	2.98

Union Spring Cut-Out and Lightning Arrester

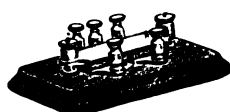
This adaptation of the patent spring jack fills the place in telegraphic apparatus of the old form known as plug switch, and is the best spring cut-out for city "branch offices" or "way offices," where it is not required at any time to make cross connections of wires or other changes besides simply changing instruments from one line to another with plug or cord.

360622	733	One line without plug or cord	\$2.64
360623	734	Two lines without plug or cord	3.90
360624	735	Three lines without plug or cord	5.54
360625	736	Plugs with 3 ft. cord attached, each	2.14

Union Lightning Arrester and Ground Wire Switch

This instrument serves as peg cut-out, lightning arrester and ground wire switch. It is an excellent and cheap form for all short lines.

360626	749	With pin, complete	\$0.80
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No. 992



No. 731



No. 729



No. 728

Heavy Plate Lightning Arrester

This type of arrester is used by the Western Union Telegraph Company.

List No.	Mfr. No.		*List Price Each
360627	992	Arrester complete	\$2.54

Full Plug Cut-Out

Full Plug Cut-Out equipped with lightning arrester. It is complete with plugs, ground wire switch and pin, is mounted on highly polished mahogany base. Nickel plated.

360628	731	Cut-out complete	\$4.24
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Plain Plug Cut-Out

This instrument complete with plug. Mounted on highly polished mahogany base. Made single and double.

360629	729	Single Cut-Out	\$2.54
360630	730	Double Cut-Out	4.76

Cut-Out Plug

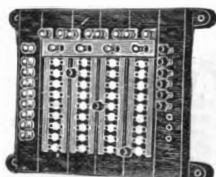
360631	728	Cut-Out Plug only, nickel plated	\$1.20
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*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

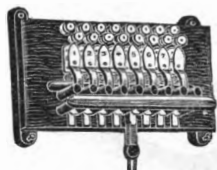
TELEGRAPH APPARATUS



No. 243
Table Jack Switchboard



Western Union
Pin Switchboard



No. 240
Spring Jack Switchboard

Table Jack Switchboard

This instrument is used for switching a Resonator set of instruments to any desired line.
Cut shows a four line Jack with wedge.

List No.	Mfr. No.			*List Price
360632	238	Two-Line Table Jack only	Each	\$2.38
360633	239	Three-Line Table Jack only	Each	3.56
360634	243	Four-Line Table Jack only	Each	4.76
		Additional lines	per line	1.20
360635	241	Wedge, with 4 ft. cord, extra	Each	2.54

Western Union Pin Switchboard

With Plate Lightning Arrester

These switches are now regarded as a standard article, having been generally adopted by the Western Union Telegraph Company, the Postal Telegraph Company, as well as by many other corporations having extensive systems of wires.

In ordering for large offices it will only be necessary to give the number and changes of wires, loops, batteries and instruments to be provided for.

List No.	Mfr. No.			*List Price
360636	714	1 wire way, 2 perpendicular bars	Each	\$2.54
360637	715	2 wire way, 4 perpendicular bars	Each	5.10
360638	716	3 wire way, 6 perpendicular bars	Each	8.50
360639	717	4 wire way, 8 perpendicular bars	Each	11.90
360640	718	5 wire way, 10 perpendicular bars	Each	15.30
360641	719	6 wire way, 12 perpendicular bars	Each	20.40
360642	720	7 wire way, 14 perpendicular bars	Each	25.50
360643	721	8 wire way, 16 perpendicular bars	Each	30.60
360644	722	10 wire way, 20 perpendicular bars	Each	45.90
360645	723	12 wire way, 24 perpendicular bars	Each	62.90

Over 24 bars, prices upon application.

Spring Jack Switchboard

With Wedge and Cord

The illustration above shows eight line spring jack with wedge and cord.

List No.	Mfr. No.			*List Price
360646	240	Spring Jack	per line	\$4.08
360647	241	Wedges with 4 ft. cord	Each	2.54
360648	242	Heavy, flexible two conductor cord	per yard	.68



No. 726



No. 727

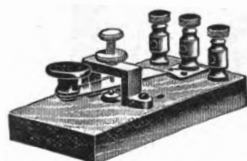
Loop Pins

List No.	Mfr. No.			*List Price
360649	726	Loop Pins	Each	\$1.20

Switchboard Pins

List No.	Mfr. No.			*List Price
360650	727	Switchboard Pins	Each	\$0.16

*Delivery F. O. B. Factory, New York City. For warehouse delivery write nearest house.

TELEGRAPH APPARATUS


No. 1022



No. 1038



No. 1593



No. 1590

Heavy Strap Key
Western Union Type

This instrument is designed for heavy work and will stand hard usage. Intended for telegraph and block signal work. Has large contacts. Size of base 4x2 inches.

List No.	Mfr. No.		*List Price Each
360651	1020	Open Circuit.....	\$1.20
360652	1021	Closed Circuit.....	1.25
360653	1022	Double Circuit.....	1.54

Railroad Pattern Strap Key

This instrument is equipped with extra heavy lever, bridge and binding posts. Hard rubber handle. Large platinum contact points. Used extensively for railroad block signal systems and other hard service work. Polished hardwood base. Size, $5\frac{1}{4} \times 3\frac{1}{2}$ inches.

List No.	Mfr. No.		*List Price Each
360654	1023	Open Circuit, R. R. Pattern.....	\$3.40
360655	1031	Closed Circuit, R. R. Pattern.....	3.40
360656	1038	Double Circuit, R. R. Pattern.....	3.56

Strap or Signal Keys

Open and closed circuit keys have two binding posts. Double circuit has three posts. Made with walnut or oak base.

List No.	Mfr. No.		*List Price Each
360657	1591	Open Circuit.....	\$0.50
360658	1592	Closed Circuit.....	.50
360659	1593	Double Circuit.....	.62

Combined Signal Strap Key and Lightning Arrester

List No.	Mfr. No.		*List Price Each
360660	1588	Open Circuit or downward contact.....	\$1.88
360661	1589	Closed Circuit or upward contact.....	2.04
360662	1590	Double Circuit or both up and down contact.....	2.30

*Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.
 Electrical House Goods and Novelties

WOOD AND RUBBER BASE SWITCHES



No. 1606



No. 1617

Wood Switches

Ash, Oak, Cherry

Round Base

List No.	Mfr. No.	Diameter	*List Price Each	List No.	Mfr. No.	Diameter	*List Price Each
360664	1606	1 point, 2 1/4 in.	\$0.12	360669	1611	6 points, 2 1/4 in.	\$0.26
360665	1607	2 points, 2 1/4 in.	.14	360670	1612	7 points	.36
360666	1608	3 points, 2 1/4 in.	.16	360671	1613	8 points	.38
360667	1609	4 points, 2 1/4 in.	.20	360672	1614	9 points	.40
360668	1610	5 points, 2 1/4 in.	.24	360673	1615	10 points	.42

Round Rubber Switches

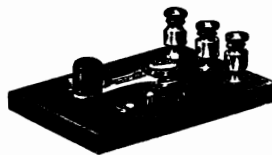
List No.	Mfr. No.	Diameter	*List Price Each	List No.	Mfr. No.	Diameter	*List Price Each
360674	1616	1 point, 2 5/8 in.	\$0.36	360679	1621	6 points, 2 5/8 in.	\$0.70
360675	1617	2 points, 2 5/8 in.	.38	360680	1622	7 points	.72
360676	1618	3 points, 2 5/8 in.	.44	360681	1623	8 points	.76
360677	1619	4 points, 2 5/8 in.	.54	360682	1624	9 points	.80
360678	1620	5 points, 2 5/8 in.	.60	360683	1625	10 points	.86



No. 1626



No. 2000



No. 1639

Keystone Switches

Rubber Base, Lever and Points Nickel Plated

List No.	Mfr. No.	*List Price Each	List No.	Mfr. No.	*List Price Each
360684	1626	1 point, 2 inches long.... \$0.15	360686	1628	3 points, 2 inches long.... \$0.40
360685	1627	2 points, 2 inches long.... .32	360687	1629	4 points, 2 inches long.... .70

Square Wood and Rubber Base Switches

Nickel Plated Trimmings

List No.	Mfr. No.	*List Price Each	List No.	Mfr. No.	*List Price Each
360688	2000	1 point, wood base..... \$0.36	360692	1630	1 point, rubber base..... \$0.42
360689	2001	2 points, wood base..... .38	360693	1631	2 points, rubber base..... .50
360690	2002	3 points, wood base..... .40	360694	1632	3 points, rubber base..... .62
360691	2003	4 points, wood base..... .44	360695	1633	4 points, rubber base..... .68

Wood and Rubber Base Switches

With Binding Posts

List No.	Mfr. No.	*List Price Each	List No.	Mfr. No.	*List Price Each
360696	1638	Wood base, 1 point..... \$0.52	360700	1642	Rubber base, 1 point..... \$0.68
360697	1639	Wood base, 2 points..... .64	360701	1643	Rubber base, 2 points..... .76
360698	1640	Wood base, 3 points..... .70	360702	1644	Rubber base, 3 points..... .94
360699	1641	Wood base, 4 points..... .70	360703	1645	Rubber base, 4 points..... 1.16

*Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

BINDING POSTS, THERMOSTATS AND RHEOSTAT



No. 4834



No. 4823



No. 4822



No. 4820



No. 4821



No. 4835



No. 4830



No. 4826



No. 4832



No. 4833



No. 4829



No. 4825



No. 4827



No. 4828



No. 4819



No. 4831



No. 4824

Binding Posts

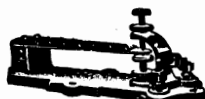
These Binding Posts are made of brass and can be furnished in plain brass or nickel plate at same price.

List No.	Mfr. No.		*List Price Each	List No.	Mfr. No.		*List Price Each
360704	4834	Nickel plated	\$0.20	360712	4832	Nickel plated	\$0.06
360705	4823	Nickel plated	.18	360713	4833	Nickel plated	.06
360706	4822	Nickel plated	.12	360714	4829	Nickel plated	.07
360707	4820	Nickel plated	.16	360715	4825	Nickel plated	.10
360708	4821	Nickel plated	.14	360716	4827	Nickel plated	.08
360709	4835	English pattern, nickel plated	.20	360717	4828	Nickel plated	.08
360710	4830	Nickel plated	.12	360718	4819	Nickel plated	.12
360711	4826	Nickel plated	.08	360719	4831	Nickel plated	.24
				360720	4824	Nickel plated	.12

Special prices for quantities of 1,000 or more.



No. 1653



No. 1673



No. 2110

Automatic Fire Alarm Thermostat

This Thermostat is adjustable to any degree of heat, but when not otherwise ordered, is set at 125° Fahrenheit.

List No.	Mfr. No.		*List Price Each
360721	1653	Automatic Thermostat	\$0.60

Adjustable Thermostat

This instrument can be set for any desired degree of temperature, and will make electrical contact on the rise or fall of temperature. Call bells, or other electrical alarms, can be connected in the circuit at any desired distance from the thermostat.

Often used for fire alarm, in hothouses, incubators, etc.

List No.	Mfr. No.		*List Price Each
360722	1673	Adjustable Thermostat	\$1.50

Miniature Battery Rheostat

Suitable for regulating the voltage of battery circuits in connection with miniature lamps, small motors, etc.

Maximum resistance is 10 ohms.

The change from 0 to 10 ohms is gradual, as the lever passes over the coiled resistance wire. When resting on "off" the circuit is open. In any other position the circuit is closed.

Binding posts and lever nickel plated. Furnished with porcelain base. Diameter, 3 7/8 inches.

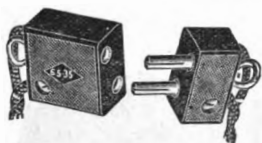
Experimentalists, physicians, surgeons, workers in laboratories, etc., will find this a very useful and efficient miniature rheostat.

List No.	Mfr. No.		*List Price Each
360723	2110	Miniature Battery Rheostat, porcelain base	\$1.00

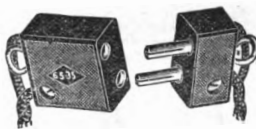
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

MESCO CONNECTORS



No. 6536



No. 6535

Small Rectangular Connector

These connectors are very convenient for making and breaking a circuit rapidly and as frequently as desired.

This small size can be used on any battery circuit and its performance will always be satisfactory, as the contact parts are molded under heavy pressure in a solid block of hard composition which will hold them permanently in place.

List No.	Mfr. No.		Size	*List Price Each
361205	6536	Small Rectangular Connector.....	$1\frac{1}{8} \times \frac{1}{4} \times \frac{1}{8}$ ins.	\$0.50

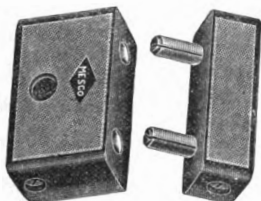
Medium Rectangular Connector

This connector will make and break a circuit for any apparatus or lights using 15 amperes or less of current.

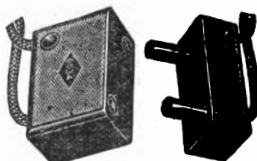
For connecting portables, fans, small motors, etc., it will be found very convenient, its simplicity recommending it for such purposes.

It is provided with two eye screws, one at each end, which can be used for anchoring the cord, should it be deemed advisable to do so. Can also be looped together by this means, so that when separated the two parts being close together can be located and connected without delay.

List No.	Mfr. No.		Size	*List Price Each
361206	6535	Medium Rectangular Connector.....	$1\frac{1}{8} \times 1\frac{1}{4} \times \frac{3}{4}$ in.	\$0.60
361207	6537	Plug only.....		.30
361208	6538	Receptacle only.....		.30



No. 6540



No. 6534

Large Rectangular Connector With One Hole

This connector can be used with safety for making and breaking 25 amperes on 125 volt circuits.

For experimental and demonstrative purposes.

For stage lighting, connecting motors and numerous other applications it will prove a reliable, quick-acting circuit controller.

A hole is provided in the larger part of the connector for tying the conducting cord, which eliminates all strain on the binding screws. The contact receptacles and plugs are separated by one inch of hard rubber composition, which makes a perfect insulation between the current carrying parts.

List No.	Mfr. No.		Size	*List Price Each
361209	6540	Large Rectangular Connector.....	$2\frac{1}{2} \times 1\frac{1}{8} \times \frac{3}{4}$ in.	\$0.76
361210	6539	Plug only.....		.38
361211	6543	Receptacle only.....		.38

Rectangular Connector

This connector is very convenient for connections which have to be made and unmade frequently and rapidly. It is similar to No. 6540, but slightly smaller and is made without a tie holder.

It is made in accordance with the Underwriters' requirements and will safely carry 25 amperes on 125-volt circuits.

List No.	Mfr. No.		Size	*List Price Each
361212	6534	Rectangular Connector.....	$1\frac{1}{8} \times 1\frac{1}{8} \times \frac{1}{8}$ in.	\$0.76
361213	6545	Plug only.....		.38
361214	6526	Receptacle only.....		.38

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MEDICAL BATTERIES



No. 2233



No. 2233

The Apollo Medical Battery

This is a two cell medical battery and is recommended where more current is desired than can be obtained from the single cell type.

It is furnished in highly polished oak or mahogany case. All metal parts finished in polished nickel. Dimensions 9 x 7 1/4 x 8 inches high. Furnished with two metal hand electrodes, two sponge electrodes, one foot plate electrode, one massage roller electrode, one hair brush electrode, two wooden electrode handles and one pair of green and red silk conducting cords.

It has battery and pole changing switches, three binding posts for inserting the cord tips. Induction coil arranged with graduated scale.

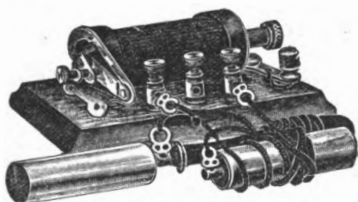
All metal parts heavily nickel plated and highly polished.

The above left-hand illustration shows the cover raised, exposing the coil, etc.

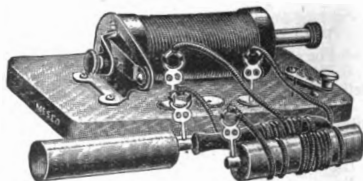
The right-hand illustration shows the electrodes arranged in the compartment in which they should be kept when not being used.

An Electropathic Guide with each apparatus, giving full directions for using the electrodes, care of battery, etc.

List No.	Mfr. No.		*List Price Each
360855	2233	Apollo Medical Battery	\$13.00



No. 2234



No. 2235

Medical Induction Coils

No. 2234 Induction Coil

A finely finished and powerful instrument. The coil is mounted on a polished oak base and provided with a switch for connecting battery. It is arranged to give both primary and secondary currents.

List No.	Mfr. No.		*List Price Each
360856	2234	Induction Coil complete, with electrodes	\$2.38

No. 2235 Induction Coil

A substantial medical coil similar to No. 2234, mounted on oak or mahogany base.

List No.	Mfr. No.		*List Price Each
360857	2235	Induction Coil complete, with electrodes	\$2.04

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Electrical House Goods and Novelties

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MEDICAL BATTERIES



No. 2225



No. 2215

Double Cell Medical Apparatus

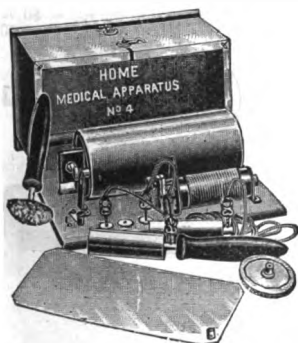
This apparatus is operated by two cells of battery. One cell of battery or both can be connected as desired at the two point switch. Two sponge electrodes, two ebonized handles, two hand electrodes, two silk covered cords, one foot plate and one hair brush is included in this set.

List No.	Mfr. No.		*List Price Each
360858	2225	Double cell complete, with electrodes	\$8.00

Household Medical Apparatus

Has polished hardwood oak case, metal trimmings, nickel plated. Outside measurements $7\frac{3}{4} \times 5\frac{1}{4} \times 3\frac{1}{4}$ inches. The armature and vibrating parts are so arranged that perfect adjustment is always maintained. A recording scale is furnished with each apparatus to show strength of current being used.

List No.	Mfr. No.		*List Price Each
360859	2215	Household apparatus, with battery and electrodes, complete	\$4.20



No. 2204
Unpacked



No. 2204
Packed

Home Medical Apparatus

The Home Medical Battery is contained in a highly polished oak or mahogany case with nickel plated handle. Owing to its simplicity and entire absence of acids or liquids, it is particularly suited for the use of those who are entirely unfamiliar with the care and precautions necessary for handling the ordinary acid batteries.

Dimensions of the case are $9 \times 5\frac{1}{2}$ inches; weight, $5\frac{1}{2}$ lbs.

List No.	Mfr. No.		*List Price Each
360860	2204	Home No. 4 Apparatus, batteries and electrodes complete	\$8.00

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Electrical House Goods and Novelties

MEDICAL BATTERY ACCESSORIES


 No. 2340
 Case of Electrodes

 No. 2211
 Wrist Electrode

 No. 2358
 Battery Cords

Case and Electrodes

List No.	*List Price Each	List No.	*List Price Each
2340	Case complete, with electrodes.. \$15.56	2345	1 throat electrode..... \$1.95
2341	1 insulated handle..... .98	2346	1 tongue electrode..... 1.95
2342	1 sponge electrode..... .87	2347	1 womb electrode..... 1.95
2343	1 eye electrode..... 1.95	2348	Vagina electrode..... 2.16
2344	1 ear electrode..... 1.95	2349	Rectum electrode..... 2.16

Wrist Electrode

For Massage Treatment

This electrode is very popular for massage treatment as the sponge makes a perfect conductor of the electric current to the wrist of the operator which gives the patient the best possible results of a combination massage and electric treatment. Metal parts are made of the best material and heavily nickel plated.

2211	Wrist Electrode, with 5 feet conducting cord.....	\$1.02
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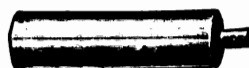
Medical Battery Cords

The cords are three feet long, one red and one green, silk braid over wires, with plated tips. Strong and serviceable.

2358	Battery Cords, 3 ft. long.....	\$0.42
2362	Battery Cords, 4 ft. long.....	.50



No. 2365



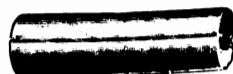
No. 2371



No. 2355



No. 2373



No. 2370

Battery Electrodes

No. 2371 is sufficiently small to go into No. 2370.

No. 2370 is intended for use with interchangeable handle No. 2365.

List No.	*List Price Each	List No.	*List Price Each
2365	Electrode handle..... \$0.16	2371	Hand electrode, N. P..... \$0.38
2370	Hand electrode, N. P..... .38	2373	Sponge electrode..... .26

Hair Brush Electrode

This electrode brush, which is used in the same way as an ordinary hair brush, furnishes suitable means by which electricity may be applied to the roots of the hair.

List No.	*List Price Each
2355	Hair Brush Electrode..... \$1.02

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Western Electric

Electric Massage Vibrators



No. 2236

Massage Vibrator

FOR D. C. AND A. C. CIRCUITS

This vibrator is made to operate on direct currents of from 100 to 120 volts and on alternating currents of 60 cycles 100 to 120 volts.

Also made to operate on 220 volt direct current circuits and 220 volt alternating current circuits 60 cycles.

It is not adapted for use on alternating currents of frequencies higher than 60 cycles.

The vibrator is handsomely finished in black enamel and polished nickel. A switch in the lower part of the handle under immediate control of the operator turns the current on or off at will. Practically noiseless and with a minimum vibration in the handle.

Furnished with six feet of flexible conducting cord and Separable Attachment Plug which will fit into any ordinary lamp socket.

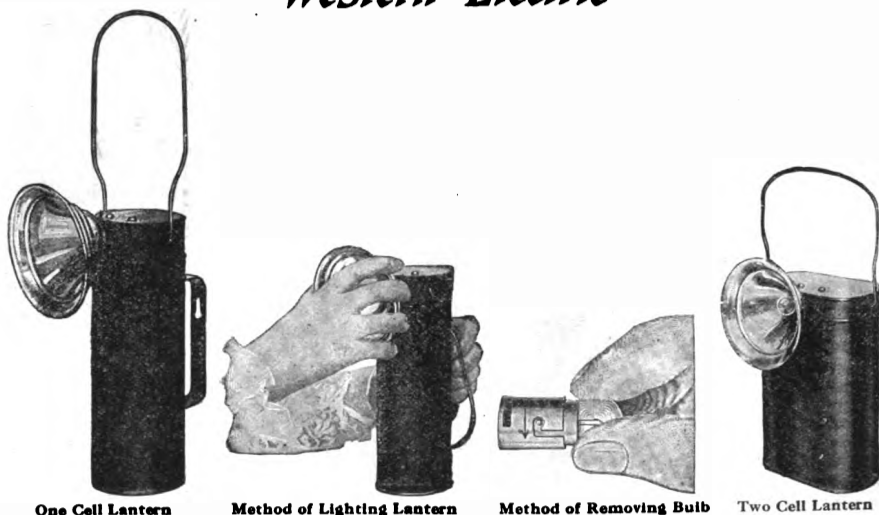
Enclosed in a leather-covered, plush-lined carrying case, with leather handle and nickel-plated trimmings. Dimensions, $9\frac{1}{4} \times 8\frac{3}{4} \times 4\frac{1}{4}$ inches.

Five applicators are supplied with each outfit: Cup, ball, hard toothed, soft toothed and rubber sponge.

List No.		*List Price
2236	Electric Massage Vibrator for 100-120 V. D. C. and 60 cycle A. C.....	\$24.00
2240	Electric Massage Vibrator for 220-230 V. D. C.....	26.00

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Western Electric



One Cell Lantern

Method of Lighting Lantern

Method of Removing Bulb

Two Cell Lantern

Dry Battery Lantern

The Western Electric Dry Battery Lantern is intended for use in all places where an ordinary oil lamp is used. Its cleanliness and the strong white light which cannot blow out appeal to all classes of buyers. It may be used in perfect safety in mines, factories and other places where there are highly explosive materials or gases.

Two very important points were kept in mind when this lantern was designed. First, to get as much light as possible from an ordinary $2\frac{1}{2} \times 6$ inch dry battery. Second, to get the maximum life from the battery.

The Reflector is a true parabola like those used in automobile headlights, and is 4 inches in diameter. The metal is brass and is heavily plated with white nickel plate. With this highly efficient reflector, the lantern will throw a penetrating beam of light 250 feet.

Bulbs. The lamp bulbs cannot work loose because they have bayonet bases like automobile headlight bulbs. They are rated at .5 amperes. This low current consumption gives long battery life. The bulbs are tipless, and therefore do not cast shadows.

The Switch, socket and reflector are all combined into one unit. By turning the reflector to the right the lamp bulb is moved so that the terminals on the base of the lamp come in contact with the plungers in the Edison socket. This closes the circuit and causes the lamp to light. Turning the reflector to the left moves the lamp bulb terminals away from the contacts in the socket and opens the circuit. No current is lost through high resistance contacts. When the light is turned on the contacts with the lamp base are made under heavy pressure. This pressure reduces the resistance. Each time the switch is operated the contacts are wiped or scraped; this keeps them bright and clean—dirty contacts increase the resistance. All levers or buttons outside of the lantern are eliminated, making the case weatherproof. It also prevents the possibility of the light being turned on accidentally.

Construction. The containing case is of heavy metal, finished with two coats of genuine automobile lamp enamel; not ordinary japan finish. This will stand years of service and will protect the metal beneath.

Handles. Two handles are provided. One is riveted to the back of the lantern and has a hole punched in it so that the lantern can be hung on a nail. A ball is also provided, which enables you to carry the lamp the same as you would any ordinary oil lantern.

The Two Cell Lantern is of the same general design as the single cell type, except the case is arranged for two batteries. These are connected in series. The two cell lantern gives considerably more light than the one cell size, but the life of the batteries will be about the same for both lanterns.

Battery. Any No. 6 standard dry battery with either flush or protruding carbon terminals may be used, but we recommend the Western Electric Red Label Blue Bell battery. The life of the battery will depend upon how often the lantern is used. For ordinary service it should last two or three months.

Terminals. The terminals are of heavy insulated wire and are anchored so that they cannot pull out. Copper connectors are on the ends of the terminals. If the lantern is to be used with a battery having Fahnestock connectors, simply clip off the terminals, bare the ends of the wires and fasten the wires in the clips of the Fahnestock connectors.

List No.		Std. Pkg.	
361873	Western Electric Dry Battery Lantern (1 cell).....	24	per doz. \$19.20
361941	Western Electric Dry Battery Lantern (2 cell).....	24	per doz. 23.20
361874	Extra bulbs. Same price for single and double cell lanterns.....		each .32

NOTE: The above price does not include battery.

Electrical House Goods and Novelties

128-2

EVEREADY TUBULAR FLASHLIGHTS

Tubular Flashlights are used extensively by inspectors and others whose work is in places where a strong steady illumination is needed. The switch for turning the light on or off is by the same hand that carries the flashlight.

These flashlights are equipped with two types of switches, the slide switch and the spring switch.

The slide switch is controlled by a pressure of the thumb in either direction. To turn the light on the slide is gently pressed forward; to extinguish the light the slide is pressed backward to its original position. The spring switch is located at the lower end of the flashlight. The light can be flashed on or off quickly by pressing the metal tongue against the cap.

These lights are extremely compact, the entire case being but a little larger than the battery it contains.



Vulcanized Fiber Case

Tubular Tungsten Flashlights Vulcanized Fiber Cases, with Permanent Contact

List No.	Mfr. No.	Size	List Price	List No.	Mfr. No.	Size	List Price
361289	2602	1½ x 5 in., complete.....	\$1.34	361297	1193	Renewal lamp.....	\$0.20
361290	791	Renewal battery.....	.40	361298	2614	1½ x 11 in., complete.....	2.94
361291	1197	Renewal lamp.....	.20	361299	711	Renewal battery.....	.60
361292	2604	1½ x 6½ in., complete.....	1.60	361300	1199	Renewal lamp.....	.20
361293	790	Renewal battery.....	.40	361301	2615	1½ x 13 in., complete.....	2.94
361294	1198	Renewal lamp.....	.20	361302	715	Renewal battery.....	.94
361295	2612	1½ x 8½ in., complete.....	1.88	361303	1195	Renewal lamp.....	.20
361296	705	Renewal battery.....	.54				

Leatherette Cases, with Permanent Contact

2606	1½ x 8 in., complete.....	\$1.35	2608	1½ x 11 in., complete.....	\$1.65
705	Renewal battery.....	.45	711	Renewal battery.....	.50
1193	Renewal lamp.....	.17	1199	Renewal lamp.....	.17



Miner's Flashlight (Fiber Case)

Miner's Tungsten Flashlights Vulcanized Fiber Cases, with Permanent Contact

List No.	Mfr. No.	Size	List Price	List No.	Mfr. No.	Size	List Price
361310	2616	1½ x 6 in., complete.....	\$2.00	361316	2621	1½ x 11 in., complete.....	\$3.00
361311	790	Renewal battery.....	.40	361317	711	Renewal battery.....	.60
361312	1198	Renewal lamp.....	.20	361318	1199	Renewal lamp.....	.20
361313	2619	1½ x 8½ in., complete.....	2.28	361319	2623	1½ x 13 in., complete.....	3.60
361314	705	Renewal battery.....	.54	361320	715	Renewal battery.....	.94
361315	1193	Renewal lamp.....	.20	361321	1195	Renewal lamp.....	.20

All of these flashlights have new improved permanent contact catch.



Cloth Covered

Tubular Tungsten Flashlights Flash and Permanent Contact

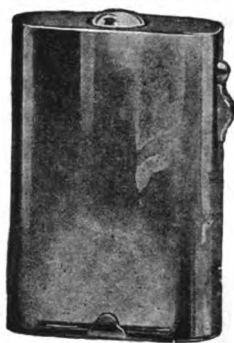
Mfr. No.	Size	List Price
2625	1½ x 6½ in. alligator cloth covered case, complete.....	\$1.05
2624	1½ x 6½ in. black cloth covered case, complete.....	1.05
790	Renewal Tungsten battery for either of the above.....	.35
1198	Renewal Mazda lamp for either of the above.....	.17
2626	1½ x 8½ in. black cloth covered case, complete.....	1.10
2627	1½ x 8½ in. black enameled metal case, complete.....	1.00
705	Renewal Tungsten battery for the 8½ in. lights.....	.45
1193	Renewal Mazda lamp for the 8½ in. lights.....	.17

EVEREADY POCKET FLASHLIGHTS
VEST POCKET TYPE

No. 6900P (Midget)



No. 6961P



No. 6962P

Nickel Plated Tungsten Flashlights
Flash and Permanent Contact

The tungsten battery has made it possible to produce practical flashlights that are actually vest pocket size. The smallest, known as the "Midget," is so tiny that it can be carried in a lady's purse. Equipped with Eveready Tungsten Batteries and Eveready Mazda Lamps they give a surprisingly powerful white light, and the battery, with average use, will usually last from two to four months.

Cases sturdily made and beautifully finished in polished nickel. Sliding contact and button for flash or continuous light.

List No.	Mfr. No.	Size	List Price Each
361266	6900P	2½ x 1½ x 1½ in. (Midget), complete, N.P. finish	\$1.00
361267	700	Renewal Tungsten battery for case No. 6900P	.40
361268	1179	Renewal Mazda lamp for case No. 6900P	.20
361269	6961P	2½ x 1½ x ¾ in., complete, N.P. finish	1.00
361270	750	Renewal Tungsten battery for case No. 6961P	.40
361271	1180	Renewal Mazda lamp for case No. 6961P	.20
361272	6962P	2½ x 2 x ¾ in., complete, N.P. finish	1.34
361273	751	Renewal Tungsten lamp for case No. 6962P	.47
361274	1181	Renewal Mazda lamp for case No. 6962P	.20



No. 6970



No. 6971



No. 6972

Nickel Plated Tungsten Flashlights

The hinged bottom cover has been eliminated and the battery on this type flashlight is inserted from the top of the flashlight case. The contact is made automatically by a mere pressure of the slide. The flanged top cap which contains the socket and lamp fits snugly into the case and permits renewal of the bulb without the slightest trouble.

Mfr. No.		Size	List Price Each
6970	Vest pocket type, complete	2½ x 1½ x 1½ in.	\$0.95
700	Renewal Tungsten battery		.35
1179	Renewal Mazda bulb		.17
6971	Vest pocket type, complete	2½ x 1½ x ¾ in.	.95
750	Renewal Tungsten battery		.35
1180	Renewal Mazda bulb		.17
6972	Vest pocket type, complete	2½ x 2 x ¾ in.	1.20
751	Renewal Tungsten battery		.45
1181	Renewal Mazda bulb		.17

FOUNTAIN PEN FLASHLIGHTS



No. 2634



No. 2628

Tubular Flashlight

List No.		List Price Each
2634	Nickel plated Tubular Flashlight $1\frac{1}{2} \times 6\frac{1}{2}$	\$2.68
790	Renewal Tungsten battery.....	.40
1198	Renewal Mazda bulb.....	.20
2628	Flashlight complete, metal and black enamel.....	1.00
790	Renewal Tungsten battery.....	.40
1198	Renewal Mazda bulb.....	.20



No. 2681



Fountainlight

Eveready Fountain Pen Flashlight

The Eveready Fountain Pen Flashlight is exactly like a banker's fountain pen in size and appearance. It is a new popular vest pocket light, held securely in the vest pocket by clip. Gives either flash or continuous light, as desired.

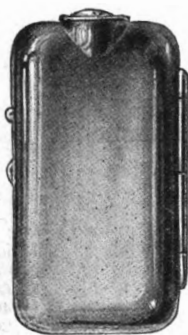
List No.		List Price
2681	Fountain Pen Type Flashlight, bright black metal.....	\$1.34
2682	Fountain Pen Type Flashlight, bright nickel metal.....	1.34
706	Battery.....	.34
1179	Mazda bulb.....	.20

"Fountainlight" Flashlight

The "Fountainlight" Flashlight is an exact imitation of a fountain pen with barrel, cap and clip, which creates a new and novel departure from the ordinary type of flashlight. Its dimensions are such that it becomes a veritable vest pocket flashlight, causing no inconvenience whatever in carriage. "For light" press the ball of the clip—there will be no hitch. "For no light" carry the "Fountainlight" like a fountain pen in the pocket with the cloth of the pocket between the clip and casing. Contact is then impossible, the cloth acting as an insulator, thus preventing to a certainty the useless consumption of the battery in the pocket.

List No.		List Price Each
5800	"Fountainlight," black, complete.....	\$1.50
310	Renewal "Aladdin" battery.....	.38
824	Renewal Mazda bulb.....	.20
5802	"Fountainlight," nickel, complete.....	1.50
310	Renewal "Aladdin" battery.....	.38
824	Renewal Mazda bulb.....	.20

EVEREADY POCKET FLASHLIGHTS



No. 6991



No. 6990



No. 6992

Nickel Plated Tungsten Flashlights

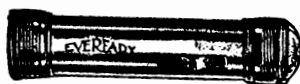
VEST POCKET TYPE

This type flashlight opens exactly like a cigarette case. The beauty of design as well as convenience and ease of replacing the battery and lamp are plainly shown in the cut above.

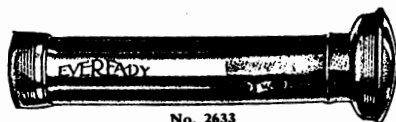
When a fresh battery is inserted it is instantly apparent whether the battery terminals are in the right position to make contact with the lamp and sliding switch, saving time and trouble.

Notice the thin and neat appearance and the rounded corners without projections to wear the pocket. The same batteries and lamps are used in this new design as in the other styles of nickel plated vest pocket flashlights shown in the preceding page and the sizes are practically the same.

List No.	Mr. No.		List Price
361465	6990	Size $\frac{5}{8}$ x $1\frac{1}{2}$ x $2\frac{7}{8}$ inches (complete).....	\$1.34
361466	700	Renewal Tungsten battery.....	.40
361467	1179	Renewal Mazda bulb, 2.5 volts.....	.20
361468	6991	Size $\frac{3}{4}$ x $1\frac{1}{2}$ x $3\frac{1}{4}$ inches (complete).....	1.34
361469	750	Renewal Tungsten battery.....	.40
361470	1180	Renewal Mazda bulb, 2.5 volts.....	.20
361471	6992	Size $\frac{3}{4}$ x $2\frac{3}{8}$ x $3\frac{1}{4}$ inches (complete).....	1.68
361472	751	Renewal Tungsten battery.....	.47
361473	1181	Renewal Mazda bulb, 3.8 volts.....	.20



No. 2631



No. 2633

Nickel Plated Tubular Tungsten Flashlights

The cases are made entirely of brass, heavily nickel plated, which especially adapts them for use around motor cars, motor boats, or wherever the hands of the user are likely to be oily or wet. These cases should last indefinitely under almost any conceivable conditions. They are thoroughly insulated and there is no possibility of short-circuiting the battery through contact with other metal objects.



No. 6291

List No.	Mr. No.		List Price
361474	2630	Size $1\frac{1}{4}$ x 5 (complete).....	\$1.68
361475	791	Renewal Tungsten battery.....	.40
361476	1182	Renewal Mazda bulb, 2.7 volts.....	.20
361477	2631	Size $1\frac{1}{2}$ x $6\frac{1}{2}$ (complete).....	2.00
361478	790	Renewal Tungsten battery.....	.40
361479	1198	Renewal Mazda bulb, 2.9 volts.....	.20
361480	2632	Size $1\frac{1}{2}$ x $8\frac{1}{2}$ (complete).....	2.34
361481	2633	Large lens and reflector (complete).....	3.20
361482	705	Renewal Tungsten battery.....	.54
361483	1193	Renewal Mazda bulb, 3.8 volts.....	.20

Battery and Bulb Tester

Every dealer in flashlights should have one of these useful articles for testing batteries and lamps.

361484	6291	Battery and bulb tester.....	\$1.00
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EVEREADY SPECIALTIES



No. 2138



No. 2122

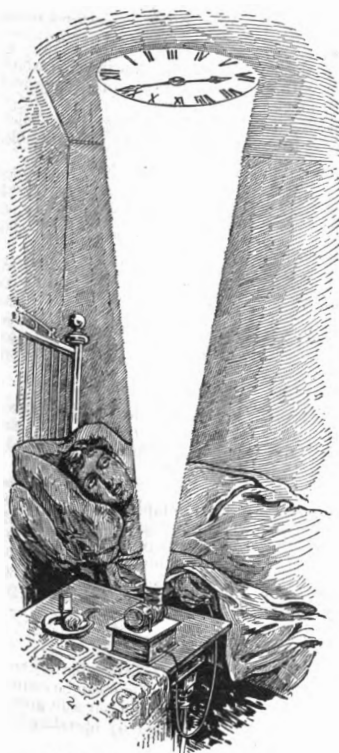
Electric Tungsten Lighted Clocks

These Eveready clocks are equipped with electric lamps and batteries and a slight movement of a switch on the clock or the pressure of a button at the end of a cord attached to the clock, lights up the dial.

The lights can be operated by the switch on the clocks or by a pear shaped push button attached to a ten foot silk cord which we can furnish for 68 cents list.

With Tungsten Batteries and Mazda Bulbs

List No.	Mfr. No.		List Price Each
361433	2102	A very popular design (not illustrated) having red enameled case mounted on highly polished oak or ebony base. Price, less push cord	\$4.68
361434	2120	Has double bell alarm that rings for ten minutes. Polished nickel. Price, less push cord	6.68
361435	2122	Finely nickel plated, with gilt or silver dial. Can be set so bulb lights when alarm rings. Price, less push cord	6.68
361436	2125	Highly polished nickel. The lens over dial magnifies the hands and figures. Ebony or oak case. Price, less push cord	6.68
361437	2126	A European novelty. Clock case of polished rosewood, gold trimmed and mounted on an ebony base. Price, less push cord	6.68
361438	734	Renewal tungsten battery (for any of above clocks) . . . . .	.60
361439	1199	Renewal Mazda bulb, 4 volts (for any of above clocks) . . . . .	.20
361440	2138	Handsome clock in polished and lacquered brass, mounted on base of quartered oak. Bulb is concealed inside the case. Price, less push cord	6.68
361441	734	Renewal tungsten battery . . . . .	.60
361442	1143	Renewal Mazda bulb, 4 volts . . . . .	.68
361443	4903	Pear push and 10 foot cord for any of above clocks . . . . .	.68



Operation of Reflecting Clock

ELECTRIC CEILING CLOCK

A cord attached to this reflecting ceiling clock has a push button at the end. A pressure on the push lights up the clock so that by a series of reflectors a large facsimile of the dial and hands is projected in light and shadow on the ceiling of the room. The dial projected on the ceiling is about two feet in diameter.



Electric Reflecting Ceiling Clock

List No.	Mfr. No.		List Price Each
361263	2235	Ceiling clock complete with cord and push	\$10.00
361264	734	Renewal Tungsten battery. . . . .	.60
361265	1199	Renewal Mazda lamp (2 required) . . . . .	.20

Electrical House Goods and Novelties

EVEREADY SPECIALTIES



Lantern—No. 4702



Nos. 4706, 4707



Nos. 4703, 4704 No. 4717—Ja

Tungsten Lanterns

The lens and reflector of this new lantern have been specially designed to project an in concentrated beam for a great distance. The light is turned on or extinguished by means of button switch. It contains a powerful battery and will give ten to fifteen hours' service.

The Eveready Electric Lanterns have been used for years by all the large oil, powder, and g Being storm-proof they are invaluable on yachts and motor craft; for camping they are i Finished in heavy nickel plate, highly polished.

List No.	Mfr. No.	
361444	4702	Tungsten Search Lantern complete.....
361445	710	Renewal Tungsten battery.....
361446	1195	Renewal Mazda bulb, 6.2 volts.....
Similar in design to the lantern illustrated above but with smaller reflector.		
361251	4701	Watchman's lantern complete, nickel plated.....
361252	710	Renewal Tungsten battery.....
361253	1195	Renewal Mazda bulb.....
361608	4717	Jack-o-lantern.....
361609	792	Renewal Tungsten Battery.....
361610	1197	Renewal Mazda Bulb.....

Tungsten House Lamps

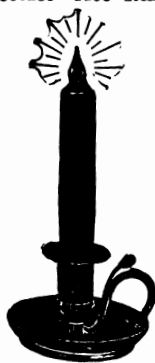
These house lamps have been designed for convenience and safety in general use aro They cannot blow out or blow up. If knocked over there is no smelly oil to run or igni be used without danger in a gas filled cellar, the hay barn or closets containing light and inflam

Nos. 4703 and 4704 have battery cases of wood, well finished and nickel trimmed.

List No.	Mfr. No.	List Price	List No.	Mfr. No.	
361254	4703	\$4.00	361447	4706	House lamp complete
361255	734	.60	361448	703	Renewal Tungsten ba
361256	1199	.20	361449	1190	Renewal Mazda bulb,
361257	4704	6.68	361450	4707	House lamp, complet
361258	719	1.00	361451	734	Renewal Tungsten bs
361259	1195	.20	361452	1199	Renewal Mazda bulb,

Electric Tungsten Candles

The Eveready Electric Candles are self-contained, carrying their c producing their own current and require, of course, no matches. The around as easily as wax candles, but have the advantage of being absol a steady light that does not flicker and cannot be put out except b switch.



No. 16

Electrical House Goods and Novelties

List No.	Mfr. No.	
361453	1650	Highly finished enameled candle and nickel base cc
361454	753	Renewal Tungsten battery.....
361455	1113	Renewal Mazda bulb, 4 volts.....
361456	1651	Quadruple silver plated base. Price, complete....
361457	753	Renewal Tungsten battery.....
361458	1113	Renewal Mazda bulb, 4 volts.....
361459	1654	Iron candle. Very popular design. Price, comple
361460	734	Renewal Tungsten battery.....
361461	1113	Renewal Mazda bulb, 4 volts.....
361462	1655	Same with larger battery. Price complete.....
361463	724	Renewal Tungsten battery.....
361464	1115	Renewal Mazda bulb, 6.2 volts.....

EVEREADY POCKET FLASHLIGHTS



No. 6909



No. 6903



No. 6950

Vest and Coat Pocket Tungsten Flashlights

These flashlights throw a powerful light for a considerable distance. The light is instantly available and absolutely safe. They can be used around the automobile and gasoline tank where a match would be dangerous and might cause an explosion.

The vest and coat pocket flashlights are equipped with a slide switch similar to that used on the tubular flashlights—one hand holds the flashlight and operates the slide. When required, the flashlight may be laid down, leaving both hands free.

COAT POCKET TUNGSTEN FLASHLIGHT

List No.	Mfr. No.	Size		List Price
361281	6901	1 x 2 3/4 x 3 1/2 in.	alligator cloth covered case, complete.	\$1.34
361279	6909	1 x 2 3/4 x 3 1/2 in.	vulcanized fiber case, complete.	2.00
361280	6903	1 x 2 3/4 x 3 1/2 in.	black cloth covered case, complete.	1.34
361282	703		Renewal Tungsten battery.	.47
361283	1190		Renewal Mazda bulb for above.	.20
361275	1991	1 1/8 x 2 1/4 x 5 in.	black cloth covered case, complete.	1.68
361486	1992	1 1/8 x 2 1/4 x 5 in.	snake cloth covered, complete.	1.68
361487	1993	1 1/8 x 2 1/4 x 5 in.	alligator cloth covered, complete.	1.68
361287	793		Renewal Tungsten battery for above.	.48
361277	1197		Renewal Mazda bulb, 3.8 volts, for above.	.20

VEST POCKET TUNGSTEN FLASHLIGHT

361284	6902	1 x 1 1/4 x 3 1/2 in.	black cloth covered case, complete.	\$1.34
361285	6950	1 x 1 1/4 x 3 1/2 in.	white celluloid covered case, complete.	1.68
361488	6952	1 x 1 1/4 x 3 1/2 in.	snake cloth covered case, complete.	1.34
361490	6954	1 x 1 1/4 x 3 1/2 in.	nickel plated case, complete.	1.34
361605	792		Renewal Tungsten battery for above.	.40
361288	1197		Renewal Mazda bulb, 2.7 volts for above (excepting 695-A).	.20
361491	1182		Renewal Mazda bulb, 2.7 volts, for case No. 6954 only.	.20



No. 2876



No. 3703

Tungsten Cap and Lapel Lights

The cap light is composed of a reflector, battery case (containing the battery) and connecting cord. The battery may be carried in the pocket or laid in any convenient place. The reflector can be fastened to the cap or elsewhere by means of the attachment pins. For underground inspection, general surveying and camp life the Eveready cap light becomes indispensable.

The lapel light is designed on the same principle as the cap light and is specially adapted for use by orchestras, bands, etc. It can be adjusted to the coat lapel, the cap or any other convenient place.

List No.	Mfr. No.	List Price	List No.	Mfr. No.	List Price		
361492	2876	Cap lantern (5-cell, complete).	\$7.34	361497	1199	Renewal Mazda bulb, 4 volts.	\$0.20
361493	731	Renewal Tungsten battery.	1.00	361498	3703	Lapel light (complete).	2.68
361494	1195	Renewal Mazda bulb, 6.2 volts. . . . .	.20	361499	752	Renewal Tungsten battery. . . . .	.60
361495	2877	Cap lantern (3-cell, complete).	6.68	361500	1199	Renewal Mazda bulb, 4 volts. . . . .	.20
361496	734	Renewal Tungsten battery. . . . .	.60				

EVEREADY SPECIALTIES



No. 6980



No. 2659



No. 2675

Silver Plated Tungsten Flashlights

To meet the great demand for small flashlights of specially beautiful design and finish, for gifts, prizes, etc., this line has been developed.

The cases are embossed in an artistic design, quadruple silver plated and have the popular gray finish. Furnished with patented slide and button contact same as on nickel lights.

List No.	Size	List Price	List No.	Size	List Price
6980	Size $1\frac{1}{4} \times 1\frac{1}{4} \times 2\frac{1}{2}$ inches complete.	\$1.68	750	Renewal Tungsten battery	\$0.40
700	Renewal Tungsten battery	.40	1180	Renewal Mazda bulb, 2.5 volts	.20
1179	Renewal Mazda bulb, 2.5 volts	.20	6982	Size $\frac{3}{4} \times 2 \times 2\frac{1}{4}$, complete	2.00
6931	Size $\frac{3}{4} \times 1\frac{1}{2} \times 2\frac{1}{4}$, complete	1.68	751	Renewal Tungsten battery	.47
			1181	Renewal Mazda bulb, 3.8 volts	.20

Tungsten Searchlight

The new Eveready Portable Searchlight is equipped with specially designed, extra large reflector and lens. The brilliant rays of light are thrown a great distance and will penetrate through fog and smoke. They will appeal especially to firemen, policemen, motorists, trainmen and all others whose occupations require a portable light of great power and sterling dependability.

Made in two sizes. Polished vulcanized fibre case, nickel trimmings. Equipped with perfect slide switch, identical with that used on the regular tubular flashlights.

List No.	Size	List Price Each
2659	Portable type, complete.	$1\frac{1}{2} \times 8\frac{1}{2}$ ins. \$4.00
705	Renewal Tungsten battery	.54
1193	Renewal Mazda bulb, 3.8 volts	.20
2653	Portable type, complete.	$1\frac{1}{2} \times 13$ ins. 5.34
715	Renewal Tungsten battery	1.00
1195	Renewal Mazda bulb, 6.2 volts	.20

Pistol Light

This is a perfect copy of an automatic magazine pistol of the latest type. When the trigger is pressed, instead of a destructive bullet, a bright beam of light leaps from the muzzle and continues as long as the pressure lasts. Fits the pocket like a "gun." Strongly made of brass and furnished in gunmetal finish. Makes an instant appeal to those who wish to combine novelty with utility.

List No.	List Price
2675 Pistol Light, complete.	\$2.00
750 Renewal Tungsten battery	.40
1180 Renewal Mazda bulb, 2.5 volts.	.20

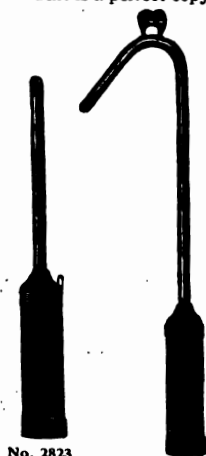
Tungsten Gas and Range Lighters

The Gas Lighter has a socket which is used to turn on the gas if the fixture is high. The same hand that turns on the gas presses the switch that operates the lighter. When this switch is pressed a current is projected through the platinum coil, contained in the perforated tip of the lighter. This coil instantly becomes white hot and stays in that condition as long as the switch is held down. No draught can blow it out. The shape and length of these lighters make them invaluable where the Welsbach type of burner is used.

The Range Lighter operates in the same way, but there is a difference in design. The hand is far from the flame when it ignites, preventing burned fingers.

Battery case of vulcanized fibre. All metal parts nickel plated.


List No.		List Price
2823	Range Lighter.....	\$2.00
790	Renewal Tungsten battery.....	.40
2824	Gas Lighter.....	2.68
790	Renewal Tungsten battery.....	.40
2831	Renewal Tip (for either lighter).....	.34

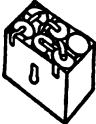
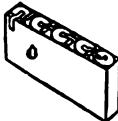
No. 2823
Range
LighterNo. 2824
Gas Lighter


EVEREADY TUNGSTEN BATTERIES


The Eveready Tungsten battery is the result of years of scientific research and experiment. It was through the introduction of Tungsten batteries that the flashlight was brought out of the class of novelties and made thoroughly practical for everyday household and commercial use.


Every battery is packed in a patented sealed carton.


	List No.	No. of Cells	Height	Width	Depth	List Price Each
	705	3	7	1 3/8		\$0.54
	711	3	9 1/8	1 3/8		.60
	715	5	11 3/4	1 3/8		.94
	790	2	4 3/4	1 3/8		.40
	791	2	3 3/4	1		.40
	701	3	4 3/4	1		.60
	720	2	4 3/4	1		.48
	753	3	7	1		.54


	List No.	No. of Cells	Height	Width	Depth	List Price Each
	724	5	3	4	2 1/4	\$1.00
	731	5	3	6 1/2	1 1/2	1.00

	700	2	1 1/8	1 1/8	1 1/8	.40
	703	3	2 5/8	2 1/8	3/8	.48
	750	2	2 1/4	1 1/8	1 1/8	.40
	751	3	2 1/4	2	1 1/8	.48


	752	3	3 1/8	4	1 3/8	.60
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	792	2	2 1/2	1 3/8	1 1/8	.40
	793	2	3 1/8	2 1/8	1	.48


	712	3	2 1/2	3 1/8	1 3/8	.54
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	734	3	3	4	1 3/8	.60
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	723	3	3	2 1/254
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	722	3	3	4	1 3/8	.60
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	710	5	3	3 3/8	...	1.00
	707	5	3	3 3/8	...	1.00

	719	5	3	4	2 1/4	1.00
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	716	5	6 1/2	3 1/8	1 1/2	1.00
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Eveready "Three Crescent" Battery

Eveready "Three Crescent" battery is manufactured from the highest grade most carefully selected materials obtainable.



No. 892

List No.		Height	Size over all inches Width	Depth	List Price Each
803	Three Crescent battery.....	2 5/8 ins.	2 1/8 ins.	3/8 in.	\$0.36
805	Three Crescent battery.....	7	1 3/8 ins.	.....	.40
850	Three Crescent battery.....	2 1/4 ins.	1 1/8 ins.	1 1/8 in.	.30
851	Three Crescent battery.....	2 1/4 ins.	2 ins.	1 1/8 in.	.36
890	Three Crescent battery.....	4 3/4 ins.	1 3/8 ins.	7 ins.	.30
891	Three Crescent battery.....	3 3/4 ins.	1 in.	3 1/4 ins.	.30
892	Three Crescent battery.....	2 1/2 ins.	1 5/8 ins.	1 1/8 in.	.30

ELECTRIC TOYS


Locomotive No. 33



Locomotive No. 38



Locomotive No. 53

Electric Type Locomotives

Outfit No. 33. Consists of one No. 33 Locomotive, 11 inches long, and 8 sections of curved track, making circle $3\frac{1}{2}$ feet in diameter. Operates on 4 or 5 dry batteries, or reduced house lighting current.

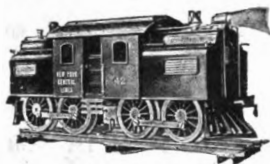
List No. Mfr. No. *List Price
 361641 33 Outfit complete. \$10.50

Outfit No. 38. Consists of one No. 38 Locomotive, 12 inches long, and 8 sections curved track, making circle $3\frac{1}{2}$ feet in diameter. Locomotive has four large driving wheels and is equipped with controller. Operates on 4 or 5 dry batteries, or reduced house lighting current.

361524 38 Outfit complete. \$12.76

Outfit No. 53. Consists of one No. 53 Locomotive, 12 inches long, 8 curved and 4 straight sections of track, measuring $15\frac{1}{2}$ feet. Locomotive has two sets of four driving wheels and is equipped with controller and contact for interior illumination of passenger cars. Operates on 5 or 6 dry batteries, or reduced house lighting current.

361525 53 Outfit complete. \$15.00



Locomotive No. 42



Outfit No. 51

Electric Type Locomotives

Outfit No. 42. The largest of the Electric Type Locomotives. Outfit consists of one No. 42 Locomotive, $15\frac{1}{2}$ inches long, 8 curved and 4 straight sections of track, measuring $15\frac{1}{2}$ feet. Locomotive has two sets of four large driving wheels and is equipped with controller and contact for interior illumination of passenger cars. Operates on 6 dry batteries, or reduced house lighting current.

361526 42 Outfit. \$21.00

Outfit No. 54. Same dimensions and mechanism as No. 42, with same track equipment. Locomotive body is constructed of sheet brass, with nicked trimmings and parts. A very handsome model and an attractive show piece.

361527 54 Outfit complete. \$36.00

Steam Type Locomotives

Outfit No. 5. Consists of one No. 51 Locomotive, 11 inches long, 8 curved and 4 straight sections of track, measuring $15\frac{1}{2}$ feet. Operates on 5 dry batteries, or reduced house lighting current.

361528 5 Outfit complete. \$15.00

Outfit No. 51. Same as No. 5, with addition of a double truck tender 7 inches long. Operates on 5 or 6 dry batteries, or reduced house lighting current.

361529 51 Outfit. \$17.26



Outfit No. 6

Outfit No. 6. This is larger and more powerful than the No. 5. Locomotive is $13\frac{1}{2}$ inches long and is fitted with a four wheeled pilot truck. The tender is 9 inches long. Outfit includes 8 curved and 4 straight sections of track, measuring $15\frac{1}{2}$ feet. Operates on 5 to 7 dry batteries, or reduced house lighting current.

361530 6 Outfit complete. \$23.86

Outfit No. 7. Our most beautiful and elaborate model. Unsurpassed for show-room or window attraction. Dimensions are same as No. 6, described above. Finished in nickel and brass throughout. Operates on 5 to 7 dry batteries, or reduced house lighting current.

361531 7 Outfit complete. \$43.50

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
 Electrical House Goods and Novelties

Western-Electric COMPANY ELECTRIC TOYS

559



Outfit No. 37

Pullman and Freight Trains with Electric Type Locomotives

Outfit No. 37. Consists of one No. 33 Locomotive, two No. 112 Gondola Cars, and 8 sections of curved track, making a circle $3\frac{1}{2}$ feet in diameter. Operates on 4 or 5 dry batteries, or on the reduced house lighting current. The complete train is 31 inches in length.

List No. Mfr. No.

361532 37 Outfit complete.....*List Price \$12.00



Outfit No. 34

Outfit No. 34. Consists of one No. 33 Locomotive, one No. 35 Pullman Car and one No. 36 Observation Car, together with 8 sections of curved track, making a circle $3\frac{1}{2}$ feet in diameter. Operates on 4 or 5 dry batteries, or on the reduced house lighting current. The complete train is 34 inches in length.

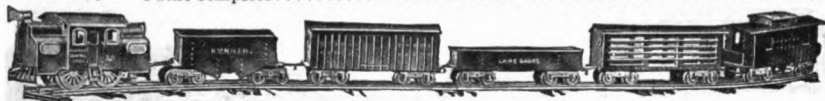
361533 34 Outfit complete.....\$16.50



Outfit No. 40

Outfit No. 40. Consists of one No. 38 Locomotive, two No. 35 Pullman Cars and one No. 36 Observation Car, together with 8 curved and 4 straight sections of track, measuring $15\frac{1}{2}$ feet. Operates on 6 or 7 dry batteries, or on the reduced house lighting current. The complete train is 4 feet in length.

361534 40 Outfit complete.....\$24.00



Outfit No. 41

Outfit No. 41. Consists of one No. 38 Locomotive, one each of the Freight Cars numbered 112, 113, 114, 116 and 117, together with 8 curved and 4 straight sections of track, measuring $15\frac{1}{2}$ feet. Operates on 6 or 8 dry batteries or on the reduced house lighting current. The complete train is 5 feet 7 inches in length.

361535 41 Outfit complete.....\$21.76



Outfit No. 52

Outfit No. 52. Consists of one No. 53 Locomotive, one each of the Pullman Cars numbered 180, 181 and 182, together with 8 curved and 4 straight sections of track, measuring $15\frac{1}{2}$ feet. Operates on 6 or 7 dry batteries, or on the reduced house lighting current. The complete train is 4 feet 6 inches in length.

361536 52 Outfit complete.....\$30.00



Outfit No. 42, with Large Pullman Cars

Outfit No. 42, With Large Pullman Cars. Consists of one No. 42 locomotive, one each of the Pullman cars Nos. 18, 19 and 190 together with 8 curved and 8 straight sections of track, measuring $20\frac{1}{2}$ feet over all. Outfit will operate on 8 to 12 dry batteries or on the reduced house lighting circuit.

361537 42 Outfit complete.....\$43.96

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

ELECTRIC TOYS



Outfit No. 50

Pullman and Day Coach Trains with Steam Type Locomotives

Outfit No. 50. Consists of one No. 51 Locomotive and Tender, and one each of the Pullman Cars numbered 180, 181 and 182, together with 8 curved and 4 straight sections of track, measuring 15½ feet. Operates on 8 to 10 dry batteries, or the reduced house lighting current. The complete train is 5 feet in length.

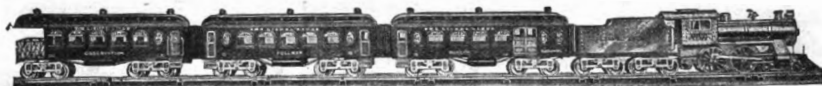
List No.	Mfr. No.	Outfit complete.....	*List Price
361538	50		\$33.00



Outfit No. 43

Outfit No. 43. Consists of one No. 51 Locomotive and Tender, two No. 29 Day Coaches, together with 8 curved and 4 straight sections of track, measuring 15½ feet. Operates on 8 to 10 dry batteries, or on the reduced house lighting current. The complete train is 4 feet 5 inches in length.

361539	43	Outfit complete.....	\$26.26
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Outfit No. 6, with Large Pullman Cars

Outfit No. 6. Consists of one No. 6 Locomotive and Tender, one each of the Pullman Cars numbered 18, 19 and 190, 8 curved and 8 straight sections of track. Operates on 8 to 12 dry batteries, or reduced house lighting current. The complete train is 6 feet in length.

361540	6	Outfit complete.....	\$44.70
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Outfit No. 2



Outfit No. 8



Outfit No. 10

Trolley Cars

Outfit No. 2. Consists of one No. 2 Vestibuled Car, 8 curved and 4 straight sections of track, measuring 15½ feet. Car is 12 inches long, has electric headlight, and is equipped with controller for starting, stopping and reversing. Operates on 4 or 5 dry batteries, or reduced house lighting current.

361541	2	Outfit complete.....	\$11.26
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Outfit No. 8. A model of the latest type of Pay-as-you-enter Cars in general service. Outfit consists of one No. 8 Car, 8 curved and 4 straight sections of track, measuring 15½ feet. Car is 20½ inches long, has exit and entrance platforms each end, sliding doors, seats in the interior, and electric headlight. Body is mounted on two flexible trucks, motor is equipped with controller for starting, stopping and reversing. Operates on 3 to 5 dry batteries, or reduced house lighting current.

361542	8	Outfit complete.....	\$18.00
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Interurban Cars

These are modeled closely after the cars in use for interurban service, and are also typical of those running upon elevated and subway lines. Cars are richly enameled, have headlights mounted upon the roofs, seats in the interior, upon which miniature figures can be placed. The roofs of all cars are removable, so that a series of lights may be connected for interior illumination. Bodies are mounted upon two flexible trucks, and the motors are equipped with controllers for starting, stopping and reversing.

Outfit No. 10. Consists of one No. 10 Interurban Car, 16½ inches long, 8 curved and 4 straight sections of track, measuring 15½ feet. Operates on 4 to 6 dry batteries, or reduced house lighting current.

361543	10	Outfit complete.....	\$18.00
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Outfit No. 1010. Same as No. 10, with addition of one No. 1010 Interurban Trail Car, same size and construction as Motor Car, without mechanism.

361544	1010	Outfit complete.....	\$24.76
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*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Electrical House Goods and Novelties

Western Electric COMPANY ELECTRIC TOYS

561



Gondola Car No. 12 and 112

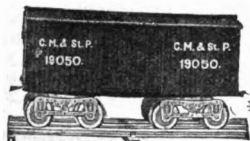


Cattle Car No. 13 and 113

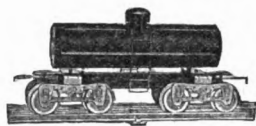
Freight Cars (made in 2 sizes)

Gondola Car No. 12. 11 inches long. Carries a considerable load, fitted with hand brakes and couplers.

List No.	Mfr. No.	Description	*List Price
361546	12	Gondola Car.	\$3.00
Gondola Car No. 112. 9½ inches long. Similar to No. 12 in appearance.			
361547	112	Gondola Car.	1.36
Cattle Car No. 13. 11 inches long. Sliding doors and roof, hand brakes and couplers.			
361548	13	Cattle Car.	3.76
Cattle Car No. 113. 9½ inches long. Similar to No. 13 in appearance.			
361549	113	Cattle Car.	1.80



Box Car No. 14 and 114

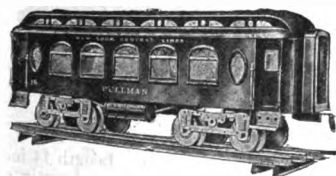


Oil Car No. 15



Caboose No. 17 and 117

Box Car No. 14. 11 inches long. Sliding doors and roof, hand brakes and couplers.			
361550	14	Box Car.	\$3.76
Box Car No. 114. 9½ inches long. Similar to No. 14 in appearance.			
361551	114	Box Car.	1.80
Oil Car No. 15. 11 inches long. Fitted with ladders, run-boards, hand brakes and couplers.			
361552	15	Oil Car.	3.76
Caboose No. 17. 11½ inches long. Has sliding roof, seats in interior, windows, and ventilators in roof.			
361553	17	Caboose.	3.76
Caboose No. 117. 9¾ inches long. Similar to No. 17 in appearance.			
361554	117	Caboose.	1.80



Pullman Car



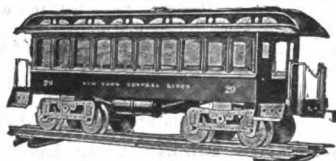
Pullman and Baggage Car

Pullman Cars (made in 3 sizes)

361555	18	Pullman Car. (Large Size.) Length 16½ inches.	\$6.76
361556	180	Pullman Car. (Medium Size.) Length 12½ inches.	5.26
361557	35	Pullman Car. (Small Size.) Length 11 inches.	3.76
361558	19	Pullman and Baggage Car. (Large Size.) Length 16½ inches. Has baggage compartment with sliding doors.	7.50
361559	181	Pullman and Baggage Car. (Medium Size.) Length 12½ inches. Has baggage compartment with sliding doors.	6.00



Observation Car



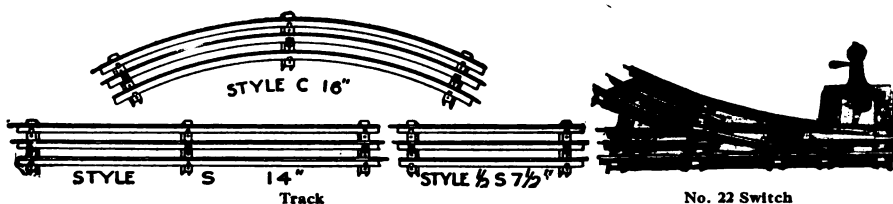
Day Coach No. 29

Observation and Day Coach

361560	190	Observation Car. (Large Size.) Length 16½ inches. Has observation platform	\$7.50
361561	182	Observation Car. (Medium Size.) Length 12½ inches. Has observation platform.	6.00
361562	36	Observation Car. (Small Size.) Length 11 inches. Has observation platform.	3.76
361563	29	Day Coach. (Large Size.) Length 16½ inches. Has front and rear platforms.	4.50

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

ELECTRIC TOYS



Track and Accessories

The track is constructed entirely of 2x tin. Perfectly insulated third rail, guaranteed to carry much higher voltage than necessary. Pin terminals at ends of each section make it possible to use curved sections for either right or left hand curves. Connecting ties (which slide over end ties of track) hold sections rigidly together. One section of track fitted with battery connections supplied with every outfit.

List No.	Mfr. No.		*List Price
361564	23	Style C 16 Track, (16½ ins. long) per section	\$0.30
361565	23	Style S 14 Track, (14 ins. long) per section .....	.30
361566	23	Style ½ S Track, (7½ ins. long) per section .....	.23

No. 22 Switch. Right and Left. Sound mechanical construction—perfectly insulated—permanent electrical connections. Lever which operates rails correctly sets signals and locks mechanism. Signals are red and white enameled. Connects with track in same manner as curved or straight sections. Length 16½ inches.

361567	22	Right and Left switch	\$3.00
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No. 23 Bumper



No. 20 Crossing

Track Accessories

No. 23 Bumper. Fitted with two spring plungers which absorb shock of car. Length 14 inches—mounted on sheet steel frame—is attached to track in same manner as straight or curved sections. An invaluable accessory.

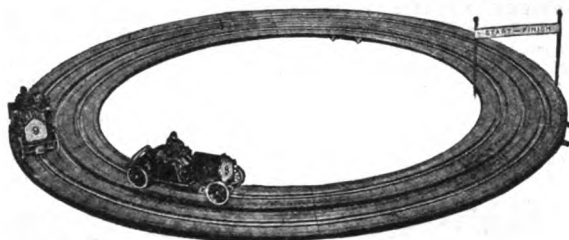
List No.	Mfr. No.		*List Price
361568	23	Bumper	\$1.50
361569	20	Crossing. Measures 12 ins. square. Enables formation of figure 8 loop. Solidly built—permanent electrical connections.	1.50
361570	104	Tunnel. Size 13 x 9 x 9 ins.	3.00
361571	109	Tunnel. Size 25 x 12½ x 14 ins.	6.76
361572	103	Bridge. Size 28 x 6½ ins.	3.00
361573	105	Bridge. Length 6 ft., width 6 ins. Made in 3 sections—suitable for large layout.	7.50
361574	121	Station. Size 14 x 10 x 9 ins. Removable roof.	4.50
361575	27	Station. Size 21 x 29 x 10 ins.	10.50
361576	28	Station. Size 18½ x 22½ x 11 ins. Has leaded glass dome—buildings have removable roofs.	20.26
361577		Miniature Figures. Male and Female. Fit on seats of all cars. Price, per doz.	1.06

Incandescent Lamps. All cars have 3½ volt lamps in headlights. Resistance is placed in cars so that lamps do not burn out when higher voltage is applied. Special lamps supplied for running cars on alternating current.

361578	25	3½ Volt Lamps. For batteries or reduced direct current.	\$0.76
361579	26	14 Volt Lamps. For reduced alternating current. ....	.76
361580	27	Lighting Sets. For interior illumination of cars. Consist of 5 feet flexible cord, 3 bulbs, sockets and contacts; for batteries or reduced direct or alternating current. Price complete.	3.00

*Delivery F. O. B. Factory, New York City.

ELECTRIC TOYS



Outfit No. 84

Racing Automobiles

Cars are $8\frac{1}{2}$ inches long—body removes from chassis in same manner as standard cars. Motor and working parts are easily accessible for cleaning and lubricating. Wheels have nicked hubs and solid rubber tires—spare tire for replacing worn one is carried on rear of the car.

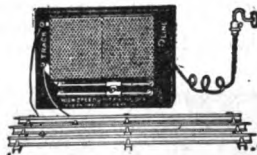
Cars have rear shoe for collecting current from insulated rail in the track bed, and flexible front shoe for guiding. Cars are differently numbered, and richly enameled in a variety of colors.

Full directions for operating accompany each outfit.

List No.	Mfr. No.		*List Price
361581	80	Outfit consists of 8 sections "O" curved track, making a circle 36 ins. in diameter, one car, drivers, and starting post. Complete.	\$11.26
361582	81	Outfit consists of 8 sections "I" curved track, making a circle 30 ins. in diameter, one car, drivers, and starting post. (This circle fits inside of outfit No. 80.) Complete.	11.26
361583	84	Outfit consists of Outfits No. 80 and No. 81 in combination, forming a double circular racing track. Complete.	22.50
361584	85	Outfit consists of 8 sections "O" curved track, 8 sections "I" curved track, and 8 sections "A" straight track, together with two cars, drivers, and starting post. This outfit makes a complete double oval racing track, the extreme outside measurement being $5\frac{1}{2}$ ft. by 3 ft. 8 ins. Complete.	27.00
		Extra sections "A" straight track—14 inches long—fitting either inside or outside circle. Per section	.60



Type K Transformers



No. 107. D. C. Reducer

Current Reducers

LIONEL ALTERNATING CURRENT TRANSFORMER, TYPE K

110 Volts, 60 Cycles

This transformer has a range of voltages from 3 to 29. The rheostat mounted on the slate top enables the user to obtain voltages of 15, 18, 21 and 29 without disconnecting or changing wires, by simply moving the switch from point to point. This arrangement is specially embodied so as to operate one or more train sets at different speeds without having to touch the wiring. In addition the extra binding posts enable the user to operate various other apparatus at the same time requiring any of the following voltages: 3, 5, 6, 11, 14, 15, 18, 21, 23, 26 and 29. The primary and secondary coils are enclosed in a steel case having a slate top to which the binding posts are fastened. The measurements over all are $6\frac{1}{2}$ x 5 x $3\frac{1}{2}$ inches. Transformer is equipped with 9 feet of flexible cord and a separable plug, ready to screw into the fixture socket.

List No.	Style	*List Price
361585	K Alternating current transformer.	\$11.26

DIRECT CURRENT REDUCER, NO. 107 AND NO. 170

This is constructed upon a substantial slate base, measuring 8 x 10 inches and $\frac{3}{4}$ inch in thickness. The resistance wires are wound around 4 porcelain tubes and these are protected by a perforated Russian iron cover lined with asbestos. The voltage that regulates the speed, and which is sufficient for operating any of our outfits, is controlled by a sliding lever. The reducer is connected with the house current by a screw plug, which with 9 feet of flexible cord, is provided with the apparatus. The reducer can be fixed to wall or table by using the 4 porcelain knobs and screws which are supplied with it.

List No.	Mfr. No.	*List Price
361586	107 Reducer, for 110 volts. Complete.	\$11.26
361587	170 Reducer, for 220 volts. Complete.	15.00

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

ELECTRIC TOYS
Passenger Trains With Electric Type Locomotives
TO OPERATE ON STANDARD "O" GAUGE TRACK 1 1/4 INCHES WIDE

Below is listed a complete assortment of passenger trains at moderate prices. Locomotives have sheet steel bodies, headlights, and some outfits have locomotives equipped with reversing controllers.

Passenger cars are of "all steel" construction. They have flexible trucks, removable roofs, and seats in the interior. Imitation glass is inserted in windows and doors.

The track packed with each outfit is the wonderfully improved "Lionel" standard "O" gauge 1 1/4 inches wide.

Included with each outfit is a controlling rheostat for regulating the speed when trains are operated on dry or storage batteries. Full directions for operating are included with each outfit.

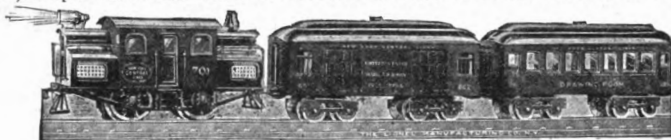

Outfit No. 70
Outfit No. 70

Comprises 1 No. 700 Locomotive, 2 No. 600 Pullman cars, 8 sections OC curved track, making a circle 28 1/2 inches in diameter, and 1 No. 88 controlling rheostat. This outfit will operate on 3 dry batteries, or on the house current in conjunction with **Lionel Transformers**. Length of complete train 20 1/2 inches.

List No.

List Price

70 Outfit, complete as above..... \$7.50


Outfit No. 71
Outfit No. 71

Comprises 1 No. 701 locomotive, 2 No. 601 Pullman cars, 8 sections OC curved track, making a circle 28 1/2 inches diameter, and 1 No. 88 controlling rheostat. This outfit will operate on 3 dry batteries, or on the house current in conjunction with **Lionel Transformers**. Length of complete train, 23 1/2 inches.

71 Outfit complete as above..... \$9.76

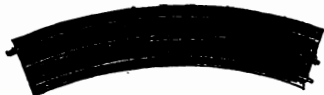

Outfit No. 92
Outfit No. 92

Freight trains to operate on standard "O" gauge track, 1 1/4 inches wide. Comprises 1 No. 701 locomotive, 1 No. 820 box car, 1 No. 821 cattle car, 1 No. 822 caboose, 8 sections OC curved track, 2 sections OS straight track, making an oval measuring 39 inches across, and 1 No. 88 controlling rheostat. This outfit will operate on 3 dry batteries, or on the house current in conjunction with **Lionel Transformers**. Length of complete train, 31 1/2 inches.

90 Outfit, complete as above..... \$11.26



No. 021 Switch with Electric Signal



OC Curved Track

Accessories for "O" Gauge Track
No. 021 Switch With Electric Signal. (Right and Left Hand.)

For standard "O" gauge track 1 1/4 inches wide. The switch is 11 1/2 inches long. The lever which shifts the rails and locks the mechanism is attached to a lantern which is illuminated with a 3 1/2 volt bulb.

021 Switch with electric signal..... \$3.00

Straight and Curved Track

List Price per Section

 OS Straight track. 10 inches long..... \$0.23
 OC Curved track. 11 1/2 inches long..... .23

Electrical House Goods and Novelties

PATTERSON ELECTRIC TANK INDICATORS

FOR OPEN AND CLOSED TANKS



No. A



No. B



No. D



No. E

GENERAL DESCRIPTION

These Indicators give an electrical alarm either in connection with a bell or an annunciator, showing when the contents of a tank have reached a maximum or minimum, or both. All contacts are well protected against injury.

Model A—High and Low Water Tank Indicator for closed tank.

Model B—High and Low Water Tank Indicator for open tank.

Model C—Low Water Tank Indicator for closed tank.

Model D—Low Water Tank Indicator for open tank.

Model E—High Water Tank Indicator for closed tank.

Model F—High Water Tank Indicator for open tank.

Models A and B are furnished regularly, allowing 12 inches between upper and lower balls.

Models C and D are furnished regularly with 24-inch iron pipe stem.

Models E and F are furnished regularly with 20-inch iron pipe stem.

If greater distance between base of flange and ball is required, same will be furnished up to 12 feet.

Each Indicator is shipped carefully packed in individual case, with full directions in each case for installation, even by an inexperienced person.

List Prices and Data

List No.	Model	List Price Each
361239	A Electric Tank Indicator, for closed tank.....	\$18.00
361240	B Electric Tank Indicator, for open tank.....	18.00
361241	C Electric Tank Indicator, for closed tank.....	10.50
361242	D Electric Tank Indicator, for open tank.....	10.50
361243	E High Water Tank Indicator, for closed tank.....	10.50
361244	F High Water Tank Indicator, for open tank.....	10.50

Extra length stems for any of the above Indicators per foot, \$0.60.

Models A-20 and B-21 are furnished regularly allowing 12 inches between upper and lower balls.

Models C-22 and D-23 are furnished regularly with 24-inch iron pipe stem.

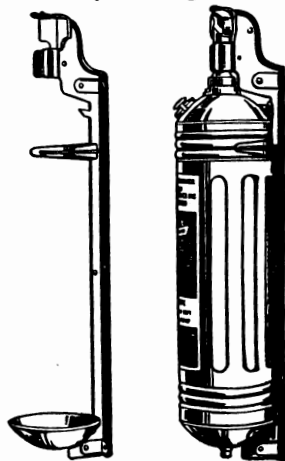
Models E-24 and F-25 are furnished regularly with 20-inch iron pipe stem.

If greater distance between base of flange and ball is required, same will be furnished up to 12 feet for \$0.60 per foot.

PYRENE FIRE EXTINGUISHER



Pyrene Extinguisher



Pyrene Bracket

This extinguisher is the most efficient and practical device known for the protection of electrical risks. It is used extensively by steam railroads, traction companies and power plants throughout the United States.

Pyrene is also recognized as the most effective extinguisher of incipient fires in highly inflammable materials, such as gasoline, benzine, kerosene, oils, etc.

PROPERTIES OF PYRENE

Pyrene liquid is a combination of purely organic materials, having an aromatic odor and a high specific gravity. Pyrene contains neither acid, alkali, salts nor moisture, and will not injure materials with which it may come in contact. Pyrene liquid does not lose its strength or deteriorate with age. It will not freeze at a temperature of 50 degrees F. below zero. When Pyrene liquid is subjected to a temperature of 200 degrees F. or over, it is immediately transformed into a heavy, dry, cohering, non-poisonous gas blanket, which surrounds the burning material, cutting off the air supply necessary for the life of the fire, and thereby extinguishing it.

PYRENE DOUBLE ACTING PUMP

The device in which Pyrene is used is a double acting pump, easily operated by hand, of one quart capacity, strongly built of brass and white metal throughout. Pyrene extinguisher will throw a continuous stream to a distance of about thirty feet. The extinguisher is 3 inches in diameter and 14 inches in length, and weighs (filled) 6 pounds. It is not necessary to return extinguisher to the factory to be refilled. They may be recharged by removing the filler cap and pouring in the amount used.

THE ELECTRICAL USES OF PYRENE

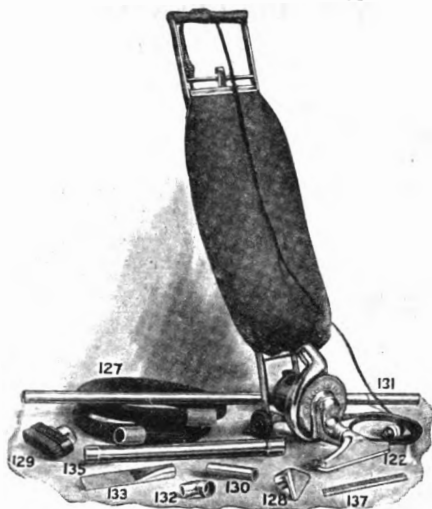
The resistance of Pyrene liquid is 30,000 megohms per cubic inch. Its dielectric strength is 13,240 volts per 1/10 inch. Owing to its extremely high resistances, Pyrene will always be serviceable on the highest voltages commercially used and on all classes of electrical equipment. It may be directed between the commutator and brushes or the armature and field of any moving rotary without in any way causing damage to the apparatus or injuring the operator, irrespective of voltage used. This applies as well to controller boxes, rheostats, transformers, switchboards and all other electrical equipment. Pyrene will break an arc caused by short circuit and, when broken, the arc will not re-establish.

List No.			List Price
361233	Brass fire extinguishers.....	each	\$14.00
361234	Nickel-plated fire extinguishers.....	each	16.00
361235	Pyrene liquid for refilling (in quart, 2 quart, and gallon cans).....	per gallon	8.00
361236	Brackets for holding extinguishers (steel).....		1.00
361237	Brackets for holding extinguishers (brass).....		1.50
361238	Brackets for holding extinguishers (nickel plated).....		2.00

		Metal	Wooden
361807	Boxes for (1) extinguisher with glass front.....	\$2.00	\$3.00
361808	Boxes for (2) extinguishers with glass front.....	3.00	4.00
361809	Boxes for (3) extinguishers with glass front.....	4.00	5.00

NOTE: Wooden boxes furnished painted or varnished. Metal boxes furnished in red enamel.

Western Electric VACUUM CLEANER



No. 11 Vacuum Cleaner with Tools
No. 11 Portable Type

With a Western Electric Vacuum Cleaner you can clean in one-fourth the time that it takes with the broom and dust rag. In ordinary sweeping and dusting, the surface dirt is simply dislodged to scatter its unhealthful germs in the air we breathe.

With a Western Electric Vacuum Cleaner—the modern, sanitary method of cleaning—the dirt and dust are actually drawn out of the carpets, rugs and draperies by a vacuum into a bag which may be easily detached and emptied.

The extension tool—furnished as a part of the regular equipment—will enable one to reach the out-of-the-way places—under heavy furniture that cannot be moved.

The comfortable horizontal handle—not found in any other machine—provides the most natural way for pushing a cleaner. A special device in the cleaning tool picks up all the dirt, threads and ravelings. This is the cleaner not built like a broom.

By means of the hose attachment and different nozzles, the Western Electric Vacuum Cleaner can be used for many difficult cleaning operations. Dirt that cannot be gotten at in any other way is easily removed.

A thin nozzle is very effective in cleaning the radiators. It gets in between the pipes and removes the dust and dirt. It reaches the corners which are always difficult to clean.

The handle of the cleaner remains in an upright position when not in use.

For cleaning upholstered furniture, mattresses, etc., the hose attachment is most valuable. The dust and particles of dirt which cannot be beaten out or reached with the whiskbroom are easily drawn out by the strong suction of the vacuum cleaner. By disconnecting the bag and attaching the hose to the bag connection, the cleaner may be used as a blower for blowing the dust out of the crevices, renovating pillows and drying the hair.

The old method of beating the draperies not only destroys their crispness and luster, but soon wears them out. With the extension handle and hose attachment, one can take all the dust and dirt out of the draperies without injury to the most delicate of fabrics. It enables the user to reach the tops of the doors and moldings, the plate rails and pictures high above the head.

Last No.	Description	List Price Each
11	Vacuum cleaner with tools 122, 135 and 137.....	\$65.00
	(Complete equipment for floors and floor coverings.)	
11	Vacuum cleaner with tools 122, 127, 128, 129, 130, 131, 135 and 137.....	80.00
	(For all ordinary household cleaning requirements.)	
A complete and efficient tool equipment—light, substantial and beautifully finished, has been designed for use with this cleaner.		
122	General cleaning tool, with special device for picking up threads.....	\$3.50
127	Eight foot length of hose.....	5.00
128	Upholstery tool.....	1.70
129	Brush for walls, moldings, draperies, etc.....	4.50
130	Short handle for use with tools 128 and 129 at end of hose.....	1.20
131	42 in. extension handle for use at end of hose.....	3.20
132	Elbow attachment for changing angle of tools.....	1.50
133	Library tool for radiators, bookcases, etc.....	1.50
135	Extension tube for cleaning under furniture, etc.....	2.00
136	Dust bag.....	4.10
137	Special device used in general cleaning tool for picking up threads.....	1.20

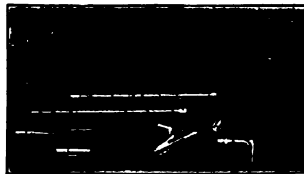
Delivery F. O. B. destination.

Western Electric

VACUUM CLEANERS



No. 1 Cleaner



Extra Tool Equipment

No. 1 Cleaner

The No. 1 Cleaner is suitable for a small house, apartment or bungalow. Practical cleaner with the exception of the drum and the motor is made of aluminum. It weighs 13 lbs.

No Dirt Through Fan. A vital difference between the No. 1 and most other small type cleaners is that, instead of the dirt and dust being drawn through the fan, and expelled the fan is placed beyond the closed end of the bag, and the dirt is drawn into the bag; no dirt passes the fan. Dirt going through the fan except where liberal clearances are provided is liable to damage the fan.

Horizontal Bag. The bag being mounted horizontally, the dust and dirt fall to the low variation in the volume of air due to lifting the tool from the work constantly inflates and deflates with the consequent effect of shaking down the dirt. This arrangement is an important feature of Western Electric Cleaners.

Tool Attachment and Extension. The tool is separately attached to the cleaner, taper socket. This arrangement permits the use of an extension for the tool, for cleaning up or other low places, or for a hose connection without dismantling the cleaner or using cumbersome attachments necessary in other cleaners.

Emptying Arrangement. The bag is attached to the front cover and the two are hinged to the cleaner as a unit. The bag therefore need not be opened until it reaches the point of emptying of the dirt. There is no danger of spilling dirt inside the house.

Handle and Locking Device. Another distinguishing feature of the No. 1 Cleaner is the handle hinged to the body of the cleaner in such a way that, in storing the machine in any place, the handle is locked in a vertical position, and a minimum space for storage is required. The device locks the handle at the proper angle for operating the cleaner. It operates with the freedom of the necessity of stooping.

The handle and cord are easily removable from the cleaners. The handle forms a casing for the cord and fits into a connecting socket near the motor. The handle and the incased cord are easily pulled from the handle from the cleaner.

Mounting. The Cleaner is mounted on two wheels just under the motor. These wheels have round rubber tires which give resiliency and exceptionally long wear. They cannot scratch wood floors. The machine is perfectly balanced to get just the right pressure on the tool, with little effort in operation.

General. It will be seen that every possible refinement of detail in design and construction is incorporated in this cleaner. It is a real cleaner—not a toy, and should not be compared with the multiplicity of so-called cleaners on the market, offered at a lower price than a good cleaner could be built for.

List Price and Data

List

No.

1 Cleaner complete with extension cord and cleaning tool.....

Extra Tool Equipment

Tool No.

- 3 Upholstery tool for stairs, upholstery, draperies and rugs.....
- 6 Five inch clothes brush, also for dusting walls, cabinets.....
- 7 Library tool for cleaning books on shelves, pigeon holes in desks, radiators, etc.....
- 16 1½ in. curved floor tool handle.....
- 53 Nine feet 1½ inch hose with taper connection.....
- 54 Hardwood floor attachment with felt covered surface for cleaning polished floors.....

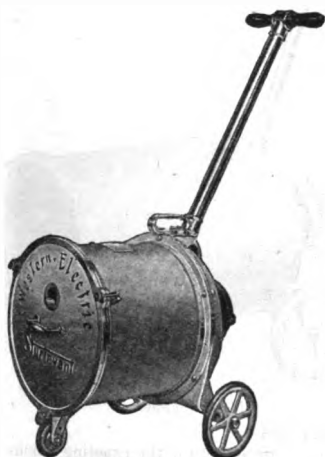
This equipment is not furnished with the cleaner unless ordered specially. Tools listed are adapted to No. 1 Cleaner.

Delivery F. O. B. destination.

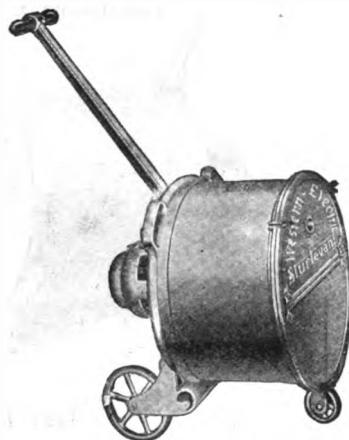
Household Motor Applications

Western Electric

VACUUM CLEANERS



No. 2 Cleaner



No. 3 Cleaner

Nos. 2 and 3 Vacuum Cleaners

These are larger than the No. 1 Cleaner, and are adapted to use in rather large residences with somewhat heavier rugs and furnishings.

General Construction

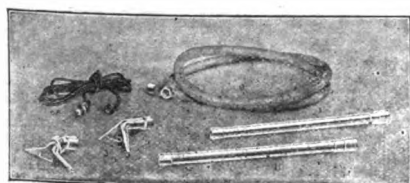
They have the same superior features in respect to the arrangement of the bag, large clearance, high efficiency of the fan, low center of gravity and other essential respects. They are built almost entirely of aluminum with the exception of the drum and the motor, giving an exceedingly light but strong construction. The motor and fan are mounted on the same shaft and run in self-aligning ball bearings in a dust-proof casing.

Operation

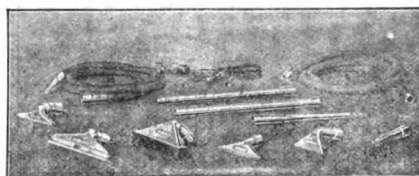
Twelve feet of high-grade, non-collapsible rubber hose and twenty feet of electric cord are furnished with each cleaner, giving the machines a radius of operation of thirty-two feet from the lamp socket. Several rooms can be cleaned without taking down the cord. A slight pull on the hose will draw the cleaner over the floor. They roll easily over door sills and rugs, and because of the horizontal mounting will not topple over like many vertically mounted cleaners. Being perfectly balanced on large cushion tired wheels, they can be rolled from step to step in moving up or down stairs like a perambulator. The ease with which they can be handled is in striking contrast to other cleaners which have to be lifted bodily.

List Prices and Data

List No.		List Price Each
2	Cleaner complete, with tools as listed below.....	\$195.00
3	Cleaner complete, with tools as listed below.....	250.00



Tools for No. 2 Cleaner



Tools for No. 3 Cleaner

Tool Equipments

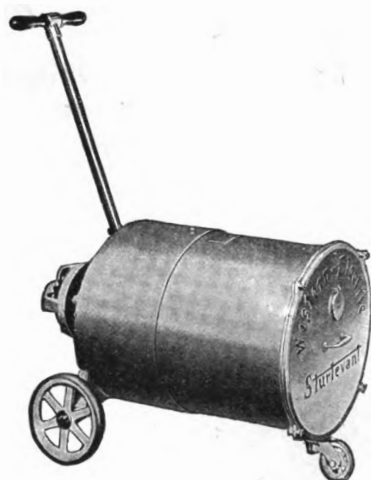
Tools ordered extra; prices are as follows

		List Price Each
For No. 2 Cleaner		
1	8 in. floor tool.....	\$7.50
3	Upholstery tool.....	3.00
112	12 ft. hose with taper connections.....	18.00
16	1 1/4 in. curved floor tool handle.....	8.50
140	20 feet of electric cord with plug.....	4.50
61	Hardwood floor tool attachment (not shown).....	4.50
For No. 3 Cleaner		
1	8 in. floor tool, swivel joint, wide slot.....	\$7.50
3	Upholstery tool.....	3.00
5	10 in. wall brush, swivel joint.....	9.50
141	20 ft. electric cord, plug and switch.....	6.20
112	12 feet of hose (suction) with taper connections.....	18.00
16	1 1/4 in. curved floor tool handle.....	8.50
61	Hardwood floor tool attachment (not shown).....	4.50

Delivery F. O. B. destination.

Western Electric
VACUUM CLEANERS

No. 4 Cleaner



No. 5 Cleaner

No. 4 and No. 5 Cleaners

These are exceptionally high powered portable cleaners. They are designed for the exacting requirements of large office buildings, schools, clubhouses, and other public buildings, where considerable quantities of dirt and litter must be disposed of rapidly and effectually.

Features of Construction

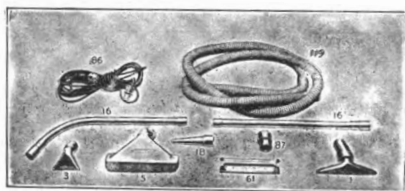
They are equipped with multiple fans. The No. 4 has two fan units and the No. 5 has four fan units. In these so-called multi-stage fans the air is drawn into the first fan and propelled into the fan ahead, receiving an impulse from each fan until it is finally discharged into the exhaust pipe. This gives a much higher velocity and suction than could be attained with a single fan. They have the same superior features of design and construction as the smaller cleaners.

Motor Design

Attention is especially called to the fact that the motors for Western Electric-Sturtevant Vacuum Cleaners have been designed throughout especially for vacuum cleaner work; one object having been to avoid excessive starting currents on alternating current circuits. All sizes of portable cleaners up to and including the No. 5 can be operated from the ordinary lighting circuits without change of fuses. For most other cleaners the fuse capacity must be raised, particularly for the higher powered portable cleaners, beyond the limits permitted by the underwriters.

List No.

	List Price
4 Cleaner complete, with tools as listed below, 110 volts universal.....	\$350.00
4 Cleaner complete, with tools as listed below, 220 volts universal.....	400.00
5 Cleaner complete, with tools as listed below.....	550.00



Tools for No. 4 Cleaner



Tools for No. 5 Cleaner

Tool Equipments

Tools ordered extra; prices are as follows

FOR NO. 4 CLEANER

Tool No.	List Price Each
1 8 in. floor tool.....	\$7.50
3 Upholstery tool.....	3.00
5 10 in. wall brush, swivel joint.....	9.50
16 1 1/4 in. curved floor handle.....	8.50
18 Blowing nozzle.....	2.70

Tool No.	List Price Each
61 Hardwood floor tool attachment...	\$4.50
138 Electric cord plug and switches.....	7.00
87 Reducing coupling.....	3.50
119 12 ft. 1 1/2 in. hose.....	15.50

FOR NO. 5 CLEANER

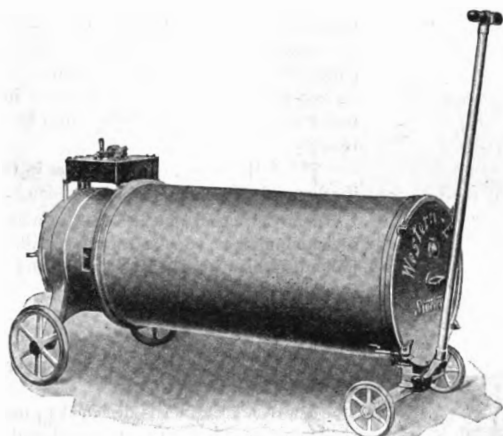
Tool No.	List Price Each
1 8 in. floor tool.....	\$7.50
3 Upholstery tool.....	3.00
4 12 in. hardwood floor tool.....	9.70
6 5 in. clothes brush.....	4.00
7 Library tool.....	6.00
13 25 ft. hose, regular valve (light).....	38.00
14 12 in. floor tool.....	8.00

Tool No.	List Price Each
15 4 in. round wall brush.....	\$9.50
16 Curved floor tool handle.....	8.50
17 Wall handle, 5 feet long.....	8.00
18 Blowing nozzle.....	2.70
138 25 ft. electric cord switch and plug.....	7.00
32 Taper coupling.....	4.30

Household Motor Applications

Western Electric

VACUUM CLEANERS



No. 6 Cleaner

No. 6 Cleaner

The No. 6 is an exceedingly powerful cleaner. It has a multi-stage fan of five fan units driven by a 2 H.P. motor. It has a dust bag capacity of 4600 cu. in. when mounted in the cleaner drum. It is the most powerful and efficient portable cleaner on the market. Designed for street railway, factory and heavy industrial work and will successfully take care of any scrap litter or dirt which would be within the scope of any vacuum cleaning system. It has been built in recognition of the principle that losses of electrical energy transmitted through wires are very low, while losses in velocity, volume and suction of air moving through a piping and hose system are—comparatively—very high. Wherever conditions will permit bringing the cleaning apparatus close to the work this cleaner will give results superior to most stationary cleaner installations of similar capacity and cost.

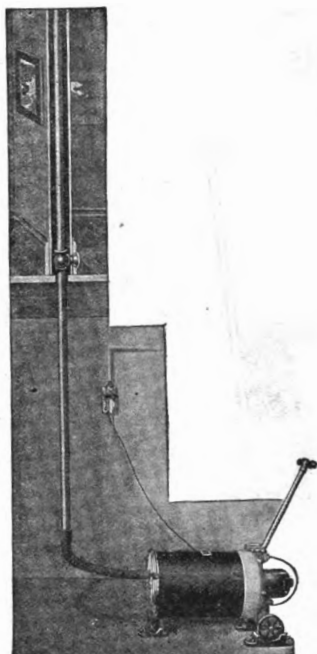
List No.	List Price Each
6 Cleaner complete without tools.....	\$1050.00

Note: The application of this cleaner is so varied that the choice of tools is left to each purchaser to suit his individual requirements.

TABLE OF DATA

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Horse power.....	1/12	1/6	1/6	3/10	1/2	2
Motor universal or not.....	No	No	No	Yes	Yes	No
Net weight less tools.....	14	41	50	70	112	560
Shipping weight with tools.....	33	96	140	140	235	800
Net export.....	56	109	150	151	220	850

VACUUM CLEANER



Combined Portable Stationary Cleaner

The No. 7 combined portable cleaner especially appeals to the owners and builders of apartment house dwellings, as it permits them to equip the house for vacuum cleaning service at a minimum initial investment. On the other hand, the cleaner is necessary for a number of houses.

Second, proprietors of two or three medium sized apartment stores, who, on account of having only a lease on their property do not want to make any expensive installation. Ver-
piping is required and the cleaner may be easily carried from one store to another.

Third, the modern communities in the country where the service is more or less on the community plan.

Fourth, appeals to the small town and municipalities for several buildings, such as the town hall, schoolhouse, fire station, jail, etc., which can easily be piped and this cleaner used effectively.

No. 7 Cleaner

The No. 7 cleaner is designed to use either as a portable or stationary machine. This is an original development; application in the art of vacuum cleaning. A brief consideration of the possibilities and advantages of this system will show the wide range of usefulness. It is the only machine of its kind combining the cleaning power of the stationary machine with the inexpensiveness and portability of the cleaner on wheels.

There is nothing about a stationary vacuum cleaner that requires that it shall be solidly mounted on a furnace, engine or pump. The suctions required are comparatively low and a flexible connection to the piping system is perfectly suitable. In fact, it is preferable in some respects as tending to reduce vibration.

The No. 7 has a two-stage fan and a powerful motor. It is attached to the piping system as shown in the cut. This cleaner will do thoroughly satisfactory work in moderate sized ten or twelve rooms or less where the system can be operated through 25 feet of 2 inch pipe and 1½ inch hose. It has been thoroughly tested out under these conditions in comparison with portable permanently installed stationary cleaners of the same or higher cost and found to give equal or better performance.

Not only is the piping, tool and hose equipment and performance equal in every respect to a permanently installed system, but with the No. 7 there is the added advantage that the cleaner may be connected easily and quickly from the piping system and electric service and taken to another building if desired, a garage, summer home, or house of a friend or relative. Rows of apartment buildings may be piped with separate entrances in the basement, and one or two of these cleaners supply a whole block. Then again there are thousands of houses piped ready for vacuum cleaning service installed. This scheme enables a tenant to install his own machine and take it with him if he moves.

The cleaner rests in iron cradles for the wheels which locate it positively when in use. It has large wide tires for transporting easily over the ground, streets or walks. It can be detached from the permanent system in five seconds. It is furnished with a selected tool equipment for household use.

List No.

- | | | |
|---|--|------|
| 7 | Cleaner complete with tools as listed below 110 volts universal..... | List |
| 7 | Cleaner complete with tools as listed below 220 volts universal..... | |

TOOL EQUIPMENT

Tools ordered extra; prices are as follows:

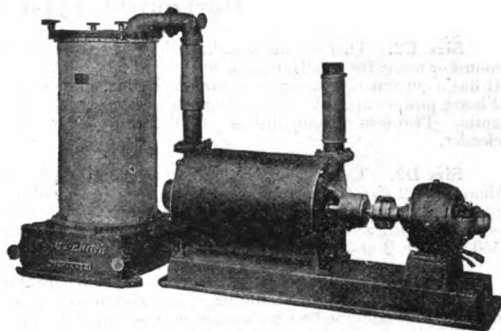
For No. 7 Cleaner

Tool No.	List Price Each	Tool No.	List Price Each
1	8 in. general cleaning tool.....	49	25 ft. 1½ in. hose.....
3	Upholstery tool.....	61	Hardwood floor tool attachment.....
16	1½ in. curved floor handle.....	138	25 ft. No. 16 electric cord with plug and switch.....

Western Electric VACUUM CLEANERS



Vertical Type



Horizontal Type

Stationary Type Vacuum Cleaners

VERTICAL TYPES

Size A. This cleaner is adapted to installation in residences, country homes and small mercantile buildings of fifteen to twenty rooms or less. It is equipped with a universal motor of approximately three-quarter horse power capacity and has a multi-stage fan of 3 units. Tool equipment list No. 38, listed below, is included in the price of the cleaner.

Size B. This is a single sweeper plant adapted to residences, clubhouses or similar buildings of twenty rooms or more, for small hotels of approximately twenty-five rooms, or for small churches or auditoriums. It would have a limited application for schoolhouses or public buildings. It is equipped with a motor of approximately 1 horse power capacity, either alternating or direct current, 110, 220 or 550 volts. It is equipped with a multi-stage fan of 6 units. Tool list No. 38, listed on following page, is included in the price of the cleaner.

Size B2. This cleaner is adapted to installation in small apartment houses or small mercantile buildings of fifteen to twenty rooms or less. It has a capacity of two sweepers operated simultaneously. It is equipped with a motor of approximately 1 horse power capacity, direct or alternating current, 110, 220 or 550 volts. It is equipped with a multi-stage fan having 5 fan units. An equipment of two sets of tools, list No. 38, described on following page, is furnished with and included in the price of the cleaner.

List Prices and Data

List No.	Current	Style	Length	Width	Height	Net Wt.	Shpg. Wt. With Tools	*List Price Each
A	A. C. or D. C.	Vertical	26 ins.	24 ins.	54 ins.	490 lbs.	710 lbs.	\$460.00
B	D. C.	Vertical	26 ins.	24 ins.	64 ins.	630 lbs.	815 lbs.	600.00
B	A. C.	Vertical	26 ins.	24 ins.	64 ins.	630 lbs.	815 lbs.	700.00
B2	D. C.	Vertical	26 ins.	24 ins.	64 ins.	580 lbs.	800 lbs.	640.00
B2	A. C.	Vertical	26 ins.	24 ins.	64 ins.	580 lbs.	800 lbs.	700.00

HORIZONTAL TYPES

Size C. This is a single sweeper plant adapted to installation in the very largest residences with heavy rugs and carpets and elaborate furnishings, also in somewhat larger hotels, clubhouses, churches, etc., than the B size cleaner. It could be used in small schoolhouses and public buildings requiring single sweeper plant, or in small factories making light goods like jewelry, light clothing, etc. This cleaner is equipped with a motor of approximately 2 horse power capacity, either direct or alternating current, 110, 220 or 550 volts. It has a multi-stage fan of 10 units. Tool equipment No. 38, listed on following page, is regularly furnished and is included in the price of the cleaner.

For prices see following page.

Size D. This cleaner will do the best possible cleaning that can be done with a single sweeper plant. It will take care of any size building of any character where one sweeper only is required. It is equipped with a motor of approximately 3 horse power capacity, direct or alternating current, 110, 220 or 550 volts. It has a multi-stage fan of 14 units. Tool equipment No. 39 is regularly furnished with and included in the price of the cleaner.

For prices see following page.

*Delivery F. O. B. Factory, Readville, Mass. For warehouse deliveries write nearest house.

Western Electric
VACUUM CLEANERS

Horizontal Type—Continued

Size C2. This cleaner is adapted to apartment houses, clubhouses or similar buildings of rooms or more, for small hotels of approximately twenty-five rooms, or small office buildings or school. It has a capacity of two sweepers operating simultaneously. It is equipped with a motor of approximately 2 horse power capacity, alternating or direct current, 110, 220 or 550 volts. It has a multi-stage fan unit. Two sets of tools, list No. 38 described below, are furnished with and included in the price of the cleaner.

Size D2. This cleaner is adapted to installation in somewhat larger hotels, club houses, churches than the C2 size cleaner. It would be used in schoolhouses, and public buildings requiring two or more plants, or in small factories making light goods like jewelry, gloves, shirtwaists, or similar products equipped with a motor of approximately 3 horse power capacity, direct or alternating current, 110, 550 volts, 1, 2 or 3 phase. It is equipped with a multi-stage fan of 8 fan units.

Size E. This cleaner will do the best possible cleaning that can be done with a two sweeper plant will take care of any size building of any character where two sweepers are required, operating simultaneously. It is equipped with a motor of approximately 5 horse power, direct or alternating current, 110 or 550 volts, 1, 2 or 3 phase. It is equipped with a multi-stage fan of 12 units. Two sets of tools, list No. 39 described below, are furnished with and included in the price of the cleaner. The weight of the cleaner is 2500 pounds, shipping weight with tools, 3200 pounds.

Size F. This cleaner will do the best possible cleaning that can be done with a three sweeper plant will take care of any size building of any character where three sweepers operating simultaneously required. It is equipped with a motor of approximately $7\frac{1}{2}$ horse power, direct or alternating current, 110 or 550 volts, 1, 2 or 3 phase. It has a multi-stage fan of 12 fan units.

Size G. This cleaner will do the best possible cleaning that can be done with a four sweeper plant will take care of any size building of any character where four sweepers operating simultaneously required. It is equipped with a motor of approximately 10 horse power, direct or alternating current, 110 or 550 volts, 2 or 3 phase. It has a multi-stage fan of 12 fan units.

List No.	Current	Style	Length	Width	Height	Net Wt.	Shpg. Wt. With Tools	*L
C	A. C. or D. C.	Horizontal	66 ins.	25 ins.	32 ins.	1250 lbs.	1600 lbs.	\$
D	A. C. or D. C.	Horizontal	66 ins.	25 ins.	35 ins.	1500 lbs.	2000 lbs.	1
C2	A. C. or D. C.	Horizontal	52 ins.	26 ins.	26 ins.	1425 lbs.	1800 lbs.	
D2	A. C. or D. C.	Horizontal	52 ins.	26 ins.	26 ins.	1600 lbs.	2300 lbs.	1
E	D. C.	Horizontal	52 ins.	26 ins.	26 ins.	2500 lbs.	3200 lbs.	1
E	A. C. 2 & 3 phase	Horizontal	52 ins.	26 ins.	26 ins.	2500 lbs.	3200 lbs.	1
E	A. C. Single phase	Horizontal	52 ins.	26 ins.	26 ins.	2500 lbs.	3200 lbs.	1
F	A. C. or D. C.	Horizontal	.....	.....	.....	3000 lbs.	3600 lbs.	1
G	A. C. or D. C.	Horizontal	.....	.....	.....	3400 lbs.	4000 lbs.	1

Following tool list No. 38 is furnished with A, B, C, B2, C2, and D2 cleaners.

If Ordered Extra, Prices Are as Follows

Tool No.	
3	Upholstery tool.....
4	12 in. hardwood floor tool.....
5	10 in. wall brush.....
14	12 in. carpet tool.....
16	1½ in. curved floor handle.....
49	25 ft. of 1½ in. hose, 1½ x 1½ in. connection (light).....

Following tool list No. 39 is furnished with D, E, F and G cleaners.

If Ordered Extra, Prices Are as Follows

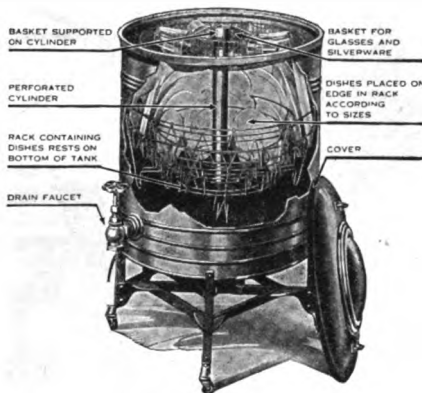
Tool No.	
20	Hardwood floor tool.....
22	1½ in. curved floor handle.....
24	Upholstery tool.....
25	12 in. floor tool.....
29	15 in. wall brush.....
32	1½ in. taper coupling.....
45	50 ft. of 1½ in. hose (2 lengths).....

*Delivery F. O. B. Factory, Readville, Mass. For warehouse deliveries write nearest house.
Household Motor Applications

"GEYSER" DISHWASHER



"Geyser" Dishwasher



Interior View

Electric Dishwasher

Operation. The dishes are brought from the table and prepared in the usual way and set direct into a rack designed to hold the various shapes and sizes, the cups and smaller pieces being placed in the inner circles while the glassware and silver are laid in a wire basket which fits into the top of the machine. About six or eight quarts of water is then run into the tank and a little liquid soap added to makesuds. The rack of dishes and the basket of glasses and silverware are then placed in the machine, the cover fitted on, and the machine started by attaching the cord to any electric lamp socket and turning the switch. Soapy water is forcibly circulated over the dishes by the pump, through the perforated pipe in the center of the machine, until every particle of food and grease is thoroughly washed off. Less than a minute is required for washing the dishes.

Machine Self-cleaned. With the rack and basket out of the tank, running the machine for a minute with clean, hot water left in is sufficient to thoroughly cleanse the tank and pump.

Construction. The "Geyser" Dishwasher is made either of heavy copper, nickel plated or Premier Brand stannic metal, non-rusting, a material suitable for the average home. The center cylinder is of brass and copper nickel plated inside and out, threaded at the top and bottom for convenience in cleansing and ready removal. The racks are made of non-rusting wire and designed to hold a large number of dishes in direct contact with the streams from the cylinder.

Pump. The pump is direct-coupled to motor shaft for 60 cycles and direct current.

Motor. The motor is a Western Electric $\frac{1}{4}$ horse-power especially designed for use with these machines. The motor and pump are placed entirely underneath the tank where they cannot be damaged by water. All castings standard.

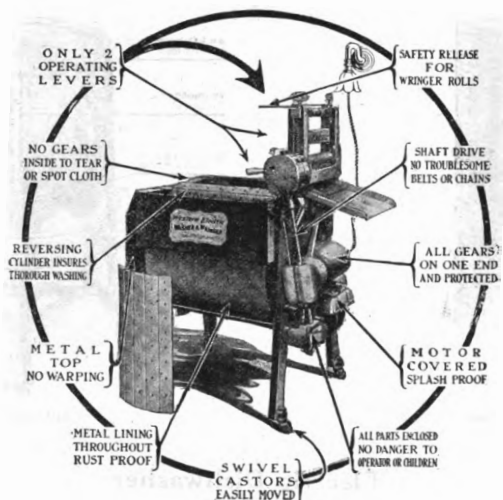
Dimensions. Diameter $25\frac{1}{2}$ inches; length 36 inches.

List No.		List Price Each
A	"Geyser" Dishwasher, equipped with 110 volt motor either direct current or 60 cycles alternating current. It is made of Premier Brand stannic non-rusting metal....	\$170.00
AC	Same as above only made of nickeled copper	220.00

Delivery F. O. B. Factory, Buffalo, N. Y. For warehouse deliveries write nearest house.

Western Electric

Washer and Wringer



Washer and Wringer

All moving parts of the Western Electric Washer are enclosed.

This machine can be operated with perfect safety by any woman or child.

It is the safest washer made and the safest washer made is the safest washer to sell.

It is the only machine that has three free sides around which the operator can work without obstruction.

It occupies less floor space than any other machine of equal capacity.

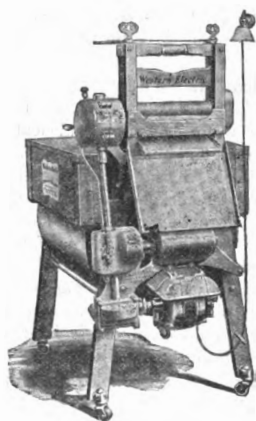
Has patented safety release on wringer which prevents tearing of clothes due to clogged wringer.

There are no bolts or chains to slip or break—no complicated machinery to get out of order. The automatic reverse is accomplished by means of an absolutely new mechanical movement, having by far fewer parts than any other reversing cylinder machine on the market.

Simple. The machine is composed of but 35 parts against more than 100 in the next simplest machine. Operated by only 2 levers—one for washing and one for wringing.

Operation. Machine operates on the reversing cylinder principle, which is conceded by experts to be the only correct method for washing clothes clean and without injury. The wringer has 2 rolls, reversible, and the rolls are made of the best Para rubber. This machine will do the washing of a family of four in one hour at a cost of only 2 cents for electricity.

Sanitary. Tub is completely lined with metal, leaving no crevices or corners for the collection or absorption of impurities. Easily emptied by means of a faucet in bottom of machine.



Washer and Wringer

Type	Material of Body	Capacity		Size of Wringer	Shipping Weight	List Prices
		Sheets	Shirts			
A	Steel	6 or	14	11 ins.	250 lbs.	\$170.00
AC	Copper	6 or	14	11 ins.	250 lbs.	200.00
B	Steel	9 or	20	12 ins.	260 lbs.	220.00
BC	Copper	9 or	20	12 ins.	260 lbs.	270.00
C	Steel	12 or	30	14 ins.	275 lbs.	300.00
CC	Copper	12 or	30	14 ins.	275 lbs.	350.00

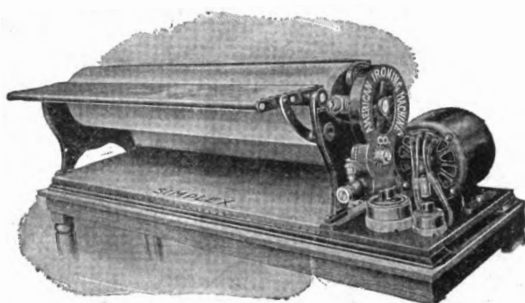
Delivery F. O. B. Chicago, Ill. For warehouse deliveries write nearest house.

Household Motor Applications

10-6

"SIMPLEX" IRONING MACHINES

The "Simplex" Ironers are simple and durable and can be operated with ease and safety by inexperienced help. The principal features of the "Simplex" are: A well padded roller, operating under adjustable spring pressure against an accurately machined and highly polished shoe, its concave face forming contact with the circumference of the padded roll. This shoe inclines to the rear and draws its heat from a burner which extends across its back for the full length. Motor attached machines are furnished with plug connected to ordinary light socket with the exception of the 48 and 56 inch ironers, on which connection should be made direct to the line. Prices include gas or gravity gas-oil burners.

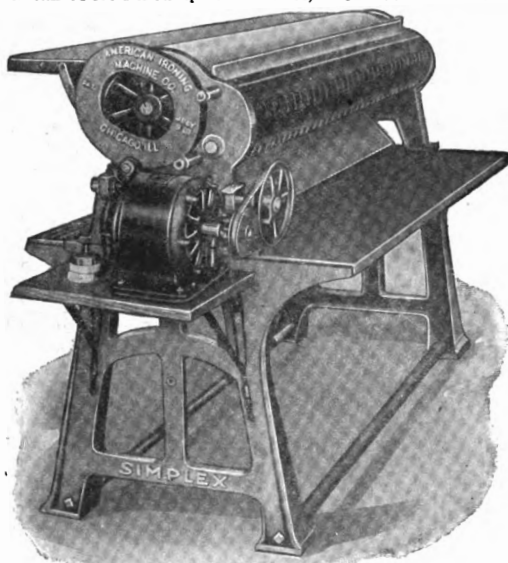


Nos. 32, 37, 42 and 46 Ironers, Motor Driven

Nos. 32, 37, 42 and 46 "Simplex" Ironers

Roll Length Inches	H.P. of Motor	Gas Consumed Cubic Feet per Hour	Gasoline Pints per Hour	K.W. Hour Consumption High	List No.	Hand Power		Belt Driven		Motor Driven		*Extra for Electric Heat Coil
						Wt. Lbs.	*List Price Each	Wt. Lbs.	*List Price Each	Wt. Lbs.	*List Price Each	
32	1/8	17	1/8	2.5	32	135	\$52.50	145	\$75.00	200	\$120.00	\$67.50
37	1/8	20	1	3	37	150	67.50	160	90.00	215	135.00	75.00
42	1/8	23	1 1/8	4	42	190	82.50	200	105.00	255	157.50	97.50
46	1/8	26	1 1/4	4.8	46	350	120.00	360	142.50	420	195.00	112.50

NOTE: Cast iron base can be furnished up to 42 inches, at \$18.00 additional list.



Nos. 48 and 56 Ironers, Motor Driven

Nos. 48 and 56 "Simplex" Ironers

Roll Length Inches	H.P. of Motor	Gas Consumed Cubic Feet per Hour	Gasoline Pints per Hour	K.W. Hour Consumption High	List No.	Hand Power		Belt Driven		Motor Driven		*Extra for Electric Heat Coil
						Wt. Lbs.	*List Price Each	Wt. Lbs.	*List Price Each	Wt. Lbs.	*List Price Each	
48	1/4	27	1 1/4	5	48	500	.....	505	\$210.00	650	\$277.50	\$135.00
56	1/4	33	1 1/2	6	56	575	.....	580	247.50	725	315.00	150.00

Ironing speed per minute, 32, 37, 42 and 46 inch rolls, 7 feet; 48 and 56 inch rolls, 8 1/2 feet.

Speed of pulley on 32, 37, 42 and 46 inch ironers, 580 R.P.M.; 48 and 56 inch ironers, 370 R.P.M.

Diameter of pulley for 1 1/4 inch flat belt, 4 inches; grooved, 1 1/8 inch round belt for Nos. 32, 37, 42, 46, 6 inches; for Nos. 48 and 56, 8 inches. Nos. 46, 48 and 56 are furnished with iron stands.

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries, write nearest house.

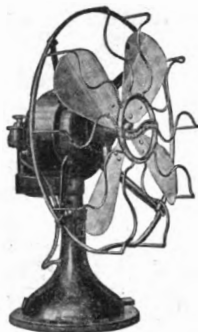
Household Motor Applications

Western Electric

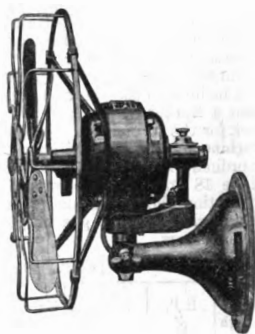
FANS



12 Inch or 16 Inch
Desk and Bracket Fan
Desk Mounting



12 Inch or 16 Inch
Oscillating Fan
For Desk Mounting



12 Inch or 16 Inch
Oscillating Fan
For Bracket Mounting

**FOR 60 CYCLES ALTERNATING AND DIRECT CURRENT CIRCUITS
DESK AND BRACKET AND MECHANICAL OSCILLATING TYPES
DULL BLACK FINISH—DRAWN STEEL FRAME**

List No.	Size	Type	No. Blades	Speed	Watts at High Speed	Weight		*List Price with Plug and Cord
						N. t.	Shipping	
FOR 60 CYCLE—100 TO 120 VOLT CIRCUIT								
W-134126C	*8 ins.	Telephone Booth	4	1400-1200-1000	11	4½	13	\$19.10
W-134110A	*8 ins.	Desk or Bracket	4	1750-1400-1200	20	4½	13	16.40
W-178695B	†8 ins.	Desk or Bracket	4	1550-1350-1150	25	6	12	17.08
W-163557A	12 ins.	Desk or Bracket	4	1625-1500-1350	42	15	28	25.52
W-193563A	12 ins.	Desk or Bracket	6	1050- 975- 900	42	15½	28½	26.52
W-165236B	12 ins.	Oscillating	4	1625-1500-1350	44	17	31	32.60
W-165252B	12 ins.	Oscillating	6	1050- 975- 900	44	17½	31½	33.62
W-163560A	16 ins.	Desk or Bracket	4	1575-1450-1300	75	19	38	30.72
W-177241A	16 ins.	Desk or Bracket	6	1050- 975- 900	75	19½	38½	32.60
W-165239C	16 ins.	Oscillating	4	1575-1450-1300	77	21	43	38.88
W-177430C	16 ins.	Oscillating	6	1050- 975- 900	77	21½	43½	40.70

FOR DIRECT CURRENT—100 TO 115 VOLT CIRCUIT

W-134196B	*8 ins.	Telephone Booth	4	1400-1200-1000	10	4½	13	\$18.10
W-134186A	*8 ins.	Desk or Bracket	4	2100-1500-1000	24	4½	13	15.80
W-163566A	12 ins.	Desk or Bracket	4	1600-1300-1000	25	13	26	22.80
W-163570A	12 ins.	Desk or Bracket	6	1200-975-750	30	13½	26½	23.80
W-165242B	12 ins.	Oscillating	4	1600-1300-1000	27	15	29	29.70
W-165246B	12 ins.	Oscillating	6	1200-975-750	32	15½	29½	30.80
W-163568A	16 ins.	Desk or Bracket	4	1600-1300-1000	43	16	35	26.80
W-177415A	16 ins.	Desk or Bracket	6	1050-850-650	63	16½	35½	28.80
W-165244C	16 ins.	Oscillating	4	1600-1300-1000	65	19	38	25.70
W-177424C	16 ins.	Oscillating	6	1050-850-650	65	19½	38½	27.60

*Series Type Drawn Brass frame.

†Induction type.

SPECIAL FINISHES AND CONVERTING SUB-BASE FOR EIGHT (8) INCH FANS

Special Finishes: For 8 inch fans finished in polished brass, brush brass, mottled copper or white nickel add to list.

Converting Sub-base: For connecting sub-base for 60 cycles 8 inch series fan finished in dull black, which permits this fan to be operated on 25, 30, 40 or 50 cycle A.C. or 100 to 125 volts D.C., list price.

FANS FOR 220 VOLTS AND 30 VOLT CIRCUITS

For all types of fans for 220 volt circuits add to list price of 110 volt fan.

For 30 volt D.C. desk and bracket and oscillating fan add to list price of 110 volt fan.

*Delivery F. O. B. cars at the following points:

Atlanta, Ga.	Cincinnati, O.	Hawthorne, Ill.	Minneapolis, Minn.	New York, N. Y.	St. Louis, Mo.
Belleville, N. J.	Dayton, O.	Kansas City, Mo.	Philadelphia, Pa.	Springfield, O.	
Boston, Mass.	Elizabeth, N. J.	Lynn, Mass.	Pittsburgh, Pa.	Warren, O.	
Chicago, Ill.	Fort Wayne, Ind.	New Orleans, La.	Pittsfield, Mass.		

For warehouse deliveries write nearest house.

Household Motor Applications

Western Electric

FANS

FOR 25, 30, 50 AND 133 CYCLES ALTERNATING CURRENT



8 Inch Desk and Bracket Fan
Desk Mounting



12 Inch or 16 Inch
Oscillating Fan
For Bracket Mounting



12 Inch or 16 Inch
Oscillating Fan
For Desk Mounting

Desk or Bracket and Mechanical Oscillating Types

DULL BLACK FINISH—DRAWN STEEL FRAME

List No.	Size	Type	No. Blades	Speed	Watts at High Speed	Weight		List Price with Plug and Cord
						Net	Shipping	
FOR 25 CYCLE—100 TO 115 VOLT CIRCUITS								
W-134114B	*8 ins.	Telephone Booth	4	1400-1200-1000	11	4½	13	\$19.78
W-134098A	*8 ins.	Desk or Bracket	4	1750-1400-1200	20	4½	13	17.08
W-163543A	12 ins.	Desk or Bracket	4	1600-1250- 850	30	13	26	28.42
W-179103A	12 ins.	Desk or Bracket	6	1050- 800- 500	36	13½	26½	29.22
W-165248B	12 ins.	Oscillating	4	1600-1250- 850	32	15	28	35.50
W-179108B	12 ins.	Oscillating	6	1050- 800- 500	38	15½	28½	36.46
W-163545A	16 ins.	Desk or Bracket	4	1600-1250- 950	70	16	35	33.62
W-177417A	16 ins.	Desk or Bracket	6	1050- 850- 650	70	16½	35½	35.50
W-165250C	16 ins.	Oscillating	4	1600-1250- 950	72	18	40	41.64
W-177426C	16 ins.	Oscillating	6	1050- 850- 650	72	18½	40½	43.60
FOR 40 CYCLE—100 TO 125 VOLT CIRCUITS								
W-134118	*8 ins.	Telephone Booth	4	1400-1200-1000	11	4½	13	\$19.44
W-134102	*8 ins.	Desk or Bracket	4	2100-1500-1000	24	4½	13	16.74
W-163547B	12 ins.	Desk or Bracket	6	1075-1000- 950	40	15	28½	27.40
W-165232C	12 ins.	Oscillating	6	1075-1000- 950	42	17	31	34.56
W-163549B	16 ins.	Desk or Bracket	6	1050- 950- 875	80	19	40	33.62
W-165234C	16 ins.	Oscillating	6	1050- 950- 875	82	21	43	41.64
FOR 50 CYCLE—100 TO 120 VOLT CIRCUITS								
W-134122B	*8 ins.	Telephone Booth	4	1400-1200-1000	11	4½	13	\$19.10
W-134106A	*8 ins.	Desk or Bracket	4	2100-1500-1000	24	4½	13	16.40
W-178710B	*8 ins.	Desk or Bracket	4	1375-1275-1175	27	4½	13	17.08
W-163551B	12 ins.	Desk or Bracket	4	1375-1275-1175	35	15½	28	25.52
W-179105A	12 ins.	Desk or Bracket	6	925- 875- 825	35	15½	28½	26.52
W-165255B	12 ins.	Oscillating	4	1375-1275-1175	37	17	31	32.60
W-179110B	12 ins.	Oscillating	6	925- 875- 825	37	17½	31½	33.62
W-163554A	16 ins.	Desk or Bracket	4	1375-1275-1175	70	19	38	30.72
W-177419A	16 ins.	Desk or Bracket	6	925- 875- 825	70	19½	40½	32.60
W-165258C	16 ins.	Oscillating	4	1375-1275-1175	72	21	43	38.82
W-177428C	16 ins.	Oscillating	6	925- 875- 825	72	21½	43½	40.70

*Series Type drawn brass frame.

†Induction Type.

SPECIAL FINISHES

Special Finishes: For 8 inch fans finished in polished brass, brush brass and mottled copper, add to list price. \$1.70

FANS FOR 133 CYCLE CIRCUITS

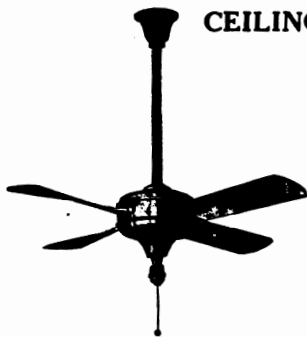
For 133 cycle 4 blade desk and bracket oscillating and exhaust fans in cast iron frame (Same price as corresponding type of 60 cycle fans)

FANS FOR 220 VOLT CIRCUITS

For all types of fans for 220 volt circuits add to list of 110 volt fans. \$2.38

Western Electric

CEILING AND COLUMN TYPE FANS



32 Inch Alternating Ceiling Fan Two Speeds



32 Inch Direct-Current Ceiling Fan

Alternating and Direct Current

The leading characteristics of the Western Electric ceiling and column fans are their small current consumption, quiet operation, and the small amount of attention required for their maintenance.

The standard fans are equipped with blades to throw the air downward, but if desired these blades can be arranged to reverse the air flow, an arrangement which is sometimes desirable where the fan might disturb papers, as in offices and banks. Such fans are supplied without extra charge.

The Western Electric 32 inch ceiling fans are specially designed for use in hotels, small offices, and narrow hallways.

The Western Electric 56 inch and 58 inch ceiling fans are recommended for use in large hotels, theaters, restaurants, offices and stores.

Finishes. Standard finishes are black enamel, white enamel and mottled copper, as listed on preceding pages. Other special finishes can be supplied at a slight advance in price.

Construction. The alternating current fans are of the induction type and direct current motors are series wound. The alternating current fans use ball bearings, and the shafts being of hardened steel insure a long life without appreciable wear.

Lubrication. The lower bearings of the 32 inch and 56 inch fans are immersed in oil, and when the motor is in operation this oil is pumped upward along the shaft by means of a spiral groove on the shaft, and flows back into the reservoir around the bearings. This insures a perfect circulation of oil, and one filling of the oil reservoir a year is sufficient for these parts.

Blades. The standard fan is equipped with four blades. The 58 inch and 56 inch fans have wooden blades with mahogany finish, and the 32 inch direct current fans have wooden blades with natural finish. The 32 inch alternating current fans have aluminum blades with frosted finish.

Electrolier Attachment. The 56 inch fan can be arranged for two light or four light electrolier attachment.

The 32 inch fan can be arranged for single light or two light electrolier attachment, the lamps being mounted below the blades.

DIMENSIONS

The 32 inch A.C. fan is 37 $\frac{1}{4}$ inches in height. The 32 inch D.C. fan is 36 inches in height. The 56 inch A.C. fan is 49 $\frac{1}{2}$ inches in height. The 56 inch D.C. fan is 50 $\frac{1}{4}$ inches in height. The 58 inch D.C. fan is 55 $\frac{1}{2}$ inches in height.

Column Fans

The column fans are identical in construction with the ceiling fans, and are made with 56 inch sweep. The blades of the floor column fans are 7 feet above the floor, and counter column fans can be furnished in heights of 36 $\frac{1}{2}$, 44 and 48 inches. Where no height is specified the fan with 44 inch column will be supplied.

SUSPENSION DETAILS FOR CEILING FANS

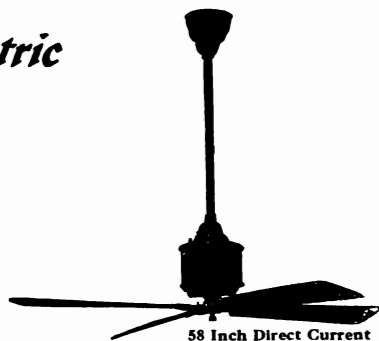
A ceiling canopy, a ceiling hook, and an insulating hanger are furnished with each fan. Other suspension details are furnished as shown in the following table. Stem and casing, when furnished, suitable for 12 foot ceilings.

List No.	Fan		Finish	Canopy	Stem	Rope Design Stem Casing	Additional List Price Stem and Casing per Foot or Fraction Thereof
	Current	Diam.					
371042	A.C.	56 ins.	Mottled copper	Mottled copper	3 ft. iron conduit	3 ft. mottled copper	\$1.42
371043		56 ins.	Black enamel	Black enamel	"	Not furnished	.....
371044		32 ins.	Mottled copper	Mottled copper	2 ft. iron conduit	2 ft. mottled copper	1.42
371045		32 ins.	White enamel	White enamel	2 ft. white enamel	Not furnished	.48
371046		32 ins.	Black enamel	Black enamel	"	Not furnished	.....
371047	D.C.	56 ins.	Mottled copper	Mottled copper	3 ft. iron conduit	3 ft. mottled copper	1.42
371048		56 ins.	Black enamel	Black enamel	"	Not furnished	.....
371049		58 ins.	Black enamel	Black enamel	"	Not furnished	.....
371050		32 ins.	Black enamel	Black enamel	2 ft. white nickel	Not furnished	.48
371051		32 ins.	White enamel	White nickel	2 ft. white nickel	Not furnished	.48

*Black enameled iron conduit used. Furnished threaded at both ends for \$0.27 list per foot or fraction thereof on special order.



56 Inch Alternating Current Ceiling Fan Mottled Copper with Electroliner Attachments



58 Inch Direct Current Ceiling Fan Black Enamel Finish

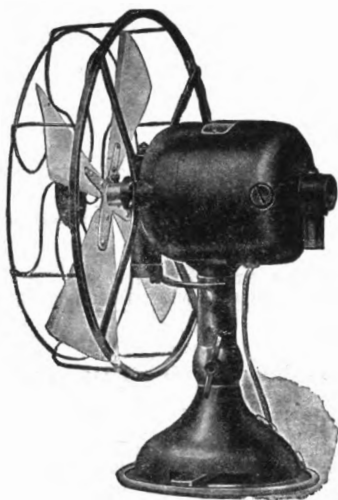
Ceiling and Column Fans FOR ALTERNATING AND DIRECT CURRENT

List No.	W. E. No.	Size	Finish	No. of Speeds	Speeds	Watts at High Speed	Weight		List Price
							Net	Shipping	
FOR DIRECT CURRENT—100 TO 115 VOLT CIRCUIT									
370295	W-142050	*32 ins.	Black enamel	1	400	50	30	55	\$32.34
370297	W-142051	*32 ins.	White enamel	1	400	50	30	55	33.28
370301	W-221998	58 ins.	Black enamel	1	215	140	67	112	35.98
370537	W-196110	56 ins.	Black enamel	3	225-160-100	110	50	95	43.00
370538	W-196108	56 ins.	Mottled copper	3	225-160-100	110	50	91	45.96
60 CYCLES—100 TO 115 VOLT CIRCUIT									
370526	W-165228	32 ins.	Black enamel	1	440	65	24	50	\$39.90
370317	W-165230	32 ins.	White enamel	1	440	65	24	50	44.22
370309	W-165226	32 ins.	Mottled copper	2	440-340	65	24	50	44.22
370336	W-134140	56 ins.	Black enamel	2	225-160	150	56	90	49.88
370328	W-134131	56 ins.	Mottled copper	3	225-160-100	150	56	94	55.08
FOR 50 CYCLES—100 TO 115 VOLT CIRCUITS									
370329	W-174400	32 ins.	Black enamel	1	440	60	24	50	\$39.90
370315	W-174502	32 ins.	White enamel	1	440	60	24	50	44.14
370307	W-174400	32 ins.	Mottled copper	2	440-340	60	24	50	44.14
370335	W-164312	56 inß.	Black enamel	2	225-160	160	56	90	49.88
370327	W-164310	56 ins.	Mottled copper	3	225-160-110	160	56	94	55.08
FOR 40 CYCLES—100 TO 115 VOLT CIRCUITS									
371011	W-174482	32 ins.	Mottled copper	2	375-340	60	24	50	\$47.20
371012	W-174504	32 ins.	White enamel	1	375	60	24	50	47.20
371013	W-174498	32 ins.	Black enamel	1	375	60	24	50	43.34
371014	W-134132A	56 ins.	Mottled copper	3	195-160-110	170	56	94	58.32
371015	W-134138A	56 ins.	Black enamel	2	195-160	170	56	90	53.46
FOR 25 CYCLES—100 TO 115 VOLT CIRCUITS									
370319	W-174500	32 ins.	Black enamel	1	440	60	24	50	\$45.56
370311	W-174506	32 ins.	White enamel	1	440	60	24	50	49.88
370303	W-174494	32 ins.	Mottled copper	2	440-340	60	24	50	49.88
370333	W-134136A	56 ins.	Black enamel	2	225-165	155	56	90	55.62
370325	W-134130A	56 ins.	Mottled copper	3	225-165-100	155	56	94	60.82
COUNTER COLUMN FANS—DIRECT CURRENT—110 TO 125 VOLT CIRCUIT									
371120	W-196116	56 ins.	Mottled copper	3	225-160-100	110	78	150	\$63.46
371121	W-196118	56 ins.	Black enamel	3	225-160-100	110	78	150	56.36
ALTERNATING CURRENT—60 CYCLES—100 TO 115 VOLT CIRCUITS									
371016	W-134146	56 ins.	Mottled copper	3	225-160-100	150	68	140	\$69.06
371017	W-134152	56 ins.	Black enamel	2	225-160	150	68	140	64.00
FLOOR COLUMN FANS—DIRECT CURRENT—110 TO 125 VOLT CIRCUIT									
371122	W-196112	56 ins.	Mottled copper	3	225-160-100	...	117	230	\$68.04
371123	W-196114	56 ins.	Black enamel	3	225-160-100	...	117	230	60.82
ALTERNATING CURRENT—60 CYCLES—100 TO 115 VOLT CIRCUITS									
371124	W-134168	56 ins.	Mottled copper	3	225-160-100	150	112	212	\$73.50
371125	W-134164	56 ins.	Black enamel	2	225-160	150	112	212	68.44

Extra length of non-adjustable hanger rod and casing for mottled finish ceiling fan motors per ft. or a fraction thereof... \$1.42
 Length of iron conduit threaded both ends, for black enamel finish ceiling fan motor except 32 in. per ft. or fraction thereof... .28
 Extra length of iron conduit for white enamel and 32 in. black enamel finish ceiling fan motors, only per ft. or fraction thereof... .48
 Electroliner attachments (nipples and wiring, not including sockets, shade holders) for all ceiling fan... except 32 in. direct current... \$3.78
 For 2 or 4 lights, \$3.78. For single light on 32 in. fan, \$3.04. For 2 light with pendant switch on 32 in. direct current fan, \$3.78
 For 2 light with pull switch for mottled copper finish ceiling fan motors only... \$4.26
 Extra length adjustable hanger rods for mottled copper finish ceiling fan motors only... \$4.26
 Style No. 151234. For 12 1/4 ft. to 15 1/4 ft. ceilings... \$4.26
 Style No. 151235. For 13 1/4 ft. to 18 1/4 ft. ceilings... \$5.68
 Above fans furnished for 220 volt circuits, add to list... \$2.36
 Prices and data on 40 and 12 1/2 cycle ceiling fans, and on counter and floor column fans for operation on 25 to 30, 50 and 60 cycles and on direct current circuits will be furnished on application.

OSCILLATING FANS

Direct and Alternating Current



8 inch Oscillator

Diehl 8 Inch Oscillating Fans

Four Blades

The Diehl 8 Inch Oscillators create air movement over all parts of a widely extended area, the swing or oscillating motion being so timed that there is no space within its range in which the air is even momentarily "dead." The use of a desirable number of these fans in large rooms, offices and places of like character has two distinct results: First, by a proper combination of angles the whole enclosure is efficiently and gently relieved of "dead" air. Second, individual units or groups within range of each fan receive a direct and pleasing breeze. They combine extremely light weight, mechanical and electrical excellence, attractive appearance and low operative cost, the current consumption being less than one half of that of the ordinary incandescent lamp.

CONSTRUCTION

Enclosure. Body and gears are entirely enclosed in a dustproof die cast shell, which is both light and strong.

Gears. Gears are few in number and constructed upon simple mechanical principles. Positive non-slipping oscillation is the result.

Adjustment. 8 inch oscillating fans may be used in either standard desk positions or as wall brackets.

Motion. Actuated by gears the fans body turns or oscillates upon a swivel, the extreme distance of turn being 90 degrees, or "quarter way 'round."

Finish. Body, stem, base and guard are finished in dull black; blades in polished brass.

Base. The base is broad enough to insure stability and is in keeping with the general contour of the fan.

Regulation. A regulator mounted in the base provides a range of three speeds, one of which will be found adaptable to the moment's desire. Base and rubber pad have drilled holes to admit a standard size screw for bracket mounting.

FOR ALTERNATING CURRENTS

List No.	Volts	Cycles	List Price Eac
077606	100-110	60	\$24.0
077616	111-120	60	24.0
077626	200-230	60	26.0
077605	100-110	50	24.0
077615	111-120	50	24.0
077625	200-230	50	26.0
077614	120	40	25.0
077602	110-115	25-30	27.0
077611	110	120-133	24.0

FOR DIRECT CURRENT

776	110-220	.....	\$23.0
777	220-240	.....	25.0

NOTE: Prices do not include cord or attachment plug.

For 6 foot cord and plug, add \$1.00 list.

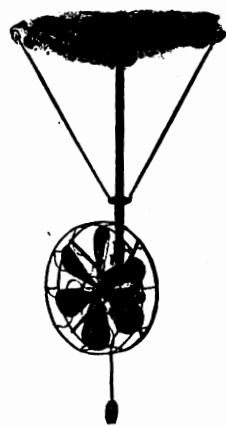
FAN SPECIALTIES



No. 203086
Tripod Cotter Pin Suspension Style



8 Inch Battery Fan



No. 203087
Stay Rod Suspension Type

Telephone Operating Room Fans

These fans have been designed to meet the special requirements of telephone companies for a slow speed, noiseless, easy running fan for use in telephone operating rooms.

These fans, which are modified types of Western Electric standard fans, are furnished in two styles, tripod cotter pin suspension type and the stay rod suspension type. Each type of fan is furnished for both direct and alternating current. The tripod cotter pin suspension type in the 16 inch size and the stay rod suspension type in the 12 inch size. Both types are furnished with 6 blade drawn steel frame fans with blade guards and screws finished in black.

16 Inch Size

Style No. of Fan	Style No. Suspension	Size	Current or Cycles	Volts	Speed R.P.M.	*List Price Each
S-203081	S-203088	16 ins.	60	100-125	1050	\$75.00
S-203082	S-203088	16 ins.	60	200-250	1050	79.00
S-203085	S-203088	16 ins.	D.C.	100-115	1050	77.50
S-203086	S-203088	16 ins.	D.C.	200-230	1050	81.00

12 Inch Size

Style No. of Fan	Style No. Suspension	Size	Current or Cycles	Volts	Speed R.P.M.	*List Price Each
203079	203087	12 ins.	60	100-125	1050	\$64.00
203080	203087	12 ins.	60	200-250	1050	67.50
203083	203087	12 ins.	D.C.	100-115	1200	65.00
203084	203087	12 ins.	D.C.	200-230	1200	68.50

Knapp 8 Inch Battery Fan

Type B. F.

A portable model of simplicity for the home, office or sickroom.

POINTS OF CONSTRUCTION

Armature, laminated. Field, two-pole. Commutator, drawn copper segments, insulated with mica. Brushes, copper gauze, self-adjusting. Oil cups, wick feed. Base, fitted with starting switch. Finish, black japan, with brass polished fan and guard.

BATTERY

This is an ideal outfit with a 6 volt storage battery. Twenty good dry cells, 6 x 2½, connected 5 in series, 4 multiples, if run three hours per day will last for 200 hours upward; more continuous work will lessen the total run.

The box for 20 dry cells is wired complete and a diagram furnished, showing how to put in the cells and connect.

Performance: Speed, 1600 R.P.M. Volts, 6. Amperes, 1.

List No.	Mfr. No.		List Prices and Data	†List Price Each
370380	145	B. F. Motor, 8 in. fan and guard (no cord or battery)		\$10.00
370381	112	Box for 20 cells (less cells)		1.34
370382	110	6 ft. connecting cord, flexible . . . . .		.67

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

†Delivery F. O. B. New York. For warehouse deliveries write nearest house.

Western Electric
EXHAUST FANS4-Blade 12 or 16 Inch
Exhaust Fan6-Blade 12 or 16 Inch
Exhaust FanSpeed Regulator
For 12 or 16 Inch
Exhaust Fan

Alternating and Direct Current

Small Western Electric ventilating outfits are recommended for use in kitchens, grill rooms, chemical laboratories, restaurants, etc., to draw off the heated and vitiated air or fumes and replacing with pure, fresh air from outdoors. This change is effected without the creation of draughts. The fans are supported in frames suitable for mounting in wall openings and should, wherever possible, exhaust into the open air.

BLACK ENAMEL FINISH—DULL BLACK BLADES—CAST IRON FRAME

List No.	W. E. No.	Size	Voltage	Speeds	Watts at High Speed	No. of Blades	Weight		*List Price
							Net	Shipping	
FOR DIRECT CURRENT CIRCUITS									
370403	W-196673A	12 ins.	100-115	1050	24	6	25½	42½	\$25.18
370405	W-196675A	16 ins.	100-115	1050	62	6	30	52½	29.98
FOR 60 CYCLE CIRCUITS									
370389	W-196689A	12 ins.	100-120	1075	36	6	25½	42½	\$25.18
370399	W-196691A	16 ins.	100-120	1050	90	6	27½	43½	29.98
FOR 50 CYCLE CIRCUITS									
370388	W-196685A	12 ins.	100-120	930	36	6	25½	42½	\$25.18
370398	W-196687A	16 ins.	100-120	925	85	6	30	52½	29.98
FOR 40 CYCLE CIRCUITS									
371024	W-196681A	12 ins.	110-125	1100	31	6	25½	42½	\$25.18
371025	W-196683A	16 ins.	110-125	1050	80	6	30	52½	29.98
FOR 25 TO 30 CYCLE CIRCUITS									
370383	W-139979	12 ins.	105-115	1300	50	4	25	42	\$25.66
370393	W-139981	16 ins.	105-115	1275	80	4	30	52	29.98

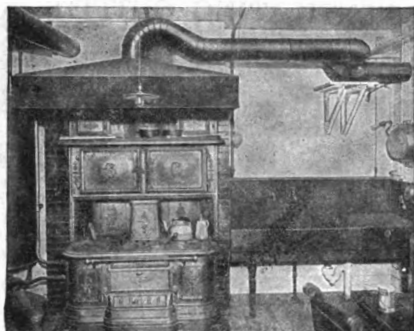
SPEED REGULATORS FOR EXHAUST FANS—110 VOLTS

List No.	W. E. No.	Volts	For Fan W. E. No.	Speeds		For Fan Size	No. of Blades	Weight		List Price
				Min.	Max.			Net	Shipping	
DIRECT CURRENT										
370408	W-196697	105-115	W-196673	1075	600	12	6	25	42	\$3.78
370410	W-196699	105-115	W-196675	1050	600	16	6	30	52	4.26
ALTERNATING CURRENT—60 CYCLES CIRCUIT										
370418	W-196709	100-120	W-196689	1075	925	12	6	25	42	\$3.78
370426	W-196711	100-120	W-196691	1050	875	16	6	30	52	4.26
FOR 50 CYCLE CIRCUITS										
370416	W-196705	100-120	W-196685	930	830	12	6	25	42	\$3.78
370424	W-196707	100-120	W-196687	925	800	16	6	30	52	4.26
FOR 40 CYCLE CIRCUITS										
371028	W-196701	100-125	W-196681	1100	925	12	6	25	42	\$3.78
371029	W-196703	100-125	W-196683	1050	850	16	6	30	52	4.26
FOR 25 TO 30 CYCLES										
371026	W-139999	105-115	W-139979	1300	1250	12	4	25	42	\$3.78
371027	W-140000	105-115	W-139980	1275	1125	16	4	25	52	4.26

*For delivery see preceding pages.

Household Motor Applications

STURTEVANT VENTILATING SETS



Modern Kitchen Equipped with Ventilating Set

Ready-to-Run Ventilating Sets

Adaptability: Although primarily ventilating sets, their varied applications for blowing, exhausting, cooling and drying purposes have proved the ready-to-run ventilating sets of more value than ordinary ventilating fans. Light, compact and self-contained, they are not only "ready-to-run" as their name implies, but portable as well. The purchaser of one of these smaller sets will find that he may easily move it from place to place, attaching it to the most convenient lamp socket, and that it will serve him in numberless ways.

Uses: Ready-to-run sets are in use ventilating offices, telephone booths, bedrooms, kitchens, stores, clubrooms, railroad and electric cars, theatres, restaurants, engine rooms, toilets, ships, etc.; for cooling vaults, electric motors, printers' inking rolls, photographic dark rooms, and stuffy, poorly ventilated rooms; for quickly drying paints and varnishes, tubs and vats in breweries, for exhausting fumes from vats, steam and odors from kitchens and laboratories, and smoke from smoking rooms; cooling spark gaps in wireless telegraphy, and in fact for countless purposes too diversified and numerous to mention.

Construction: The ready-to-run ventilating set consists of a small volume fan wheel of the well-known Sturtevant Multivane type, the most efficient commercial fan in the world, enclosed in a casing of pressed steel and driven by a Western Electric Motor on the same shaft. Casing and motor are securely fastened together and arrangement is made so that the blower can discharge vertically upward or downward, or horizontally in either direction.

An inlet and outlet connection permit the attachment of inlet or outlet pipes. Air from outside may be blown into an apartment, or the air may be exhausted from it and discharged outside; in either case a positive change of air being assured.

Sizes: Five sizes of ready-to-run blowers are built, the first four of which may be run from a lamp socket by merely turning the lighting switch. The largest of these sets, known as the size E, is equipped with a starting box and is wired in a fixed position, it being too heavy to be easily portable.

The following table gives useful information for the purchaser in deciding the set best suited for his needs.

The following prices and data cover sets wound for 110, 220 volt D.C. and 110, 220 volt 60 cycle single phase A.C.

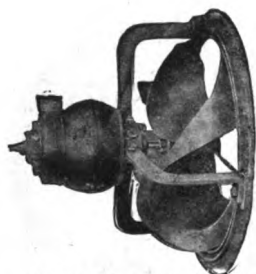


Ready-to-Run Ventilating Set

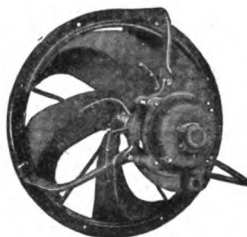
Size	Speed	Volume Wide Open Cu. Ft. Min.	Height Inches	Outside Diam. Inlet Inches	Outside Diam. Discharge Inches	Net Weight A.C.	List Price A.C. or D.C. Complete with Starter if necessary
A	850	35	8 3/8	4 1/8	3 1/8	13	\$56.00
A	1150	50	8 3/8	4 3/8	3 3/8	13	56.00
A	1750	75	8 3/8	4 3/8	3 3/8	13	56.00
B	3400	150	8 3/8	4 3/8	3 3/8	13	56.00
B	1150	120	10 1/8	5 1/8	3 3/8	25	72.00
B	1750	180	10 1/8	5 1/8	3 3/8	25	72.00
B	3400	350	10 1/8	5 1/8	3 3/8	25	80.00
C	1150	250	12 3/8	6 3/8	5 1/8	32	88.00
C	1750	400	12 3/8	6 3/8	5 1/8	32	96.00
D	850	450	17 3/8	8 3/8	6 3/8	88	112.00
D	1150	600	17 3/8	8 3/8	6 3/8	88	130.00
D	1750	950	17 3/8	8 3/8	6 3/8	88	176.00
E	700	775	22 3/8	11 3/8	7 3/8	120	176.00
E	850	925	22 3/8	11 3/8	7 3/8	120	208.00
E	1150	1150	22 3/8	11 3/8	7 3/8	120	240.00

Delivery F. O. B. Readville, Mass. For warehouse deliveries write nearest house.

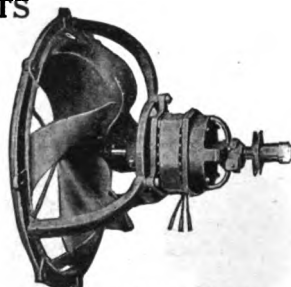
Western Electric VENTILATING OUTFITS



*Constant Speed D.C. Motor
Connected to Davidson Fan



*Constant Speed Induction Motor
Connected to Davidson Fan



Variable Speed Induction Motor
Connected to Davidson Fan

DAVIDSON EXHAUST FAN OUTFITS

These outfits consist of a motor of the open or totally enclosed type, a strong supporting tripod, set of fan blades, and in the case of the direct current motors a speed regulator. Standard Western Electric motors are used exclusively on these outfits. These motors represent the most advanced electrical and mechanical improvements in motor construction. The motor speeds are those at which the fan should revolve to move a maximum volume of air, the motors being designed for most efficient operation at these speeds.

The direct current outfits are equipped with armature speed regulator capable of producing a 50 per cent. reduction in the speed. The alternating current outfits are furnished for constant or variable speed.

A.C. Constant Speed Outfits, with 60 Cycle Single Phase Open Motors

Diameter of Fan in Inches	*Approx. Air Delivered in Cu. Ft. per Minute	Sync. Speed R.P.M.	Volts	Shipping Weight Lbs.	Approx. H.P.	Mfr. No. Speed Reg.	Motor Frame	**List Price	
								Horizontal	Vertical
18	2600	900		180	$\frac{1}{8}$	....	110	\$160.00	\$180.00
24	4100	600		245	$\frac{1}{8}$	....	120	200.00	240.00
30	8000	600	110	400	$\frac{1}{2}$	....	140	260.00	300.00
36	13000	600	and	590	1	....	161	330.00	370.00
42	16000	450	220	700	1	....	180	380.00	430.00
48	24000	450		775	2	....	201	452.00	.....

A.C. Constant Speed Outfits with 60 Cycle Polyphase Enclosed Motors

18	2600	900		160	$\frac{1}{8}$	....	110	\$138.00	\$158.00
24	4100	600	110	225	$\frac{1}{8}$	....	120	174.00	204.00
30	8000	600	220	375	$\frac{1}{2}$	....	140	234.00	264.00
36	13000	600	440	545	1	....	160	292.00	322.00
42	16000	450	and	655	1	....	180	340.00	370.00
48	24000	450	550	730	2	....	201	418.00	.....

D.C. OUTFITS WITH SERIES WOUND ENCLOSED MOTORS

18	2812	925	115		$\frac{1}{8}$	59607	RT- $\frac{1}{4}$ -D	\$130.00	\$150.00
	2812	925	230	190	$\frac{1}{8}$	59619		130.00	150.00
	2812	925	550		$\frac{1}{8}$	59631		138.00	156.00
	5200	725	115		$\frac{1}{8}$	59608		164.00	184.00
24	5200	725	230	260	$\frac{1}{8}$	59620	RT- $\frac{1}{2}$ -D	164.00	184.00
	5200	725	550		$\frac{1}{8}$	59632		170.00	190.00
	8433	600	115		$\frac{1}{2}$	59609		214.00	234.00
30	8136	600	230	410	$\frac{1}{2}$	59621	RT-1-D	214.00	234.00
	7750	550	550		$\frac{1}{2}$	59633		220.00	240.00
	12400	510	115		1	59611		288.00	308.00
36	12400	510	230	550	1	59623	RT-2-D	288.00	308.00
	11650	480	550		1	59635		296.00	316.00
	16350	425	115		$1\frac{1}{2}$	59611		340.00	370.00
42	15390	400	230	800	$1\frac{1}{2}$	59623	RT-3-D	340.00	370.00
	14610	390	550		1	59635		350.00	380.00
	21300	370	115		2	59612		470.00	500.00
48	21300	370	230	1100	2	59624	RT-5-D	470.00	500.00
	19250	335	550		2	59636		480.00	510.00

*The air deliveries are for free delivery and are supplied by the fan manufacturers, but are not guaranteed by the company.

**Delivery F. O. B. Bloomfield, Boston, Chicago, Cincinnati, Cleveland, Erie, Ft. Wayne, Lynn, Madison, Milwaukee, New York, Jersey City, Hoboken, Philadelphia, Pittsburgh, St. Louis or Schenectady for warehouse deliveries write nearest house.

Household Motor Applications

WESTERN ELECTRIC SEWING MACHINE MOTOR



Sewing Machine Motor



Pedal

Western Electric Sewing Machine Motor

This simple little wonder-worker changes any sewing machine, old or new, into an electric self-operative labor saver.

It is mounted on the sewing machine and ready for work without removing any part of the mechanism of the sewing machine, except the belt, which may be readily slipped off.

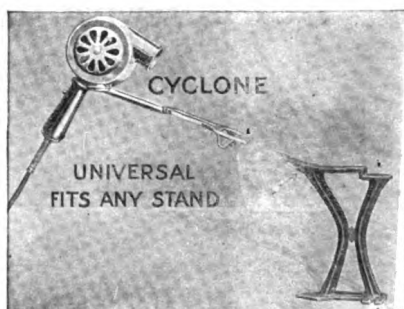
No matter what the make or style of your machine, or how old it is, the Western Electric Sewing Machine motor will relieve you of the treadmill grind of running it.

Just place the motor on your machine next the wheel. Attach the plug to any electric light socket; then place the little pedal on the floor. A slight pressure of your toe starts the wheel. Don't work your foot. Just press a bit harder to go faster, no effort is required; no exertion whatever. You touch the wheel, it will turn right automatically. No broken threads; no jerks. Just a silent, steady motion which stops the instant you remove foot from pedal. All kinds of sewing can be done. Without extra pressure it will put the needle through several plies of heaviest fabric. You can do fancywork, quilting, etc., and all the attachments are more easily used because your attention is undivided. The cost of running is scarcely more than a small 8-candle power light. Guaranteed against electrical or mechanical defects for a period of one year.

List No.		*List Price
371056	Sewing machine motor, Jack Rabbit Type, 110 to 120 Volt A.C. or D.C.....	\$21.00
371065	Sewing machine motor, Jack Rabbit Type, 250 volt A.C. or D.C.....	22.50
371066	Cork pulley.....	.80

*Delivery F. O. B. Factory, Racine, Wis. For warehouse deliveries write nearest house.

ELECTRIC HOUSEHOLD APPLIANCES

Hair Dryer

Shoe Dryer
Electric Hair Dryer

The Electric Hair Dryer is an excellent device for professional hair dressers and for private use.

By turning the key switch one step to the right it delivers a strong breeze of cool air; a second turn to the right and the machine will throw a powerful breeze of warm air that will dry a heavy head of hair in seven or eight minutes.

List No.		*List Price Each
370528	Electric Hair Dryer No. 1, heavy type.....	\$33 00
371057	Pedestal for No. 1.....	7 70
371058	Electric Hair Dryer No. 2, light type.....	21.00
371059	Electric Hair Dryer No. 3, light type.....	15.00

Electric Shoe Dryer

The H.B. Cyclone Shoe Dryer is portable, very light, efficient, durable and foolproof. Has a universal support which fits any stand so that one shoe can be dried while the other is being treated with polish. This machine is made of a highly polished aluminum casing enclosing a powerful little H.B. motor which drives the fan, throwing a strong blast of air which circulates around every part of the shoe.

List No.		*List Price Each
370520	Electric Shoe Dryer.....	\$22.00


Mixer
"Cyclone" Electric Drink Mixer

This mixer is one of the best profit producers ever placed on a fountain or bar. An entirely new design that will positively mix any drink your customer calls for, and mix it far better and quicker than the most expert operator with the old time hand shake. Eggs, ice, lemons or any ingredients or linarily used can be prepared and the drink compounded in the usual manner. Then let the machine do the mixing instead of using the shoulder wrenching hand shaker. The mixer is so constructed that the mixing glass and mixing blade can easily be cleaned after each individual drink, thus insuring cleanliness and positive sanitation.

List No.		*List Price Each
371052	No. 1 "Cyclone" Drink Mixer, nickel finish..	\$25.00
371053	No. 1 "Cyclone" Drink Mixer, silver finish...	31.00
371060	No. 2, nickel-plated detachable agitator.....	30.00
371061	No. 2, silver-plated detachable agitator.....	36.00
371062	Detachable agitators for No. 2 Mixers.....	2.00

*Delivery F. O. B. Factory, Racine, Wis. For warehouse deliveries write nearest house.
 †Delivery F. O. B. New York, N. Y.

PAUL ELECTRIC PUMPS



Fig. 803—Motor Driven

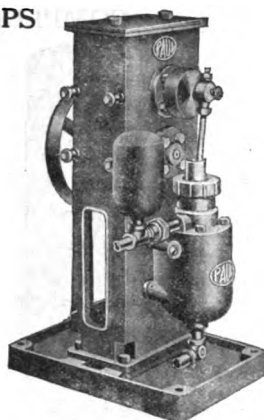


Fig. 804—Belt Driven

Paul Type E Pump, Motor Driven FOR SHALLOW WELLS

The Paul Type "E" Pump, as illustrated by Fig. 803, is especially adapted for residence service where the vertical suction lift is 20 feet or less. On account of their vertical design and very small floor space occupied, these pumps may conveniently be connected to the piping of existing systems when replacing hand pumps, water lifts or other power pumps. These pumps are also conveniently arranged with tanks, automatic electric pressure controllers and fittings assembled and mounted on cast iron bases, thus forming complete systems. (See following page.)

SPECIFICATION

The slow speed pump of a very special, yet extremely simple design (patent applied for) is bolted to the outside of a box shaped cast iron frame, fully accessible. It is double acting, brass fitted, with high grade rubber valves on brass seats and cup leather packing. The suction pipe entering below and the discharge pipe above can be swung in any desired direction. The frame also carries a perfectly silent and efficient drive, consisting of pulleys and flat belt with a low ratio of speed reduction in connection with a set of machine cut, slow speed, spur gears. Large removable bearings bolted to the face of the frame, insuring accurate alignment carry the intermediate shaft with pulley and pinion and the crank shaft with gear. The gears are central between bearings inside the frame, thereby completely encased. Conveniently located grease cups are provided for crank pin and all bearings. The crosshead end of the connecting rod works in a bath of oil. All parts subject to wear are easily renewable.

Paul Type E Pumps, Belt Driven

Fig. 804 illustrates Type E Pump with pulley ready for belting up to any existing drive and for connection to suction and discharge pipe. General specifications see table below.

List Prices and Data

No. of Pump	Capacity of Pump Gallons per Hour	H.P. of Motor	Speed of Pulley	Size of Pulley	Size of Belt	Approx. Shipping Weight Lbs.	List Price of Pumps Without Motor Belt or Idler
90E.....	1-0	$\frac{1}{2}$	360	10 x 1 $\frac{1}{2}$ ins.	1 $\frac{1}{4}$ ins.	172	\$70.00
91E.....	300	$\frac{3}{4}$	400	12 x 2 ins.	1 $\frac{3}{4}$ ins.	260	100.80

List Prices of Paul Type E Pumps, Motor Driven

No. of Pump	Capacity of Pump Gallons per Hour	H. P. of Motor	Electric Current	List Price of Pump and Parts			
				For Open Tank Service		For Pneumatic Tank Service	
				Pump and Motor for Hand Control	Pump, Motor, and Automatic Electric Float Switch	Pump, Motor and Air Charging Device Hand Control	Pump, Motor Air Charging Device and Automatic Electric Pressure Controller
90E.....	1-0	$\frac{1}{2}$	A. C. 1 Phase 60 Cycle 110-220 Volt	\$120.40	\$144.20	\$126.00	\$149.80
91E.....	300	$\frac{3}{4}$	or D.C. 110-220 Volt Motor	200.20	224.00	207.80	232.40
90E.....	1-0	$\frac{1}{2}$	A.C. 1 Phase 25, 40, 125, 130, Cycle	126.00	149.80	131.60	155.40
91E.....	300	$\frac{3}{4}$	110-220 Volt Motor	224.00	247.80	229.60	256.20

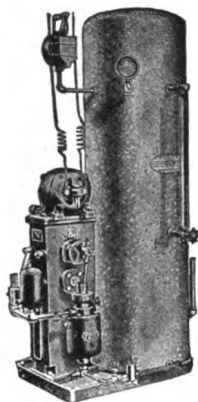
Dimensions of Paul Type E Pumps, Motor Driven

No. of Pump	Maximum Pressure in Lbs. per Sq. In.	Total Head in Feet	Size of Piping		Space Occupied			Approx. Shipping Weight Lbs.	H.P. Required
			Suction	Discharge	Length	Width	Height		
			in.	in.	in.	in.	in.		
90E.....	50	115	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	18 ins.	12 ins.	39 ins.	210	$\frac{1}{2}$
91E.....	50	115	1 in.	$\frac{3}{4}$ in.	20 ins.	12 ins.	45 ins.	315	$\frac{3}{4}$

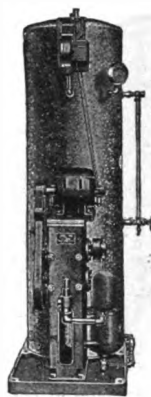
Delivery F. O. B. Factory, Fort Wayne, Ind. For warehouse deliveries write nearest house.

Household Motor Applications

COMPLETE PAUL WATER SYSTEM



System 900, Side View



System 900, Front View

Complete Paul Water Systems WITH TYPE E PUMPS

Complete systems are shipped ready for connection to suction and service pipes. The motor may be used for driving light machines when not pumping.

The Paul Hydro-pneumatic Air Charging and Priming Device (patented) is furnished with all complete systems. It is positive in its action, works to perfection and can under no circumstances unprime the pump. The Paul Automatic Electric Pressure Controller No. 190381 adjusted 30 lbs. minimum and 50 lbs. maximum is regularly furnished with the systems; other adjustments will be furnished when ordered.

Systems 900-A and B listed below are furnished with galvanized pneumatic tanks. They are made of grade steel with welded seams, tested at a pressure of 100 lbs. per square inch and guaranteed for at least 75 lbs. working pressure.

Complete Paul water systems for residence service are listed below in sizes to meet average requirements. The vertical suction lift is 20 feet or less.

Systems Nos. 900 and 901 consist of the following equipment of sizes and capacities listed below.

(ne) Paul Type E Pump, (capacity as listed) fitted with electric motor.

(ne) Paul (guaranteed) Hydro-pneumatic Air Charging and Priming Device (patented) attached to

(ne) Paul Pneumatic Galvanized or Black Tank, as listed.

(ne) Paul Automatic Electric Pressure Controller, (Underwriters' Approval) set at 30-50 pounds.

(ne) Each of water gauge, pressure gauge, checkvalve, relief valve, stop valve, foot valve and all between pump and tank.

SYSTEM No. 900 Power of Motor $\frac{1}{4}$ H.P.

Space Occupied		Height	Approximate Shipping Weight of Complete System, Lbs.
Floor Space			
A	20 x 32 ins.	5 ft. 5 ins.	450
B	24 x 36 ins.	5 ft. 5 ins.	510
C	26 x 38 ins.	5 ft. 5 ins.	720

SYSTEM No. 901 Power Motor $\frac{1}{2}$ H.P.

A	26 x 40 ins.	6 ft. 6 ins.	790
B	32 x 48 ins.	6 ft. 6 ins.	940

SYSTEM No. 900

Capacity of Pump 150 Gallons per Hour—Working Pressure 50 Pounds

List Price of Complete System	Size of Tank	Total Capacity of Tank in Gallons	List Price of Complete System	
			With A.C. 1 Phase, 25, 60 Cycle 110-220 or D.C. 110-220 Volt Motor	With A.C. 1 Phase, 25, 40, 125, 133 Cycle, 110-220 Volt Motor
.....	18 ins. x 5 ft.	60	\$180.00	\$189.00
.....	22 ins. x 5 ft.	100	210.00	218.40
.....	24 ins. x 5 ft.	120	231.00	239.40

SYSTEM No. 901

Capacity of Pump 300 Gallons per Hour—Working Pressure 50 Pounds

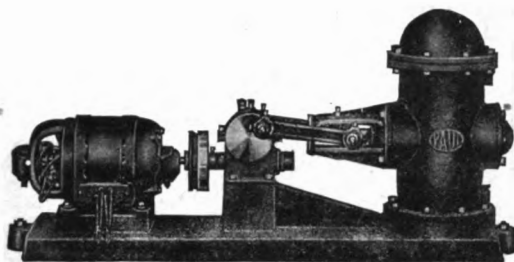
Size of Tank	Total Capacity of Tank in Gallons	List Price of Complete System	List Price of Complete System
24 ins. x 6 ft.	140	\$305.20	\$329.00
30 ins. x 6 ft.	220	315.00	338.80

NOTE: Systems Nos. 900-A, 900-B and 901-A are furnished with galvanized tanks. Nos. 900-C, 901-B, black tanks.

Delivery F. O. B. Factory, Fort Wayne, Ind. For warehouse deliveries write nearest house.

Hold Motor Applications

PAUL TYPE D PUMP



Paul Type D Pump

For Shallow Wells, Motor Driven

The Paul Type D Pump is a reliable high grade pump of moderate capacity, suitable for individual water supply systems and for a variety of special purposes in localities where the water in cistern, well, lake or spring does not recede beyond twenty feet vertical suction lift. This pump is exceptionally strong, easily accessible and convenient to handle. Workmanship and material are of the highest grade and all parts are interchangeable. We invite the closest investigation into its design, in general and in detail. Every pump is tested and adjusted before it is allowed to leave the factory.

The pumps are double acting, fully brass fitted, driven by electric motors through noiseless ball bearing worm gears and mounted complete on rigid cast iron bed plates. Ample suction and discharge air chambers form part of the pumps, insuring a steady flow of water and smooth action. They not only possess all features of value in a good pump, but are especially designed to overcome, in a simple manner, the tendency of small pumps to lose their priming.

The piston rod packing is under constant pressure and only one joint, that of the back head, is required to be tight against suction, making it exceptionally easy to avoid air leaks in the pump.

All wearing parts are constructed of special phosphor bronze metal, are adjustable for wear and are provided with the proper means for lubrication.

The complete line of Paul Type D Pumps have capacities of 150, 300, 600 and 1200 gallons per hour, respectively. The design in general is carried out on all sizes. They are most desirable for house-service installations demanding a direct connected motor driven unit.

DIMENSIONS OF PAUL TYPE D PUMPS, MOTOR DRIVEN

No. of Pump	Capacity in Gallons per Hour	Horse Power of Motor	Maximum Pressure Lbs. per Sq. In.	Total Head in Feet	Size of Pipes		Space Occupied			Approx. Shipping Weight of Pump Lbs.
					Suction	Discharge	Length	Width	Height	
2-D	150	$\frac{1}{4}$	60	140	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	2 ft., 11 ins.	9 ins.	18 ins.	275
4-D	300	$\frac{1}{2}$	60	140	1 in.	$\frac{3}{4}$ in.	3 ft., 9 ins.	12 ins.	22 ins.	485
6-D	600	1	60	140	$1\frac{1}{4}$ ins.	1 in.	4 ft., 6 ins.	14 ins.	$26\frac{1}{2}$ ins.	650
8-D	1200	2	60	140	2 ins.	$1\frac{1}{2}$ ins.	5 ft., 4 ins.	16 ins.	32 ins.	950

All shallow well pumps are fully brass fitted.

LIST PRICES OF PAUL TYPE D PUMPS, MOTOR DRIVEN

List No. of Pump	Capacity in Gallons per Hour	Horse Power of Motor	List Price of Pump				Complete Without Motor
			With D.C. 110 or 220 Volt Motor	With A.C. 1 Phase 60 Cycle 110 or 220 Volt Motor	With A.C. 2 or 3 Phase 60 Cycle 110, 220, 440, 550 Volt Motor		
2-D	150	$\frac{1}{4}$	\$142.80	\$142.80	\$158.20		\$95.20
4-D	300	$\frac{1}{2}$	233.80	233.80	224.00		142.80
6-D	600	1	317.80	317.80	285.60		182.00
8-D	1200	2	385.00	420.00	371.00		263.20

NOTE: 1. Pumps 2-D to 8-D inclusive for pneumatic tank service will be fitted with a Paul Hydro-pneumatic Air Charging and Priming Device for which an extra charge of \$6.00 list will be made.

2. Pumps 2-D for 25, 40, 125, 133, cycle service add \$8.00 list extra. From 4-D to 8-D inclusive, price upon request.

3. On gasoline engine driven outfits, price on request.

4. For prices on complete shallow well Pneumatic Water Systems see following page.

Delivery F. O. B. Factory, Fort Wayne, Ind. For warehouse deliveries write nearest house.



Type D Pump

Type D Pumps

MOTOR DRIVEN

Paul Shallow Well Pneumatic Water Systems are listed below, in sizes to meet general where the water in cistern, well, spring or lake does not recede beyond 20 feet vertical suction Systems number 201, 401, 601, 801 consist of the following equipment of sizes and capacities

(One) Paul Type D Pump for shallow well fitted with electric motor, as listed.
(One) Paul guaranteed Hydro-Pneumatic Air Charging and Priming Device (patent to pump.

(One) Paul Pneumatic Tank, as listed.

(One) Paul Automatic Electric Pressure Controller (underwriter's approval), if autom wanted.

(One) Each of water gauge, pressure gauge, gate valve, check valve, relief valve, stop at hose bibb and a complete set of malleable fittings, but no pipe.

List Prices of Complete Paul Shallow Well Pneumatic Water Systems (Motor

Capacity of Pump, 150 gallons per hour Systems No. 201 Working Press
Power of Motor, $\frac{1}{4}$ H.P.

List No. of System	Size of Tank	Total Capacity of Tank in Gallons	Approx. Shpg. Wt. of Complete System	List Price of Complete System					Working Press
				With D.C. 110 or 220 Volt Motor		With A.C. 1 Phase 60 Cycle 110 or 220 Volt Motor		With Phase 2	
				Automatic Controller		Automatic Controller		Automatic	
				Without	With	Without	With	With	
201-A	24 ins. x 6 ft.	145	720	\$212.80	\$239.40	\$212.80	\$239.40	\$226.00	
201-B	30 ins. x 6 ft.	220	835	228.80	253.40	228.80	253.40	246.00	
201-C	24 ins. x 10 ft.	245	950	231.00	257.60	231.00	257.60	246.00	
201-D	30 ins. x 10 ft.	365	1145	250.60	277.20	250.60	277.20	264.00	

Capacity of Pump, 300 gallons per hour Systems No. 401 Working Press
Power of Motor, $\frac{1}{2}$ H.P.

List No.	Size of Tank	Total Capacity of Tank in Gallons	Approx. Shpg. Wt. of Complete System	List Price of Complete System				Working Press
				Without	With	Without	With	
401-A	36 ins. x 6 ft.	315	1235	\$334.60	\$362.60	\$334.60	\$362.60	\$326.00
401-B	30 ins. x 12 ft.	440	1385	354.20	380.80	354.20	380.80	344.00
401-C	36 ins. x 10 ft.	525	1535	365.40	382.00	365.40	382.00	356.00
401-D	42 ins. x 10 ft.	720	2135	387.80	415.80	387.80	415.80	376.00

Capacity of Pump, 600 gallons per hour Systems No. 601 Working Press
Power of Motor, 1 H.P.

List No.	Size of Tank	Total Capacity of Tank in Gallons	Approx. Shpg. Wt. of Complete System	List Price of Complete System				Working Press
				Without	With	Without	With	
601-A	36 ins. x 10 ft.	525	1625	\$474.60	\$523.60	\$474.60	\$501.20	\$446.00
601-B	42 ins. x 10 ft.	720	2225	498.40	561.40	498.40	525.00	444.00
601-C	42 ins. x 14 ft.	1000	2775	546.00	595.00	546.00	572.60	456.00
601-D	48 ins. x 14 ft.	1300	3130	592.20	655.20	592.20	618.80	456.00

Capacity of Pump, 1200 gallons per hour Systems No. 801 Working Press
Power of Motor, 2 H.P.

List No.	Size of Tank	Total Capacity of Tank in Gallons	Approx. Shpg. Wt. of Complete System	List Price of Complete System				Working Press
				Without	With	Without	With	
801-A	42 ins. x 14 ft.	1000	3020	\$606.20	\$665.00	\$649.60	\$677.60	\$556.00
801-B	48 ins. x 16 ft.	1500	3720	677.60	735.00	721.00	747.60	566.00
801-C	48 ins. x 24 ft.	2260	5470	782.60	841.40	826.00	854.00	576.00
801-D	60 ins. x 20 ft.	2940	6470	887.60	946.40	932.40	959.00	586.00

Notes:—1. Motors of other voltage or frequency not listed; write for price.

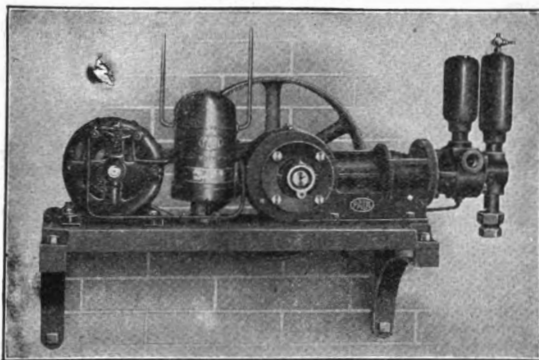
2. Tanks up to and including six feet in length are tapped for vertical setting. All other size

ting unless otherwise ordered. Delivery F. O. B. Factory, Fort Wayne, Ind. For warehouse deliveries write nearest house.

Household Motor Applications

Western Electric

PAUL HOUSE PUMP



Type "F" Electric House Pump

Western Electric House Pump

The Paul Type "F" Electric House Pump has been designed especially to supersede the water motor driven pump, to positively do away with all the troubles connected therewith and to practically eliminate care and repair. Being noiseless in action, small in size, simple, strong and self-contained, it fills the requirements for residence service in the most ideal manner.

The pump bolted to the fully enclosed crank case frame is of the piston type, fully brass fitted. It is good for a suction lift of twenty-five feet. For lifts below twenty feet, no priming is required when starting up dry. The lubrication is entirely automatic and of the splash system.

DIMENSIONS AND WEIGHT

Space occupied, wall or floor bracket mounting, length, 30 inches; width, 10 inches; height, 23 inches. Size of suction, $\frac{3}{4}$ inch; discharge, $\frac{1}{4}$ inch.

Approximate shipping weight of pump with motor, 100 lbs.

Capacity of No. 95F Pump, 150 Gallons per Hour. Power of Motor, $\frac{1}{8}$ H.P. Working Pressure, 20-40 Lbs.

List No. of Pump	Capacity of Pump Gallons per Hour	H. P. of Motor	Electric Current	*List Price of Pump and Equipment				
				For Open Tank Service		For Pneumatic Tank Service		
				Equipment A	Equipment B	Equipment C	Equipment D	Equipment E
95F	150	$\frac{1}{8}$	A.C. 1 Phase 60 Cycle 110-220 Volt or D.C. 110-220 Volt	Pump with Motor, Hand Control	Pump with Motor and Automatic Electric Float Switch	Pump with Motor and Air Charging Device, Hand Control	Pump with Motor and Air Charging Device, Automatic Electric Controller	Pump with Motor Air Charging Device, Automatic Electric Controller, (52) Gal. Galvanized, Range Boiler, Tapped Special, Pressure Gauge and Relief Valve
				\$100.80	\$124.60	\$102.20	\$120.40	\$147.00
95F	150	$\frac{1}{8}$	A.C. 1 Phase 25 and 40 Cycle 110-220 Volt or D.C. 30-65 Volt					
				\$107.80	\$131.60	\$109.20	\$127.40	\$154.00

NOTE: 1. Specify pump with Equipment A, B, C, D or E; give electric current available.
2. Pumps will be shipped with wall bracket mounting, as standard. If floor bracket mounting is wanted, specify same on order.

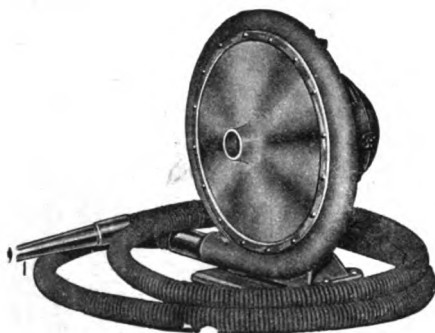
*Delivery F. O. B. Factory, Ft. Wayne, Ind. For warehouse deliveries write nearest house.

Household Motor Applications

· MULTIVANE FORGE BLOWERS AND DUST BLOWERS STURTEVANT TYPE



Electric Forge Blower



Electric Dust Blowing Set

Electric Forge Blower

The Sturtevant Forge Blower is of sufficient capacity to handle one large or several small forges. Through a tuyere having an area of 1.5 square inches it will bring to welding heat two-inch round soft steel stock in two and one half minutes.

This blower is also adapted for use in connection with blow pipes, soldering tubes and similar apparatus.

The high efficiency of this blower is due largely to the construction of its fan wheel, which is of the Sturtevant multivane type. This wheel consists of many narrow blades, allowing large inlet area, it is attached directly to the extended shaft of an electric motor. The casing surrounding the wheel is of pressed steel and is the result of long experimenting to secure a casing of the highest efficiency. It is arranged to revolve, discharging in any desired direction, and is attached to the frame of the high grade electric motor mounted upon a cast iron sub-base. The complete set is but 14½ inches high, 10 inches wide and weighs but 35 pounds.

List Price Each
\$64.00

Multivane forge blowers.....

Electric Dust Blowing Set

This portable dust blowing set is designed for blowing purposes to replace or to be used instead of a compressed-air system. It is used for blowing out dust from around motors, switchboards, textile or other machinery. It is composed of a small, specially designed light aluminum fan and case driven by a direct connected electric motor built to operate from the lighting circuit. The set includes a twelve-foot length of 1½ inch air hose, reinforced and flexible, and a ten-inch nozzle. A twenty-foot electric light cord and plug attachment is also furnished which, with the twelve feet of hose, gives a working radius of thirty-two feet from the lamp socket.

This set will be found very satisfactory for suction cleaning where a dust collector is not required. It is only necessary to attach one end of the hose to the inlet of the fan instead of the outlet and to use with a vacuum cleaning tool on the other end. The fan will suck the dust through the wheel and discharge it at the outlet or through another hose run to some collector or out of doors. Care should be taken not to pick up pieces of metal that would injure the fan wheel when using the dust blower as a cleaner. As it weighs only about fifty-five pounds and as it can be used from lamp socket, this blowing set is especially valuable on account of its portability.

List Price Each
\$104.00

Electric dust blowing set.....

Sturtevant Vacuum Horse Grooming Set



Horse Grooming Set

Delivery F. O. B. Factory, Boston, Mass.

Household Motor Applications

This set provides the quickest, the most sanitary and most satisfactory means of grooming horses. A specially designed flexible curry comb attached to a very light weight wire reinforced vacuum hose is inserted into the inlet of the blower. This special curry comb raises the loose hair, dirt and dandruff from the horse's skin while the strong, steady suction created by the machine carries it away, discharging it into a bag outdoors or into the cellar, leaving the horse's skin clean and free from irritation. The set consists of a fan rigidly mounted upon the shaft of an electric motor and enclosed in a casing of aluminum both mounted upon the same base, making a compact, simple and portable machine. The curry comb is made of cast aluminum and is a very efficient cleaning tool. It thoroughly grooms the horse's coat, the dust being drawn between the teeth into the suction hose.

List Price Each

Sturtevant vacuum horse grooming set, complete with aluminum curry comb, suction and blowing hose..... \$130.00
Flexible curry comb..... 17.00

For warehouse deliveries write nearest house.

"AMERICAN BEAUTY" ELECTRIC IRONS



"American Beauty" Iron

Domestic "American Beauty" Iron

This iron represents the highest art of making electric flat irons. It is not only a beautiful looking iron, finished in polished nickel, but has every refinement. It is suitable for all around household or laundry work. The service which it gives the user is in every way as perfect as can be given. Sufficient heat is generated and concentrated evenly on the ironing surface without wasteful loss from the top and sides.

This "American Beauty" iron can be furnished on special order with what is called "Morocco" ironing surface. The edges and point of the iron are beveled and rounded. On special order voltages of 30 and 60 can be supplied at no extra charge.

Guarantee—The heating element is guaranteed for all time. Should it prove defective at any time, a new one will be given by the dealer or by us.

List No.	Net Wt.	Shpg. Wt.	Case Wt. (½ Doz.)	Length	Width	Watts	List Price Each
6½B	6½ lbs.	9 lbs.	60 lbs.	6½ ins.	3¾ ins.	525	\$8.00

Always specify voltage when ordering.



"Little Beauty" Iron

"Little Beauty" Iron

This little electric iron is perfect for light ironing such as handkerchiefs and laces, and because of its light weight it is most attractive to travelers. Another useful feature of the "Little Beauty" is that curling iron tongs can be slipped into the stand, which comes with every iron, and be heated quickly without fire, soot, odor or danger. It is furnished complete with cord and lamp socket plug on special order voltages of 30 and 60 can be supplied at no extra charge.

List No.	Net Wt.	Case Wt. (½ Doz.)	Length	Width	Watts	List Price Each
3-B	3 lbs.	35 lbs.	6 ins.	3½ ins.	350	\$8.00

Always specify voltage when ordering.

"AMERICAN BEAUTY" ELECTRIC IRONS



Rite-Heat Iron



Three lb. Rite-Heat Iron

Rite-Heat Irons

Handsome in appearance, the heating element is guaranteed for life, and it is of popular weight, 6 lbs. It is the lowest price electric iron on the market.

List No.	Net Wt.	Case Wt. (½ Doz.)	Length	Width	Watts	List Price Each
6-RH	6 lbs.	40½ lbs.	6½ ins.	3¾ ins.	525	\$4.24

For irons for use on 30 and 60 volt service price will be \$4.80.

3-lb. Rite-Heat Iron

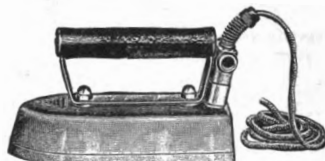
Guarantee: The heating element is guaranteed forever. If it proves defective at any time, a new one will be given by the dealer or by us.

List No.	Net Wt.	Case Wt. (1 Doz.)	Length	Width	Watts	List Price Each
3-RH	3 lbs.	57 lbs.	5¾ ins.	3 ins.	350	\$4.00

Voltage ranges 95-109, 110-125, 190-219, 220-250.



9 lb. "American Beauty" Pressing Iron

Length 7¾ inches
Width 4¼ inches

12 and 16 lb. "American Beauty" Pressing Iron

Length 9¾ inches
Width 3¾ inches
16-lb Length 9¾ inches
Width 3¾ inches

9-lb. "American Beauty" Pressing Iron

The 9-lb. iron above shown is particularly adapted for heavy laundry work and is used in hotel laundries and professional laundries where more heat is required than in ordinary ironing. Furnished with cord but no lamp socket plug, as this iron should not be attached to lamp socket.

List No.	Net Wt.	Shpg. Wt.	Case Wt. (¼ Doz.)	Length	Width	Watts	List Price Each
9-B	9 lbs.	10¼ lbs	72 lbs.	7¼ ins.	4¼ ins.	675	\$12.00

Always specify voltage when ordering.

12 and 16-lb. "American Beauty" Pressing Irons

These irons are adapted for light pressing of all kinds, such as coat work or ladies' tailor work. The are not suitable for very heavy pressing. The heavier irons are designed for that purpose.

These two irons are alike except in weight. Furnished with cord but no lamp socket plug, as these iron should not be attached to lamp socket.

List No.	Net Wt.	Shpg. Wt.	Length	Width	Watts	List Price Each
12-B	12 lbs.	16 lbs.	9¾ ins.	3¾ ins.	650	\$17.00
16-B	16 lbs.	19 lbs.	9¾ ins.	3¾ ins.	650	19.00

Always specify voltage when ordering.

Electrical Heating Devices

"AMERICAN BEAUTY" UTENSILS



Toaster



Toaster—In Use

"American Beauty" Toaster

With this toaster two slices of bread at a time can be made into crisp, fresh, delicious toast right at the dining or tea table, where the toast can be served, buttered and eaten while crisp, fresh and piping hot.

The toaster is made entirely of sheet steel and is unbreakable. It is finished in polished nickel and is provided with four fiber heat insulating legs which prevent any possibility of the surface on which the toaster is resting being scorched or scratched.

Low Voltages—On special order, the toaster can be supplied in voltages of 30 and 60 at no extra charge. There will be an extra charge for toasters in these unusual voltages.

Guarantee: The life of this Toaster is guaranteed for two years. With ordinary care it will last indefinitely.

List No.	Net Wt.	Shpg. Wt.	Case Wt. (2 Doz.)	Length	Width	Height	Watts	List Price Each
5825	1½ lbs.	2 lbs.	60 lbs.	8 ins.	4 ins.	7 ins.	440	\$6.40

Always specify voltage when ordering.



Disc Stove



Disc Stove Parts

Electric Combination Disc Stove

"5-in-1"

There are five distinct classes of household service that this device will give, any one of which can be varied in many ways. You can use the Skillet No. 1 to fry, the Toaster No. 2 to toast, the Griddle No. 3 for pancakes, the Pot No. 4 to stew and the Disc Stove No. 5 has a variety of cooking functions.

It has the heat regulations—low, medium and high.

As listed below, it comes complete with all utensils, all ready for use by attachment to an ordinary electric lamp socket.

List No.	Net Wt.	Shpg. Wt.	Diameter	Max. Watts	List Price Each
3310	8¾ lbs.	9½ lbs.	6 ins.	600	\$15.20

Disc Stove Utensils

		List Price
1	Skillet.....	\$2.40
2	Toaster.....	.80
3	Disc Plate.....	2.40
4	Pot and Cover.....	2.80
5	Disc Stove.....	12.00

“AMERICAN BEAUTY” UTENSILS



Disc Stove

Disc Stove

This heater or stove is adapted for cooking anything that can be contained in a flat bottomed vessel. Compact in design, consisting of a circular disc supported by a metal frame. It is finished in polished nickel. The legs of the stand are heat insulated. It is furnished complete ready for attachment to lamp

Net Wt.	Shpg. Wt.	Shpg. Wt. ($\frac{1}{2}$ doz.)	Watts	Diam.	Heat Reg.	List Price Each
2 lbs.	5 lbs.	20 lbs.	450	4 ins.	1	\$6.40
2 $\frac{3}{4}$ lbs.	5 lbs.	20 lbs.	550	5 ins.	1	7.60
3 $\frac{1}{2}$ lbs.	5 lbs.	20 lbs.	600	6 ins.	1	8.80

Always specify voltage when ordering. These devices can be secured for either 30 or 60 volt circuits extra charge.



No. 5210



Nos. 5205 and 5215

No. 5210 Water Heater

This is a most convenient little device made of copper, well nicked and polished. Its selling cost is low. Has composition feet which prevent scratching or scorching any wood surface.

Net Wt.	Shpg. Wt. (1 Doz.)	Watts	Only Voltage Range	List Price Each
1 $\frac{1}{4}$ lbs.	40 lbs.	350	100-125	\$5.60

Nos. 5205 and 5215 Water Heaters

These heaters are for boiling small quantities of liquids. In the one pint size, water can be boiled in five minutes. In the one quart size, in about seven minutes. They are made of spun copper and are finished in polished nickel. They come complete with cord ready for attaching to lamp socket.

	Net Wt.	Shpg. Wt.	Shpg. Wt. (1 Doz.)	Watts	Capacity	List Price Each
5	1 $\frac{1}{4}$ lbs.	2 $\frac{1}{2}$ lbs.	40 lbs.	300	1 pint	\$8.80
15	3 lbs.	3 lbs.	65 lbs.	500	1 quart	10.40

Always specify voltage when ordering. These devices can be secured for either 30 or 60 volt circuits no extra charge.

Electrical Heating Devices



Toaster Stove

Triangle Lektrik Toaster Stove

With this Toaster Stove of many uses a meal can be prepared right at the dining table. The heating coils are placed as shown in the above illustration, so as to make it easy and convenient to make two slices of toast at a time, one above and one below the heating coils. Or a slice of toast can be made below the heating coils and at the same time a flat bottomed utensil can be placed on top of the Toaster Stove, in which can be made tea, coffee, breakfast food, etc., or eggs may be fried in a skillet placed on the top of the Toaster Stove.

The device is made of sheet steel, finished in polished nickel, is light in weight and unbreakable. It is provided with three heat insulating legs of fiber, so that the surface on which the stove is resting will not be either scorched or scratched.

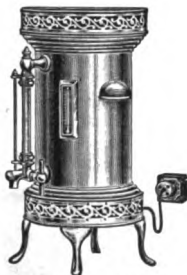
Comes complete with cord and plug, and can be attached to any ordinary lamp socket.

The electrical terminals on which the cord is attached to the Toaster Stove are protected by a steel plate, thus preventing the possibility of any liquid being spilled which will affect the electric connection at the Toaster Stove.

List No.	Watts	Voltage Ranges	Diam.	Net Weight	List Price Each
3320	520	95-109, 110-125, 190-219, 220-250.....	6 ins.	1 1/4 lbs.	\$4.40

Always specify voltage when ordering.

ELECTRIC UTENSILS



Hot Water Urn



Coffee Urn

Electric Hot Water Urns

These electric Hot Water Urns are especially adapted for use in bars, hotels, drug stores, restaurants, etc. They are finished in polished nickel. Three heat regulations, low, medium and full. The one-gallon urn, 4315, can be attached to any ordinary lamp socket. All other sizes must have wire circuit run to them.

List No.		Max. Watts	Capacity Gals.	List Price Each
4315	Hot Water Urn.....	600	1	\$26.40
4320	Hot Water Urn.....	800	2	28.80
4325	Hot Water Urn.....	1200	3	36.80
4330	Hot Water Urn.....	2000	5	51.20

Electric Coffee Urns

These urns are made of copper, finished in polished nickel. Coffee receptacles made of stone ware and surrounded by water jacket which is heated by electric heat. Three heat regulations, low, medium and full.

List No.		Max. Watts	Capacity Gals.	List Price Each
4420	Coffee Urn.....	1400	3	\$76.80
4430	Coffee Urn.....	2000	4	83.20
4440	Coffee Urn.....	3200	6	108.80
4450	Coffee Urn.....	4200	10	131.20

"AMERICAN BEAUTY" UTENSILS

No. 2506 Perculator



Tea Samovar

"American Beauty" Electric Coffee Percolator

This percolator is made in a new improved design. It embodies all the desirable features of a perfect coffee machine together with the convenience of electric heat. The pump used is a new design and one that will give absolutely perfect satisfaction to the user. Long, graceful curves and highly polished nickel finish make this a very handsome device. Will hold six large cups of coffee.

List No.	Watts	Capacity	Shpg. Wt.	List Price Each
2506	350.	6 cups	12 lbs.	\$20.00

Tea Samovar

The Samovar is a beautiful article, finished in polished nickel. It is furnished complete with cord ready for use. The tea leaves are placed in the tea ball which is then drawn up into the cover. Electric heat is turned on. In a few minutes the water boils. The tea ball is then lowered into the water. It is raised again into the cover when the tea has steeped enough. On special order this device can be supplied 30 or 60 volt circuits at no extra charge.

List No.	Watts	Capacity	Net Wt.	Shpg. Wt.	List Price Each
2306	450	6 cups	4½ lbs.	11 lbs.	\$26.80



Tea Kettle



Chafing Dish

Tea Kettle

This is a very neat little article. It is furnished complete ready for attachment to lamp socket. It is quick heating, boiling its contents in 5 or 6 minutes, starting everything cold. On special order this device can be supplied for 30 or 60 volt circuits at no extra charge.

List No.	Shpg. Wt.	Shpg. Wt. (½ Doz.)	Watts	Capacity	List Price Each
5415	4½ lbs.	40 lbs.	500	1 quart	\$16.00

"American Beauty" Chafing Dish

This is a most satisfactory article for the home. It cooks quickly and efficiently. A snap of the switch turns on the heat, and this heat can be regulated—mild, medium and full. It is furnished complete, ready for attachment to lamp socket. Standard finish nickel, copper finish can be had on application without extra charge.

List No.	Max. Watts	Shpg. Wt.	Capacity	List Price Each
355	600	8 lbs.	3 pints	\$20.00

Always specify voltage when ordering.

Electrical Heating Devices

"AMERICAN BEAUTY" HEATING DEVICES



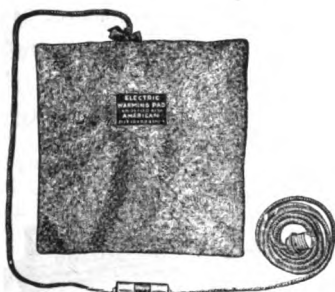
Serving Tray Heater

"American Beauty" Serving Tray Heater

These heaters are especially designed and adapted for keeping food and dishes warm, particularly for use on the serving table. It is furnished complete in polished nickel with a six-foot detachable cord, having lamp socket attachment plug.

List No.	Net Wt.	Shpg. Wt.	Max. Watts	Length	Width	Height	List Price Each
6715	14 lbs.	25 lbs.	350	16 ins.	12 ins.	3 ins.	\$20.00

Always specify voltage when ordering.



Warming Pad



Foot Warmer

Western Electric

"American Beauty" Warming Pad

This device fulfills the function of a hot water bottle. It is rectangular in shape, 12 x 13 inches, and is thin, soft, pliable and flexible. A double-working automatic thermostatic protective device is supplied with each Warming Pad for safety's sake.

List No.	Watts	Size	Net Wt.	Shpg. Wt.	Heat Reg.	List Price Each
1810	60	12 x 13 ins.	15 oz.	2 3/4 lbs.	1	\$10.40
1815	60	12 x 13 ins.	15 oz.	2 3/4 lbs.	3	12.00

Eider-down cover is usually furnished. If rubber cloth cover is wanted instead, list prices will be \$1.04 extra for the No. 1810 and No. 1815.

Voltage ranges 95-125 and 190-250.

"American Beauty" Foot Warmer

The Foot Warmer is for use under desks, chairs or tables. It gives off a mild heat and in addition to being used as a foot warmer, it is often used to heat small closets and other small places. It may be attached to any ordinary electric lamp socket, and comes complete with six-foot cord and attachment plug. The Foot Warmers are finished in black japan.

List No.	Watts	Size	Shpg. Wt.	List Price Each
780	200	10 x 12 ins.	18 lbs.	\$8.40
781	400	10 x 12 ins.	18 lbs.	8.40

Always specify voltage when ordering.

"AMERICAN BEAUTY" HEATING DEVICES



List No. 112



List No. 116



List No. 150

No. 112 CURLING IRON HEATER

This heater is intended for use in the dressing-room, boudoir or elsewhere. It is an odd design, neat in appearance.

List No.	Shpg. Wt.	Shpg. Wt. (1 Doz.)	Watts	Diameter Opening	List Price Each
112	5 lbs.	70 lbs.	90	$\frac{1}{8}$ in.	\$6.40

No. 116 CURLING IRON HEATER

This heater is an automatic wall type. The insertion and withdrawal of the curling iron automatically controls the heat. This type is usually installed as a permanent fixture in hotels, theaters, staterooms, sleeping-cars, etc.

116	4 lbs.	60 lbs.	90	$\frac{1}{8}$ in.	\$8.00
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No. 150 CURLING IRON HEATER

The No. 150 has an automatic switch just like the No. 116, only it is a table or flat lying type rather than wall type affair.

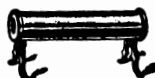
150	3 lbs.	45 lbs.	90	$\frac{1}{8}$ in.	\$5.60
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List Nos. 111 and 113



List No. 115



List No. 117



List No. 601

No. 111 CURLING IRON HEATER

It is a neat plain heater for use in the dressing-room, boudoir or elsewhere. The device is finished in nickel, highly polished, and is provided with a marbleized slate base.

List No.	Shpg. Wt.	Shpg. Wt. (1 Doz.)	Watts	Diameter Opening	List Price Each
†111	2½ lbs.	40 lbs.	90	$\frac{1}{8}$ in.	\$4.80

No. 113 CURLING IRON HEATER

This is a heater exactly like the above, except that the opening is $\frac{3}{4}$ inch. It is furnished on special order only.

†113	2½ lbs.	40 lbs.	90	$\frac{3}{4}$ in.	\$5.60
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No. 115 CURLING IRON HEATER

The No. 115 is exactly like the No. 111 except that it is equipped extra with a small pan or plate for heating grease paints or cosmetics. This plate is removable and can be furnished with Curling Iron Heaters Nos. 117 or 111 at an additional list price of 40 cents.

115	2½ lbs.	40 lbs.	90	$\frac{1}{8}$ in.	\$5.20
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No. 117 CURLING IRON HEATER

This heater is small and light and is particularly adapted for the use of travelers. It weighs but 10 ounces.

†117	1½ lbs.	25 lbs.	90	$\frac{1}{8}$ in.	\$4.40
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TRIANGLE LEKTRIK CURLING IRON HEATER

Made of sheet steel, finished in polished nickel, light in weight, curling tongs to any size, shape or weight. Small curling irons are merely laid on top of the heater and quickly heated.

601	10 oz.	85	$7\frac{1}{4} \times 2\frac{1}{4} \times 2$ ins.		\$2.40
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Always specify voltage when ordering.

†The devices can be secured for 30 or 60 volts at no extra charge.

"AMERICAN BEAUTY" LUMINOUS HEATERS **Luminous Radiators**



One Lamp Type



Two Lamp Type



Three Lamp Type

PORTABLE LUMINOUS RADIATORS

These portable luminous radiators are of most attractive design and finish. Naturally the one and two lamp types do not give off as much heat as the three lamp type, but they are particularly desirable and serviceable for service where a mild heat is desired. The standard finish of these heaters is brushed brass, but polished brass, polished nickel or oxidized copper finish can be furnished at same price. Each heater has a cord, 8 feet in length, detachable at the heater. The one and two lamp types are attachable to lamp socket, but the three lamp type should not be attached to lamp socket. The price of lamps is not included. For price of lamps see listing elsewhere.

One Lamp Type							List Price (Without Lamps)
List No.	Height	Width	Diameter Over all	Depth	Weight	Shpg. Wt.	
6280	15½ ins.		8 ins.		5 lbs.	15 lbs.	\$8.80
Two Lamp Type							List Price (Without Lamps)
6270	15½ ins.	11 ins.		7 ins.	7 lbs.	20 lbs.	
6270	15½ ins.	11 ins.		7 ins.	7 lbs.	20 lbs.	\$10.40
Three Lamp Type							List Price (Without Lamps)
6280	19 ins.	18 ins.		7½ ins.		35 lbs.	
6280	19 ins.	18 ins.		7½ ins.		35 lbs.	\$20.00

Always specify voltage when ordering.



Wall Type



Round Type

WALL TYPE

The Wall Type Luminous Radiator is to be permanently installed in the wall. It has copper reflector behind the lamps and air jacket between the copper reflector and the steel shell which fits into the wall. This air jacket acts as a heat insulation. Thus any fire risk is reduced absolutely to the minimum.

We can furnish this type in two designs of front plate. The one not shown is a perfectly plain design. The standard finish is nickel. Special finishes can be supplied at extra cost.

WALL TYPE							List Price (Without Lamps)
List No.	Height	Width	Depth	Net Wt.	Shpg. Wt.		
6235	16¾ ins.	16¾ ins.	5¼ ins.	28 lbs.	70 lbs.		\$18.00

ROUND TYPE

This Round Type Luminous Radiator is another form of the portable type shown above. It is desirable in cases where it is required that the heat be thrown evenly in all directions.

ROUND TYPE							List Price (Without Lamps)
List No.	Height	Diameter over all	Shpg. Wt.				
6125	20 ins.	13 ins.	30 lbs.				\$22.40

Always specify voltage when ordering.

ADJUSTABLE AIR HEAT



Nos. 4708, 4712, 4722, 4730
For wall, use adjustment made by
loosening lock nut at side

Adjustable Air Heater

These heaters are a recent development in electric heating device a low priced article of high quality. They are adjustable for use either on the wall or on the floor. This heater is furnished in several sizes, with and without the deflector.

As these heaters are very compact, they are especially desirable for other places where space is limited; but they are equally desirable for open rooms.

These heaters are practically indestructible as they are made with steel casings and internal supports of cold rolled steel. The heating elements are sheathed and properly supported and built according to Underwriters' requirements.

All elements are interchangeable and renewable and made for 250 volts. They are installed in a heater to make the required or rated wattage. They are finished in black japan, made for one heat only and arranged vertically.

No cords or plugs are supplied. Made for standard voltage ranges: 95-104, 105-114, 115-125, 130-209, 210-229, 230-250.



Nos. 4705, 4710, 4720
With deflector, can be installed on wall or floor

Doubt

All heaters have adjustable legs as shown in the illustrations, either to the wall, the floor, or set on the floor.

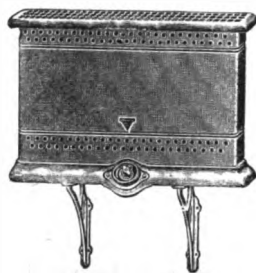
The deflector plate prevents the heat from striking through on the floor and throws the heat outward into the space to be heated. The deflector weighs from 5 to 12 pounds each more than the net weights of the heaters.

List No.		Height
4705	500 watt, no deflector.....	10½ ins.
4708	700 watt, with deflector.....	12¾ ins.
4710	750 watt, no deflector.....	10½ ins.
4712	750 watt, with deflector.....	12¾ ins.
4720	1000 watt, no deflector.....	10½ ins.
4722	1000 watt, with deflector.....	12¾ ins.
4730	1500 watt, with deflector.....	15¼ ins.
4735	2000 watt, with deflector.....	12¾ ins.
4755	3000 watt, with deflector.....	15¼ ins.

Electrical Heating Devices

12-2

"AMERICAN BEAUTY" AIR HEATERS



Wall Type



Plug No. 806



Plug No. 805



Portable Type

Electric Air Heaters

These Air Heaters embody many new features in design and construction. They are practically indestructible. The voltage of the heater determines its size. In estimating the size heater required, it is a general rule to figure about two or three volts per cubic foot of air space to be heated. But much depends on the construction of the room or building.

Each heater is equipped with indicating snap switch and terminal box. With portable type, detachable plug and cord can be supplied at extra cost, or line wires can be attached to heater at terminal box. With wall type, line wires are to be attached to heater at terminal box.

WALL TYPE

List No.	Heat Reg.	Watts	Size over all			Net Wt.	Shpg. Wt.	List Price Each
			Height	Length	Width			
4610	1	750	15 ins.	20½ ins.	7 ins.	18 lbs.	27 lbs.	\$20.00
4612	1	1000	15 ins.	20½ ins.	7 ins.	18 lbs.	27 lbs.	20.80
4630	3	1500	16 ins.	24½ ins.	7 ins.	26 lbs.	37 lbs.	29.60
4635	3	2000	16 ins.	24½ ins.	7 ins.	26 lbs.	37 lbs.	30.40
4645	3	2500	16 ins.	24½ ins.	7 ins.	26 lbs.	37 lbs.	31.20
4655	3	3000	16 ins.	32½ ins.	10½ ins.	53 lbs.	70 lbs.	41.60
4658	3	3500	16 ins.	32½ ins.	10½ ins.	53 lbs.	70 lbs.	42.40
4660	3	4000	16 ins.	32½ ins.	10½ ins.	53 lbs.	70 lbs.	43.20

PORTABLE TYPE

List No.	Heat Reg.	Watts	Height	Length	Width	Net Wt.	Shpg. Wt.	List Price Each
4510	1	750	18 ins.	20½ ins.	8½ ins.	20 lbs.	30 lbs.	\$20.00
4512	1	1000	18 ins.	20½ ins.	8½ ins.	20 lbs.	30 lbs.	20.80
4530	3	1500	19 ins.	24½ ins.	8½ ins.	28 lbs.	40 lbs.	29.60
4535	3	2000	19 ins.	24½ ins.	8½ ins.	28 lbs.	40 lbs.	30.40
4545	3	2500	19 ins.	24½ ins.	8½ ins.	28 lbs.	40 lbs.	31.20
4555	3	3000	19 ins.	32½ ins.	10½ ins.	53 lbs.	70 lbs.	41.60
4558	3	3500	19 ins.	32½ ins.	10½ ins.	53 lbs.	70 lbs.	42.40
4560	3	4000	19 ins.	32½ ins.	10½ ins.	53 lbs.	70 lbs.	43.20

The above heaters—Nos. 4530 to 4560, inclusive, and Nos. 4630 to 4660, inclusive—can be supplied with single heat, instead of 3 heat regulation, **but only on special order**. And when so supplied they will not be equipped with indicating snap switch. The cost of such single heat heaters is approximately \$3.20 less, each, than the 3 heat heaters listed above.

DETACHABLE PLUGS

The No. 806 Plug is for use with the Heaters Nos. 4510 and 4512. The No. 805 Plug is for use with the Heaters Nos. 4530 to 4560.

List No.		List Price Each
806	Detachable Plugs.....	\$0.96
805	Detachable Plugs.....	1.60

SPECIAL APPROVED HEATER CORD

List No.	Size	Conductors	List Price per Foot
857	No. 8	2	\$0.52
854	No. 12	2	.24

"AMERICAN BEAUTY" INDUSTRIAL DEVICES


Industrial Type

Industrial Type Disc Heater

This type disc stove is suitable for use in laboratories, for industrial purposes, or for heavy work in the household or kitchen.

All sizes are made with three-heat regulation—and each heater has an indicating snap switch and terminal box, detachable plug fitting into receptacle on disc stove, or line wires from outlet box on wall or at end of conduit can be attached to heater at terminal box.

List No.	Max. Watts	Diameter	Net Wt.	Shpg. Wt.	List Price Each
3240	1000	8 ins.	15 lbs.	20 lbs.	\$17.60
3245	1400	10 ins.	19½ lbs.	29 lbs.	20.80
3250	1800	12 ins.	23 lbs.	32 lbs.	24.00

Plug and cord not included in prices. See cords Nos. 852 and 854 and plug No. 806.
 Always specify voltage when ordering.



Glue Pot



Solder Pot

"American" Electric Glue Pot

This is a most efficient article for use in a wood working establishment, paper box factory or in any place where glue is used. These glue pots are built with a water jacket, the glue being heated by the hot water. The heating element is attached directly to the water vessel. The outer casings completely enclose and protect the element.

All pots are arranged with three-heat regulation, the minimum heat is sufficient to keep the glue at the right consistency. All glue pots are furnished complete with 6 feet of flexible conductor cord and porcelain three-heat plug switch.

List No.	Max. Watts	Capacity	Shpg. Wt.	List Price Each
141	500	1 quart	18 lbs.	\$18.40
143	650	2 quarts	25 lbs.	20.80
145	1000	4 quarts	60 lbs.	28.80

Always specify voltage when ordering.

"American" Solder Pot

The solder pot is used for melting comparatively small quantities of solder. The smaller sizes are for use on the bench for tinning, dipping, soldering small parts, etc. The larger pots are used for melting metals for bearings. They are all arranged for three heats. The minimum heat is enough to keep the metal in a molten condition.

List No.	Capacity	Max. Watts	Net Wt.	Shpg. Wt.	List Price Each
165	5 lbs.	250	9 lbs.	16 lbs.	\$14.40
166	10 lbs.	450	10 lbs.	19 lbs.	19.20
167	20 lbs.	900	16 lbs.	28 lbs.	26.40
177	50 lbs.	1500	25 lbs.	40 lbs.	32.00

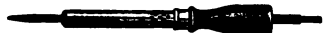
Always specify voltage when ordering.

Electrical Heating Devices

"AMERICAN BEAUTY" SOLDERING DEVICES

Soldering Irons

All soldering irons are furnished complete, finished in polished nickel, with six foot cords but no attachment plugs. Elements are removable and extra elements can be furnished complete with core.



No. 3108



No. 3111



No. 3110

No. 3108 SOLDERING IRON

This is a light telephone iron adapted for switchboard work. Tips can be furnished that will extend several inches beyond the end of the iron. Can be bent to any angle desired.

List No.	Wt.	Shpg. Wt.	Diam. of Tips	Watts	Length	Shape Tips	List Price Each
3108	10 oz.	1 1/4 lbs.	1/8 ins.	90	11 ins.	A	\$8.00

No. 3110 SOLDERING IRON

This is for small light work only, such as soldering together small brass parts connections, etc.

3110	1 lb.	1 1/2 lbs.	1/4 ins.	100	12 ins.	D	\$8.40
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No. 3111 SOLDERING IRON

This is a standard telephone iron used for switchboard and also by manufacturers upon small parts. It is the most popular iron for this class of work.

3111	15 oz.	1 1/2 lbs.	1/8 ins.	95	13 ins.	A	\$8.00
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Always specify voltage when ordering.



No. 3120



No. 3130



No. 3121

No. 3120 SOLDERING IRON

It is for all around light work. Used by electric wiremen, lead glaziers, etc.

List No.	Wt.	Shpg. Wt.	Diam. of Tips	Watts	Length	Shape Tips	List Price Each
3120	1 1/2 lbs.	2 lbs.	1 in.	150	12 ins.	C or D	\$8.40

No. 3121 SOLDERING IRON

This is for light constant work where a slightly hotter and heavier iron than the No. 3111 is required.

3121	1 1/2 lbs.	2 lbs.	1 1/4 ins.	130	13 ins.	B	\$8.00
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No. 3130 SOLDERING IRON

This is a very satisfactory iron for all around work, heavy enough to do any ordinary soldering, and still not too heavy for the lighter work.

3130	2 1/2 lbs.	3 lbs.	1 1/4 ins.	300	14 ins.	C or D	\$10.40
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Always specify voltage when ordering

†These devices can be secured for 30 and 60 volt circuits at no extra charge.

"AMERICAN BEAUTY" ELECTRICAL DEVICES


No. 3131



No. 3123



No. 3132

Soldering Irons
No. 3131 Soldering Iron

This is a good hot iron for light work and may be used to advantage on small parts, such as lamp bases, etc., and is extensively used by manufacturers.

List No.	Net Wt.	Shpg. Wt.	Diam. of Tip	Watts	Length	Shape Tip	List Price Each
3131	2 lbs.	3 lbs.	$\frac{1}{8}$ in.	240	14 ins.	B	\$10.00

No. 3132 Soldering Iron

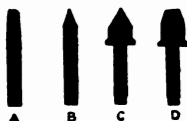
Adapted for model work, light pattern work, and for light tinsmith's work.

3132	1 $\frac{1}{4}$ lbs.	3 lbs.	1 in.	270	14 ins.	C	\$10.40
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No. 3123 Tipping Iron

This device is for use on special "Vacuum" soldering machines only. It is used by canning factories under the "Vacuum" system of soldering. It has no handle. The shank, 9 inches long, is made to fit into the machine.

List No.	Net Wt.	Shpg. Wt.	Diam. of Tip	Watts	Length (Without Tip)	Shape Tip	List Price Each
3123	1 $\frac{1}{4}$ lbs.	2 lbs.	$\frac{1}{8}$ in.	150	9 ins.	B	\$8.00


Extra Copper Tips

Numbers 3110, 3120, 3130 and 3132 are tempered cast tips. The others are drawn rod, the same size throughout, so that they can be extended or pulled out as the ends wear out. A or B tip can be bent to any angle desired. A or B tips should not be used on irons designed for C or D tips and vice versa.

List No.	Shape	Weight Tip only	List Price Each
3110	C or D	4 $\frac{1}{2}$ oz.	\$1.60
3120	C or D	8 oz.	1.60
3130	C or D	14 oz.	2.40
3132	C	8 oz.	1.60
3108	A	3 oz.	.96
3111	A	4 oz.	.96
3121	B	5 $\frac{1}{2}$ oz.	.96
3131	B	10 oz.	1.12
3123	B	6 oz.	.96


Laboratory Plates

These plates are used in the laboratory and refining companies and in the laboratories of steel works, where they are used for heating sand baths, etc. The surface of the plate heats to about 600 degrees F.

These hot plates are also adapted to cooking operations, such as heating water or other liquids in flat bottom utensils.

List No.	Width	Length	Heat Reg.	Max. Watts	Net Weight	List Price Each
2720	9 ins.	12 ins.	3	860	32 lbs.	\$20.00
2730	9 ins.	18 ins.	3	1290	60 lbs.	33.60
2740	12 ins.	18 ins.	3	1720	38 lbs.	41.60
2750	12 ins.	24 ins.	3	2580	50 lbs.	51.20
2770	18 ins.	24 ins.	3	3440	78 lbs.	68.00
2790	18 ins.	30 ins.	3	4300	100 lbs.	88.00

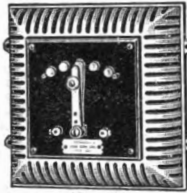
Voltages: Always specify voltage when ordering.

Electrical Heating Devices

"AMERICAN BEAUTY" ACCESSORIES



No. 472R



No. 400



No. 812

Temperature Regulators

By means of these Regulators or Rheostats, the temperature of the irons or other devices can be regulated from full heat to just enough to keep them warm. Satisfactory results can be obtained without the use of these regulators, but in some cases they are very desirable, as where irons have to be kept heated ready for use at any time.

A separate rheostat is necessary for each iron or device.

The R Type regulator is for the smaller devices consuming not over 250 watts.

List No.	Size	Height	Shpg. Wt.	No. of Heats	For Devices Consuming not more than	List Price Each
472R	5½ ins.	3 ins.	2½ lbs.	6	250 watts	\$8.00
400	10 ins.	10½ ins.	9 lbs.		400 watts	9.60
401	10 ins.	10½ ins.	9 lbs.		600 watts	9.60
402	10 ins.	10½ ins.	9 lbs.		800 watts	9.60
403	10 ins.	10½ ins.	9 lbs.		1000 watts	9.60

Three Heat Switches

These plug switches are regularly supplied with immersion coils, hot water urns, coffee urns, ovens, glue pots, solder pots, laboratory plates and griddles. By merely inserting the plug in different positions, various heats are obtained in the devices. These switches cannot be used with devices for one heat only; in fact only with those devices having three binding posts, as the various heats are obtained by connecting the heating element in multiple or series, this result being obtained by merely inserting the plug in different positions.

Switches are made entirely of porcelain with heavy brass contacts. May be used for open or concealed wiring, and have a capacity of twenty amperes at 250 volts.

List No.	Description	List Price Each
812	Plug and receptacle complete.	\$2.40
813	Receptacle only.	1.76
814	Plug only. ....	.80



No. 803



No. 804



No. 80



No. 806

Detachable Plugs

Without Cord

Description

List No.	Description	List Price Each
803	A composition, non-breakable plug used on "Beauty" Irons 3B, 6½B, and on Luminous Radiators 6020, 6125, 6270 and 6280.	\$0.72
804	Contact sleeves only, per pair. ....	.24
805	Plug complete, with contact sleeves and non-kink spring. This is used on Rite Heat Electric Iron. ....	.64
806	Contact sleeves only, per pair. ....	.24
806	An extra large plug of non-breakable composition. It is used on air heaters 4530 to 4560. It is furnished complete with contact sleeves and non-kink spring.	1.60
806	Contact sleeves only, per pair. ....	.64
	This is a large metal sheathed plug used on "Beauty" Irons 9B, 12B, 16B, 20B, 20HB, 24HB, 16VB, 20VB—Air Heaters 4510, 4512—Industrial Disc Heaters 3240, 3245 and 3250. Complete with contact sleeves and non-kink spring. ....	.96
	Contact sleeves only, per pair. ....	.40

"AMERICAN BEAUTY" ACCESSORIES

National Code Standard



No. 817



No. 820



No. 830



No. 840

Detachable Cords

These detachable cords are for irons, percolators, domestic and combination disc heaters, water heaters, toasters, chafing dishes, tea samovars and tea kettles.

List No.	Description	List Price Each
817	Six foot cord double conductor with detachable contact plugs and lamp socket attachment plug	\$2.00
818	Six foot cord only without contact plugs or attachment plug, double conductor	1.12
817-GS	{ Same respectively as 817 and 818, except finished in gray silk—used on "New-	2.40
818-GS	{ port" and "Argenta" Percolators and tea samovar	1.36
820	Same as No. 817 but triple conductor	2.56
821	Same as No. 818 but triple conductor	1.76
830	This is No. 850 red and black cord and is made up for "Beauty" Iron and comes complete with No. 803 detachable plug and lamp socket attachment plug	2.00
831	Same with No. 803 Detachable Plug only. Twin conductor	1.76
832	Cord only, red and black. Twin conductor	1.12
840	For "Rite Heat" Iron complete with No. 804 Detachable Plug and Lamp Socket Attachment Plug. The cord is black. Twin conductor	1.76
841	Cord with No. 804 Detachable Plug only. Twin conductor	1.44
842	Cord only, all black. Twin conductor	.80

Flexible Conductor Cords

This cord is of the highest possible grade and the greatest durability. This is important, for the conductor cord of an electric heating device is subjected to much twisting and bending.

POLISHED YARN COVERED CORD

National Code Standard

This cord is made with special braided copper conductor, covered with rubber insulation with pure braided asbestos insulation over this. The outer covering is of polished yarn. Color is black except in the case of cord No. 850, which can be supplied in black, or mixed red and black. The conductors are twisted.

The cord used on 9B, 12B, 16B, 20B, 20HB, 24HB, 16VB and 20VB Irons is No. 14 double conductor twisted, black polished yarn covered—Mfr. No. 852.

List No.	Size	Conductor (Twisted)	List Price per 100 ft.
850	16	Twin	\$12.00
851	16	Triple	17.60
852	14	Twin	16.00
853	14	Triple	24.00
854	12	Twin	22.40
855	12	Triple	32.00
856	10	Twin	41.60
857	8	Twin	51.20

MERCERIZED YARN CORD

National Code Standard

This cord is made similarly to the cord described above except that the outer covering is of mixed black and red mercerized yarn. The conductors are made both plain and twisted. This cord is used on warming pads, curling iron heaters, water heaters, disc stoves, tea kettles, toasters, percolators and some other articles.

890	18	Twin	\$11.20
891	18	Triple	16.00
892	16	Twin	12.80
893	16	Triple	18.40

"AMERICAN BEAUTY" ACCESSORIES

Porcelain Connector Plugs



Connector Plug

SINGLE POLE

These plugs are used on cords regularly supplied with water heaters, tea kettles, tea samovars, chafing dishes, coffee percolators, domestic disc heaters and devices of this kind. They are made of porcelain and enameled in black or red.

List No.	Description	List Price Each
807	Single plugs complete with contact sleeve and small spring.	\$0.40
808	Single plugs, porcelain only.	.24

NOTE: In ordering plugs, state whether plugs are to be supplied complete or whether porcelain parts only are desired.

Miscellaneous Parts

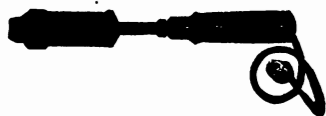
In ordering, state List number of iron for which handle is intended.

380150	Wood handle only, for household or laundry irons.	each	\$0.24
380151	Wood handle for 9B and all heavier irons.	each	.32
380152	Heat insulating stands for household or laundry irons.	each	.32
380153	Heat insulating stands for 9B and all heavier irons.	each	.40
380154	Suspension spring for cords—for any kind of irons.	each	.24
380155	Contact pins for "Beauty" Irons.	per pair	.16
380156	Extra eider-down covers for warming pads.	each	.96
380157	Extra rubber cloth covers for warming pads.	each	2.00
380158	Nursery bottle for water heaters, special "Hygeia" graduated bottle.	each	.96
380159	Small egg cage for water heaters 5205.		.32
380160	Large egg cage for water heaters 5215.		.40
380161	Glass tops are all same size and will fit any percolator.		.24

Heating Elements

List No.	Description	Approx. Shpg. Wt. Lbs.	List Price Each	List No.	Description	Approx. Shpg. Wt. Lbs.	List Price Each
6T	Triangle Lektrik Iron.	3/4	\$2.00	117	Curling Iron Heater.	1 1/2	\$2.00
6 1/2 B	"Am. Beauty" Irons.	3/4	2.40	111	Curling Iron Heater.	1 1/2	2.00
9B	"Am. Beauty" Irons.	1	4.00	113	Curling Iron Heater.	1 1/2	2.00
12B	"Am. Beauty" Irons.	1 1/2	5.60	115	Curling Iron Heater.	1 1/2	2.00
16B	"Am. Beauty" Irons.	1 1/2	5.60	150	Curling Iron Heater.	1 1/2	2.00
20B	"Am. Beauty" Irons.	1 3/4	6.40	112	Curling Iron Heater.	1 1/2	2.00
20HB	"Am. Beauty" Irons.	1 3/4	6.80	116	Curling Iron Heater.	1 1/2	2.00
24HB	"Am. Beauty" Irons.	1 3/4	6.80	4320	Hot Water Urns.	12	12.80
16VB	"Am. Beauty" Irons.	1 1/2	6.80	4325	Hot Water Urns.	15	14.00
20VB	"Am. Beauty" Irons.	1 1/2	6.80	4330	Hot Water Urns.	26	15.20
5825	Toaster.	3/4	2.40	4420	Coffee Urns.	24	16.80
3210	Disc Heater (Dom. Type).	3/4	2.80	4430	Coffee Urns.	26	16.80
3221	Disc Heater (Dom. Type).	1	3.20	4440	Coffee Urns.	28	17.60
3231	Disc Heater (Dom. Type).	1 1/4	4.00	4450	Coffee Urns.	33	19.20
3240	Disc Heater (Ind. Type).	1 1/4	6.00	5608	Broilers (Coils and Grids).	10	9.60
3245	Disc Heater (Ind. Type).	5/8	6.80	5608	Broilers (Coils only).	1	4.00
3250	Disc Heater (Ind. Type).	3/4	8.00	5626	Broilers (Coils and Grids).	20	24.00
3110	Disc Heater (Comb. 5 in 1).	3/4	6.40	5626	Broilers (Coils only).	2 1/4	12.00
3210	Water Heater (New Pint).	1 1/2	2.00				
4004	Coffee Percolator.	3/4	3.20	Soldering Irons			
4006	Coffee Percolator.	3/4	3.20	3108	Elements complete.	3/4	4.00
4009	Coffee Percolator.	3/4	3.20	3110	Elements complete.	3/4	4.00
4104	Coffee Percolator.	3/4	3.20	3111	Elements complete.	3/4	4.00
4106	Coffee Percolator.	3/4	3.20	3120	Elements complete.	1	4.00
4109	Coffee Percolator.	3/4	3.20	3121	Elements complete.	1	4.00
4006	Coffee Percolator.	3/4	2.00	3130	Elements complete.	1 1/2	4.80
306	Tea Samovar.	3/4	3.20	3131	Elements complete.	1 1/2	4.80
335	Chafing Dishes.	1	6.40	3132	Elements complete.	1 1/2	4.80
345	Chafing Dishes.	1	6.40	3123	Elements complete.	1	4.00

APEX SOLDERING IRONS



No. 10
With Branding Attachment



No. 10
With Soldering Pot Attachment

Multiple-Kartridge Electric Soldering Iron

This iron is simple in construction, with no complicated parts to get out of order. The automatic connecting devices which fit into each Kartridge, make a perfect connection, the Kartridges can be quickly changed by simply unscrewing the stem and the tip and there are no connections of any kind which must be adjusted by hand. This iron is endorsed by the Board of Fire Underwriters, and is in every-day use by the largest telephone manufacturers and other manufacturers of the highest standing.

No. 10 With Branding Attachment

List No.		Wattage	Length	Weight	*List Price Each
10	Complete with 1 Die and 1 Kartridge.....	275 to 450	17 to 20 ins.	4½ lbs.	\$13.60
	Extra Soldering Tips with Sleeves.....				1.70
	Extra Kartridge, any Wattage.....				5.10

The above is equipped with 6-foot cord and attachment plug. Branding irons of any size to order. Branding irons are inter-changeable with tips or soldering pot.

No. 10 With Soldering Pot Attachment

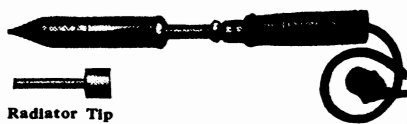
List No.		Wattage	Length	Weight	*List Price Each
10	Complete with 1 Kartridge.....	300 to 400	16 to 20 ins.	6½ lbs.	\$13.60
	Extra Soldering Tips with Sleeves.....				1.70
	Extra Kartridges, any Wattage.....				5.10

Equipped with 6-foot cord and attachment plug. Pot is interchangeable with branding iron or soldering tips.

* Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.



Apex Multipl-Kartridge Electric Soldering Iron No. 3



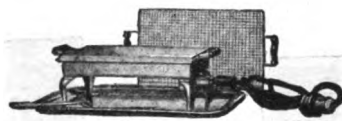
Apex Multipl-Kartridge Electric Soldering Iron No. 5

Electric Soldering Irons

List No.		Wattage	Length	Weight	List Price Each
3	Complete with 1 Kartridge.....	70-160	14 to 18 ins.	1 lb.	\$6.80
	Extra tips with sleeves.....				.86
	Extra Kartridge, any wattage.....				2.56
5	Complete with 1 Kartridge.....	160-275	14 to 18 ins.	2½ lbs.	8.50
	Extra tip with sleeve.....				1.28
	Extra Kartridge, any wattage.....				3.40

Equipped with 6-foot cord and attachment plug.

MISCELLANEOUS HEATING DEVICES



Toaster-Stove

Westinghouse Toaster-Stove

A complete and practical electric stove for table cooking. Has two tops—a grid used for toasting and an aluminum griddle plate used for baking griddle cakes, or inverted for frying purposes. Attains a cooking temperature in from three to five minutes after the current is turned on. The top is large enough to bake two griddle cakes at a time. No grease is required, consequently there is no smoke. The toaster-stove is 9 inches long, $5\frac{1}{2}$ inches wide, $3\frac{3}{8}$ inches high and is finished in polished nickel. It is furnished complete with six-foot flexible cord with attachment plug and cut-out switch.

List No.	Voltages	Watts	*List Price Each
196157	100—107	500	\$6.68
196158	108—115	500	6.68
196159	116—125	500	6.68
Renewal Units	.....	...	3.68



Mesco Curling Iron

Mesco Electric Curling Iron

This curling iron can be attached to any lamp socket, heats quickly, uses no more current than an incandescent 8 candle power lamp.

It is simple, easy to use, and will not get out of order.

The heat comes from the inside and is evenly distributed over surface of iron from end to end. Made for 100 to 125 volts only.

List No.		‡List Price Each
610	Electric Curling Iron, with Cord and Plug. 110 V., 30 Watts.	\$4.50

*Delivery F. O. B. Factory, Pittsburgh, Pa. ‡Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

ELECTRIC RANGES



No. 60



No. 55

Hughes Ranges Nos. 55 and 60

No. 55 and No. 60 Ranges have been designed to meet the demand for extra size ranges for hotel, , purposes. In design and construction they are similar to the No. 50 Range, but have six top instead of four. The No. 60 also has a separate broiling oven.

No. 55 Range is 60 inches long, 60 inches high, 25 inches wide, has six top burners. Cooking surface, s from floor, is 24 x 35 inches. Each burner is controlled by three-heat switches. Maximum onsumption of left hand and center front burners, 1,100 watts, right hand 1,500 watts; back burners, s. Oven upper and lower heating units, each 1100 watts. Warming closet same as on Range No. 50.

No. 60 Range is 60 inches long, 67 inches high and 25 inches wide. Current consumption of top same as No. 55. Broiling oven 8 x 18 inches. Current consumption of broiling unit 1800 watts.

	Wt.	*List Price
	Lbs.	Each
Electric Range.....	400	\$180.00
Electric Range.....	475	210.00
White Enamel Splashes.....		9.00

Hughes Range No. 50

e Hughes No. 50 Electric Range is an ideal electric cooker. It offers all of the advantages of the as range, and in addition the freedom from dirt, soot and poisonous gases, the absence of danger en flames, the uniform results derived from a heat absolutely even at all times, and the comfort momy of a heat conserving, fireless cooker oven, insuring a cool kitchen and no wasted currents. f the special features of this range are its elevated oven, which does away with all stooping; warming onveniently located above oven; broad shelf for utensils, extending full length of range below top n; thermometer in door of oven showing its exact temperature at all times.

e body is of heavy gauge steel, black enameled; top of pressed steel; cast legs, nickel plated. Two ating units, each consuming 1100 watts; four on top, two rear consuming 880 watts, left hand front, ats and the front right-hand, 1500 watts; all controlled by separate three-heat switches. Length over inches; width, 22 inches; height to top of warming closet, 60 inches; oven (inside dimensions), 18 x 2 inches.

	Wt.	*List Price
	Lbs.	Each
Electric Range.....	350	\$150.00

Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

ELECTRIC RANGES



No. 48



No. 40

Hughes Range No. 48

This range is of the same appearance and construction as the No. 40, except that it has six top burners instead of four. It is especially desirable for large families, boarding houses, etc. It is reasonable in price, of rugged construction and very efficient. Maximum current consumption of left hand and center front burners 1100 watts, right hand 1500 watts, back burners 880 watts. The oven is equipped with two heating units, each consuming 1100 watts on the "high" heat, 550 on the "medium" and 275 on the "low"; one located in the bottom and the other in the top, which is used for broiling. A broiling pan and rack is also provided with this range.

Cooking surface, 33 x 23 $\frac{3}{8}$ inches. Size of oven, 18 x 18 x 12 inches inside measurement.

List No.		Wt. Lbs.	*List Price Each
48	Electric Range.....	230	\$135.00
	Warming shelf extra, \$7.00 list.		

Hughes Range No. 40

With Warming Shelf

This range has been recognized as one of the finest electric ranges made for the average home, due to its fine appearance, the simplicity and durability of its construction, the convenience of its heat control and its ample size.

The top has four burners, two rear consuming 880 watts, left hand front 1100 watts and right hand front 1500 watts, controlled by separate three-heat switches, conveniently located. The operator can have a hot, quick fire, or a slow simmering fire at will by simply turning the button.

The oven has two heating units, one located in the top and the other in the bottom, each consuming 1100 watts on the "high," 550 on the "medium" and 275 on the "low." There is furnished with every range, without extra charge, a broiler attachment, which fits into the oven under the top burner, and two separate racks. Size of oven, 18 x 18 x 12 inches.

List No.		Wt. Lbs.	*List Price Each
40	Electric Range.....	197	\$105.00

Warming shelf extra, \$7.00 list.

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

ELECTRIC RANGES


No. 44



No. 33

Hughes Range No. 44

This range is of the same type and general construction as the No. 33. It is of ample size to meet the requirements of a large family. The top has four burners, two of which the rear burners have a current consumption of 880 watts, left-hand front burner, 1100 watts and the right-hand front burner, 1500 watts. Current consumption of the oven burners is 1100 watts on the "high" heat, 550 watts on the "medium" and 275 watts on the "low." The oven is six inches deeper, inside measurement, than the oven of the No. 33 Range, and is the same size as the standard gas oven. It is also equipped with broiling pan and rack, the top unit in the oven being utilized for broiling purposes. Dimensions: Height from floor to top of oven, 62 inches; cooking surface, 24 x 25½ inches; floor space, 33 x 28 inches. Size of oven, 18 x 18 x 12 inches inside measurement.

List No.		Weight Lbs.	*List Price Each
44	Electric Range.....	268	\$112.50

Hughes Range No. 33

This is one of the latest models; is a compact and attractive elevated oven range, at a moderate price. It has a body of heavy gauge steel, black enameled, top of pressed steel, cast legs and door frame, and nickel trimmings. The elevated oven does away with all stooping, a convenience much appreciated by the housewife. It is provided with a broiling pan and rack, and the top burner is utilized as a broiler. The oven is built on the fireless cooker principle, its heavy insulation conserving the heat. Current consumption in rear burner, 880 watts, left hand front burner, 1100 watts and right hand front burner, 1500 watts. The oven has two heating units—one located in the top and the other in the bottom, giving perfect heat distribution and splendid baking results. Current consumption of oven burners is the same as the top burners, viz., 880-440-220 watts. All of the heating units are controlled by separate three-heat switches, from which the indications can be read from any position. This range is built for heavy kitchen duty and is fully guaranteed. Dimensions: From floor to top of oven, 62 inches; cooking surface, 21 x 25½ inches; floor space, 30 x 28 inches. Size of oven, 18 x 12 x 12 inches inside measurement.

List No.		Weight Lbs.	*List Price Each
33	Electric Range.....	230	\$97.50

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

ELECTRIC RANGES



No. 30



No. 27

Hughes Range No. 30

With Warming Shelf

A handsome and desirable range designed and built for service; one that gives excellent satisfaction in the average family. Solidly constructed of black enameled steel top, cast legs nickel plated. Three top burners, each controlled by separate three-heat switches have a current consumption of 880, 1100 and 1500 watts, respectively, for the left hand, center and right hand burners. The oven has two heating units, one in the top and the other in the bottom. Oven dimensions, 18 x 12 $\frac{1}{2}$ x 12 inches. A broiler is furnished the same as with No. 40 and No. 50. All ordinary kitchen utensils can be used with them. The current consumption of all the burners is the same, 220-440-880 watts.

List No.		Wt. Lbs.	*List Price Each
30	Electric Range.....	145	\$90.00
	Warming Shelf extra.....		10.50

Hughes Range No. 27

With Warming Shelf

The No. 27 is another popular small range for families of moderate cooking requirements. It is similar in style and construction to the No. 25 Range, with the additional advantage of another burner. Besides the burner in the bottom of the oven, there is one in the oven top for broiling. On top of the range there are two burners. All of the heating units are controlled by separate three-heat switches. Body is of polished steel, steel top and legs plain black finish. A broiler attachment is furnished without extra charge with this range. It fits into the oven under the top burner. Current consumption of left hand top burner 880 watts. Oven units same. Oven dimensions, 18 x 12 x 12 inches.

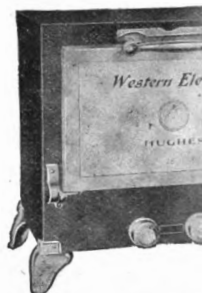
List No.		Wt. Lbs.	*List Price Each
27	Electric Range.....	140	\$75.00
27	Electric Range with nickel trimming.....		79.50
	Warming Shelf extra.....		10.50

* Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

ELECTRIC RANGE AND OVEN



No. 25



Nos. 35 and 45

Hughes Range No. 25

To meet the demand for a moderate-priced electric range, we offer the Model No. 25. It has a rugged construction as the other ranges, and is especially suitable for smaller families, where requirements do not necessitate a range of larger capacity. This range has two top burners and an oven, controlled by separate three-heat switches. The body is of black enameled steel finished in plain black. The oven is heavily insulated, embodying the fireless cooker in time affording a practical baking oven. The door is of the new refrigerator type, contributing a high degree of efficiency. Current consumption left hand front burner 880 watts, burner, 1500 watts. Oven 450-900-1800 watts. Oven equipped with thermometer. 25 x 11 inches; height, 34 inches.

List No.	Mfr. No.	
380209	25	Electric Range.....
380213	25	Electric Range with nickel trimming.....
		Warming Shelf extra.....

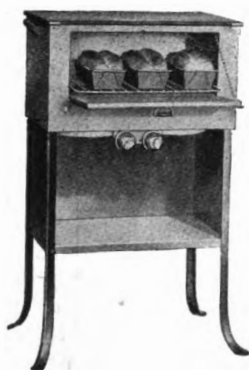
Hughes Ovens No. 35 and No. 45

A portable oven is very convenient. It occupies but little space, is never in the respect a most efficient and practical oven for all around service. It is constructed of cast iron legs, nickel plated. Heavily insulated to hold the heat in the oven. Once the current had been turned off entirely for one hour, the oven was still at a baking heat. This idea is used as much as possible in the construction of all ovens. This oven is equal in attachment, the same as is used in the ranges. The top and bottom units are controlled below the oven door, giving nine degrees of heat. These portables are made in two sizes. No. 35, inside measurements, 18 x 12 x 12 inches; maximum current consumption, 1800 watts. Oven No. 45, inside measurements 18 x 18 x 12 inches; maximum current consumption, 1800 watts.

List No.	Mfr. No.	
380210	35	Portable Oven.....
380211	45	Portable Oven.....

* Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest Electrical Heating Devices

ELECTRIC STOVES AND OVENS



Hughes "17" With Portable Oven



Hughes "17" Without Portable Oven

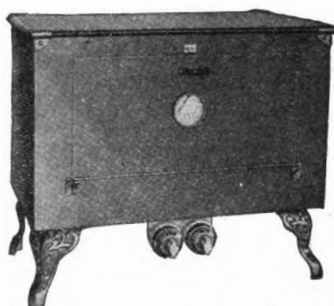
Hughes No. 17 Electric Stove

The No. 17 is a two-burner stove with or without oven. The heating elements consist of two standard units, each having a current consumption of 1100 watts on the high heat, 550 on the medium and 275 on the low. The oven is heavily insulated and highly efficient. It is placed on top of the stove and can be set aside when not in use. By using this stove in conjunction with ovens No. 35 and 45, it will give ample cooking requirements for a large family. Height from floor to top of oven, 41 inches. Height from floor to top of stove, 29 inches. Cooking surface, $23\frac{1}{2} \times 12\frac{5}{8}$ inches. Floor space, $27\frac{1}{2} \times 17\frac{1}{2}$ inches. Size of oven, 18x11x8 inches.

List No.	Mfr. No.		Weight	*List Price
380277	17	With portable oven.....	60 lbs.	\$37.50
380278	17	Without portable oven.....	32 lbs.	25.50



Hughes "9" Portable Oven



Hughes Portable Oven with No. 15 two-burner hot plate

Hughes Portable Ovens

No. 9. Is furnished complete with attachment plug and cord. Current controlled by three-heat switch. Current consumption, high heat 660 watts, medium heat 330 watts, and low heat 165 watts. Inside dimensions $10\frac{1}{4} \times 11 \times 9$ inches.

No. 15. This oven can be used on top of the No. 15 two-burner hot plate. Inside dimensions are 17 inches wide, 11 inches deep and 8 inches high.

List No.	Mfr. No.		Weight	*List Price
380274	9	Portable oven.....	35 lbs.	\$21.00
380275	..	Portable oven, complete with No. 15 two-burner hot plate.....	38 lbs.	37.50
380276	..	Portable oven only.....		12.00

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

Western Electric

JUNIOR NO. 6



Junior Range No. 6

Western Electric

Junior No. 6

An Electrical Range for Children

The Junior range No. 6 is a practical, electric range in which cooking and baking can actually be done by children. It is an entirely new idea that has already proved remarkably popular. Its main feature is not only the pleasure it gives children, but it is invaluable also as an educator.

The Junior range is absolutely safe. Mothers may permit their children to use it freely without thought of danger.

For countless generations little girls have had to be content with the toy ranges in which no cooking could be done.

The construction of the Junior is substantial and is high grade throughout. It is guaranteed for one year, and with any kind of care will last for many years. It may be attached to any lamp socket, and consumes less current than an electric flatiron.

With every Junior range is furnished, free, a set of four nickel plated cooking utensils (tea-kettle, baking pan, stewpan and pot) and a cook book in words that children can understand.

Details

Height to top of shelf, 15 inches. Cooking surface, $11\frac{1}{4} \times 8$ inches. Inside dimensions of oven, $4\frac{1}{2}$ inches wide, $2\frac{1}{4}$ inches high, 5 inches deep. Number of burners, 6. Net weight, $7\frac{1}{2}$ lbs. Current consumption, 500 watts.

Finished in black enamel with nickel-plated top, legs and oven door front.

List
No.

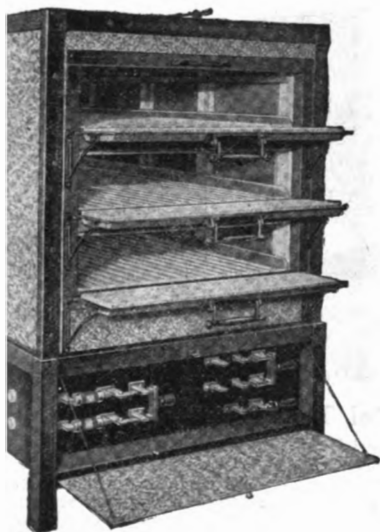
6 Jr. Furnished complete with attachment plug, cord and switch.....

List Price
Each
\$12.00

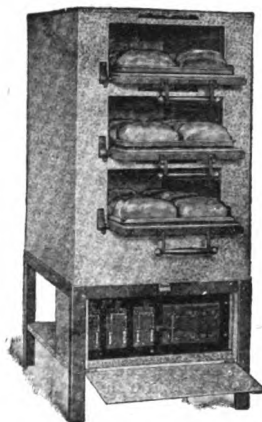
Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.
Electrical Heating Devices

26-2

ELECTRIC OVENS



Bake Ovens



No. 150

Hughes Electric Bake Ovens

are proven to give better results than fuel ovens. Especially adapted for hotels, bakeries, they are clean and compact, and have the advantage of perfect control of the heat supply. They insulated and radiate practically no heat. They occupy about one-fifth of the space required of the same capacity. In these ovens there is an absolutely ideal heat distribution. The heating elements in the bottom and depending on an uncertain and variable circulation of heat are distributed for even baking through all parts of the article being cooked. In these ovens the heat is perfectly controlled, correctly applied and more uniform than in any other type in use, and brick ovens. The body of these ovens rests on a substantial angle iron frame. The outer door is iron. The inside, which is entirely separate, is black steel. Won't it pay to eliminate the fumes of gas from your baking process, heat at the throw of a switch, heat that you want you are through, heat that is positively uniform and perfectly distributed, bake scientifically and without attention.

No. 18 x 26 In. Roll Pans	No. Compartments	Size of Compartments in Inches			Sq. Ft. of Baking Surface	Outside Dimensions in Inches			Projection of Switch Box On Right Hand Side-Inches	Shipping Weight—Approximate Lbs.	Maximum Kw. Consumption per Hour	List Price F. O. B. Chicago	List Price (Extra) for Tile Decks
		W.	D.	H.		W.	D.	H.					
3	3	18	27	8	10	25.5	33	63	4 1/2	750	4	\$190.00	\$6.00
4	4	18	27	8	13.5	25.5	33	66	4 1/2	900	5	230.00	7.50
6	3	37	27	8	20.75	45	33	63	5 1/2	1050	7.3	270.00	11.00
8	4	37	27	8	27.75	45	33	66	5 1/2	1250	10	310.00	15.00
12	3	37	53	8	41	47	60	64	6 1/2	1550	15	370.00	22.00
16	4	37	53	8	54.5	47	60	67	6 1/2	1750	20	540.00	29.00
18	3	37	80	8	61.5	47	87	64	6 1/2	2000	23.5	610.00	35.00
24	4	37	80	8	82	47	87	67	8	2300	31	730.00	46.00
36	3	73	80	8	121	83	87	64	9	3000	47	1300.00	69.00

50, 300, 315 and 400 are shipped knocked down.

With tile decks have a 7 inch clearance, instead of 8 inch, unless ordered specially.

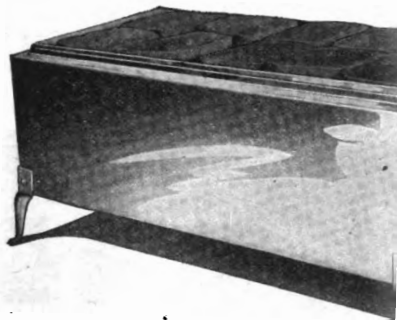
meter can be supplied at an extra price of \$15 net.

Also be used for roasting meats, poultry, etc. Also for baking cores and any other work

special ovens for enameling and other purposes.

Factory, Chicago, Ill. For warehouse deliveries write nearest house.

HUGHES ELECTRIC TOASTER



Hotel Type Electric T

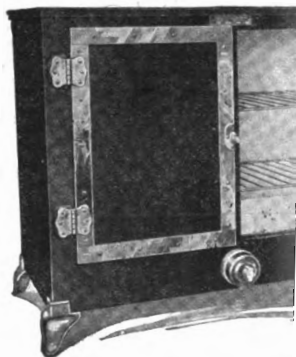
Hughes Hotel Type El

This toaster is an entirely practical electrical toaster, where large quantities of good toasts are needed quickly. It has two trays, one above and one below, so that 16 slices can be toasted simultaneously. Then the trays are interchanged and the top tray is toasted on the lower side. No heat is wasted. Only one operation is required. Every slice is toasted on both sides. This toaster goes anywhere—kitchen, butler's pantry or dining room. It is turned off again when you are through. Finished in nickel plate, it measures 8 inches by 18½ inches. Outside dimensions, 9 inches by 19½ inches. Maximum current consumption is 2 K.W.

List No.

380313

Hotel Type Electric Toaster.....



Electric Plate W

Hughes Electric P

The Hughes Electric Plate and Food Warmer effectively warms plates and food in a restaurant. It requires but little space and has a simple and elaborate system of piping, it can be placed anywhere and in any size desired. There are two standard sizes, the specifications are as follows:

- No. 1. 35 inches wide, 30 inches high and 18 inches deep
- No. 2. 25 inches wide, 41 inches high and 19 inches deep

The maximum current consumption is 1500 watts on high. The heating units are located in the bottom. The construction is rigidly braced in the center.

List No.

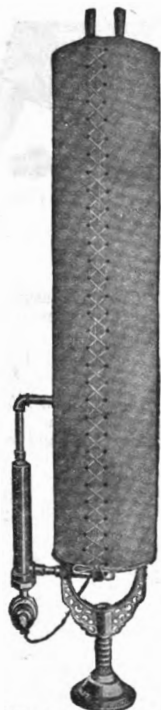
- 1. Plate and Food Warmer.....
- 2. Plate and Food Warmer.....

*Delivery F. O. B. Factory, Chicago, Ill. For wareh

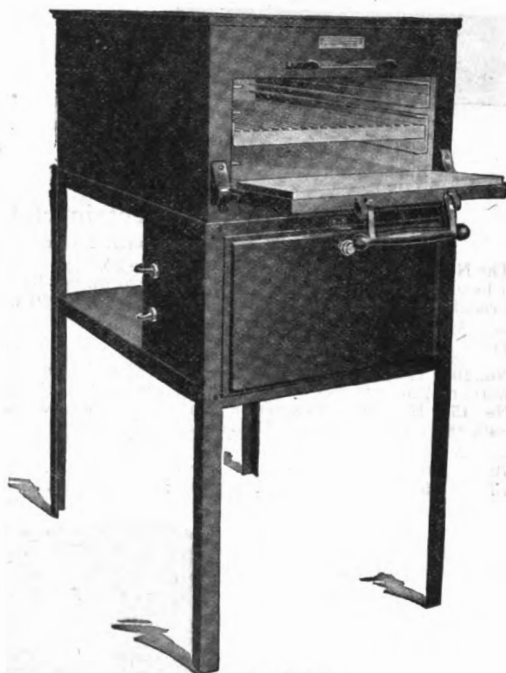
Electrical and Heating Appliances

28-1

HUGHES ELECTRIC WATER HEATER, BROILER AND GRIDDLE



Electric Water Heater



Electric Broiler

Hughes Electric Water Heater.

This water heater can be attached to any kitchen boiler in the same manner as the ordinary gas circulation heater. In fact, it is an electric circulation water heater of 2 K.W. maximum consumption and is controlled by a three heat switch.

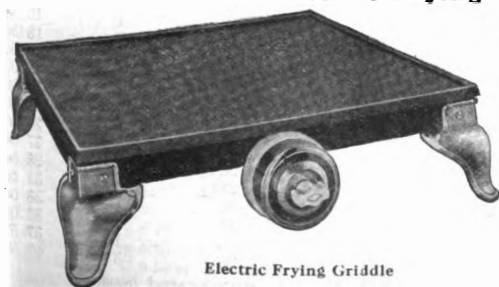
List No.		Std. Wt.	Each
380314	Electric water heater only (exclusive of tank and fittings)	25 lbs.	\$30.00

Electric Broilers

This broiler applies an intense heat, sears the surface of meats instantly and retains practically all juices. Built in three sizes, of substantial construction throughout. The outside is finished in black iron. The body is supported by an angle iron frame in which rests the panel board containing the switches, which provide three heat control.

List No.	Type	Inside Dimensions in Ins.			Outside Dimensions in Ins.			Comp.	Net Weight Lbs.	Std. Weight Lbs.	Current Consumption K.W.	List Price
380315	A	18	30	8	22	41	51	1	225	350	4½	\$180.00
380316	B	18	30	8	44	41	51	2	450	665	9	270.00
380317	C	32	30	8	36	42	51	1	445	636	10	255.00

Electric Frying Griddle



Electric Frying Griddle

This griddle is made expressly for frying fish, eggs, bacon, chops, steaks, etc., and also for use as a cake griddle. It is solidly constructed of steel and cast iron, and supported on four nickel-plated legs. Dimensions, 18 x 18 inches; height, 6 inches. The maximum current consumption is 3 K.W.

List No.		List Price
380318	Electric Frying Griddle.	\$48.00

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries, write nearest house.

ELECTRIC HOT PLATES AND RADIATORS



Hughes "20" Hot Plate



Hughes "10" Hot Plate

Hughes Electric Hot Plates

Three-burner with Three-heat Control

The No. "20" hot plate has cooking surface $14 \times 32\frac{1}{2}$ inches, $6\frac{1}{2}$ inches high. Current consumption of left hand and center burners each 880, 440, 220 watts. The right hand burner for the purpose of more rapid cooking has greater heating capacity. High heat 750 watts, low heat 375 watts.

List No.	Mfr. No.		Weight	List Price
380271	20	Hot plate, nickel finish	50 lbs.	\$37.50

No. 10. Is fitted with a long, flexible cord and attachment plug. Current consumption, 165, 330, 660 watts or 220, 440, 880 watts. Cooking surface $10\frac{1}{2} \times 10\frac{1}{2}$ inches. Stands $5\frac{1}{2}$ inches high.

No. 15. Has cooking surface 10×21 inches, $6\frac{1}{2}$ inches high. Current consumption left hand burner, 220, 440, 880 watts; right hand burner, 1500, 750-375.

List No.	Mfr. No.		Weight	List Price
380272	10	Single burner, with three-heat control.	17 lbs.	\$12.76
380273	15	Two-burner, with three-heat control.	44 lbs.	25.50



Hughes Electric Radiators

Hughes Electric Radiators

To take chill off bedroom or living-room in spring or fall when the furnace is not going. When supplied with three-heat switches any degree of heat desirable can be procured.

List No.	Mfr. No.	Wattage	Length Inches	Width Base Inches	Height Inches	Weight Lbs.	Heat	List Price
380283	106	660	15	9	17 $\frac{1}{2}$	12	1	\$9.00
380284	110	660	15	9	17 $\frac{1}{2}$	12 $\frac{1}{2}$	3	12.00
380285	116	1000	15	9	17 $\frac{1}{2}$	12	1	10.50
380286	119	1000	15	9	17 $\frac{1}{2}$	12 $\frac{1}{2}$	3	13.50
380287	121	1500	15	9	20 $\frac{1}{2}$	13 $\frac{1}{2}$	1	13.50
380288	125	1500	15	9	20 $\frac{1}{2}$	13 $\frac{1}{2}$	3	18.00
380289	128	2000	15	9	23 $\frac{1}{2}$	14	1	18.00
380290	130	2000	15	9	23 $\frac{1}{2}$	14 $\frac{1}{2}$	3	21.00
380291	133	2500	19 $\frac{1}{2}$	9	23	23 $\frac{1}{2}$	1	24.00
380292	136	2500	19 $\frac{1}{2}$	9	23	23 $\frac{1}{2}$	3	27.00
380293	139	3000	19 $\frac{1}{2}$	9	23	23 $\frac{1}{2}$	1	28.50
380294	142	3000	19 $\frac{1}{2}$	9	23	23 $\frac{1}{2}$	3	31.50
380295	145	3500	22 $\frac{1}{4}$	9	23	25	1	33.00
380296	148	3500	22 $\frac{1}{4}$	9	23	25	3	36.00
380297	151	4000	22 $\frac{1}{4}$	9	23	25	1	37.50
380298	154	4000	22 $\frac{1}{4}$	9	23	25	3	40.50

Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries, write nearest house.
 Electrical Heating Devices

Western Electric

SUNBEAM INCANDESCENT LAMPS



Sunbeam Lamp Carton

How to Order

In order to facilitate the execution of orders and to avoid misinterpretation we would request that the following facts be stated clearly on each order.

Quantity

Always state the number of lamps desired. When ordering lamps, one should bear in mind the fact that we carry a large stock of lamps in standard package quantities, and order for less than standard package quantities incurs delays and needless expense on account of repacking, which necessarily has to be done in order to supply other than standard quantity. Whenever it becomes necessary to order special lamps, we reserve the right to fill all such orders either short or in excess of the exact quantity ordered within the limits of 10 per cent. This is necessary on account of the fact that it is impossible to always produce an exact quantity of any special lamp.

Size of Lamps

Always state in watts whether 40 watt, 60 watt, etc., size is desired. In ordering street series lamps, however, give amperes and candle power.

Class

Always state whether Mazda, Gem, etc., class lamp is desired.

Circuit Voltage

Always give voltage at the lamp socket of the circuit on which the lamp is to be used.

Style and Size of Bulb

Always state, for example, whether S-19, G-25, etc., is the style desired.

Finish of Bulb

Always state whether clear, bowl frosted, or all frosted lamp is desired. If colored lamps are to be ordered, state color and whether lamps are to be superficially colored or made of natural colored glass.

Style of Base

In ordering always state, for example, Style 100, for medium screw sockets; Style 400, for Mogul screw sockets, etc. If a lamp is scheduled as being supplied with either skirted or unskirted base, the order should distinctly specify which is desired.

Western Electric

SUNBEAM INCANDESCENT LAMPS

Standard Bases



Bases

The prices in each schedule cover only lamps fitted with the base or bases stated therein. The price of lamps fitted with other bases may be obtained on application.

Lamps regularly fitted with Medium Screw Unskirted Base, if fitted with Medium Screw Skirted Base, will take an additional charge of 20 cents to list prices.

There shall be no reduction in the price of lamps which are regularly based when furnished unbased.

Instructions

Special Styles

We can furnish headlight, resistance, telephone switchboard, navy, torpedo, battery inspection, diving, Fisk instrument, gun, scarf pin, midget base, optical, surgical and dental lamps, in fact any special type in addition to the standard styles listed in this bulletin.

Extra Charges

All extra percentage charges shall be figured on the basic list price of the clear lamps.

Tipless Lamps

The prices given cover lamps with a tip unless otherwise indicated; for tipless lamps the additional charge is 10% on Gem and 20% on Mazda.

For anchoring filaments to the bulb in Gem lamps, except in the case of such lamps as are regularly standardized with bulb anchored filaments, an additional charge of 6 cents list price for each anchor shall be made.

Frosted Lamps

The prices for frosted lamps cover only lamps either bowl frosted or all frosted, except where Bull's-Eye frosting is specifically mentioned. The prices of any lamps with special frosting may be obtained on application.

Colored Lamps

For superficial coloring, excepting opal, add 15 per cent. to list price of clear lamps. For superficial opal coloring (opal dipping) a lamp, the list additional charge to the price of the lamp is the same as the list additional charge for frosting the lamp. When 10,000 or more of any one color of superficially colored lamps, or 10,000 or more frosted lamps (not including a combination of the two) are ordered at one time, the additional charges are two-thirds the regular charges. For natural colored lamps add the following percentage charges to the price of clear lamps:

	Gem and Mazda Lamps (Except S-14 and G-16½ bulbs)	Mazda and Gem S-14 and G-16½ bulbs
Green-Blue	50%	25%
Purple	75%	35%
Ruby-Opal	100%	50%
Amber-Canary	150%	60%

Etching Letters

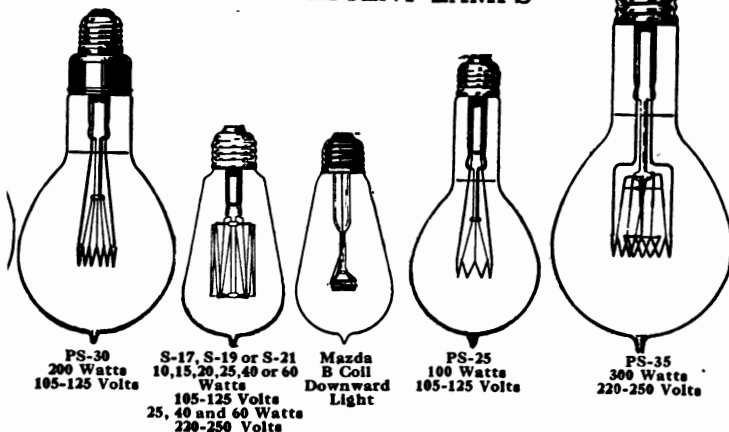
The following charges for etching letters or designs on lamps are net and subject to no discount.

Class of Lamp	Size in Watts (For Street Series Lamps, Size in Candlepower)	Net Price of Etching per Lamp
Mazda	50 or less	¼c
Mazda	Over 50, to and including 80	¾c
Mazda	Over 80, to and including 150	1 c
Mazda	Over 150, to and including 250	1½c
Mazda	Over 250	1¾c
Gem	All sizes	¾c

Incanescent Lamps

Western Electric

SUNBEAM INCANDESCENT LAMPS



Mazda Lamps

LARGE STYLE—STRAIGHT SIDE TYPE

some of the regular multiple lamps for ordinary lighting requirements.

of np 1 tts	Effi- ciency W. P. C.	Type and Size Bulb	Diam. Bulb Inches	Maximum Over All Length Inches	Base Regularly Supplied	Std. Pkg. Qty.	Price Each	
							Clear	Frosted
0	1.25	S-17	2 1/8	4 3/8	Med. Screw	100	\$0.54	\$0.60
5	1.10	S-17	2 1/8	4 3/8	Med. Screw	100	.54	.60
0	1.07	S-17	2 1/8	4 3/8	Med. Screw	100	.54	.60
5	1.05	S-19	2 3/8	5 1/4	Med. Screw	100	.54	.60
0	1.03	S-19	2 3/8	5 1/4	Med. Screw	100	.54	.60
0	1.00	S-21	2 3/8	5 1/2	Med. Screw	100	.72	.80
0	.95	S-30	3 3/4	7 7/8	Med. Scr. Sk.	24	1.30	1.44
5	1.20	S-19	2 3/8	5 1/8	Med. Screw	100	.66	.72
0	1.12	S-19	2 3/8	5 1/8	Med. Screw	100	.66	.72
0	1.10	S-21	2 3/8	5 1/8	Med. Screw	100	.90	.98
0	1.00	S-30	3 3/4	7 7/8	Med. Scr. Sk.	24	1.60	1.74
0	1.00	S-35	4 3/8	8 3/4	Med. Scr. Sk.	24	2.40	2.60
0	.95	S-40	5	10	Med. Scr. Sk.	12	4.00	4.30

MAZDA B COIL—DOWNWARD LIGHT

5		S-19	2 3/8	5 1/4	Med. Screw	50	\$0.64	\$0.70
0		S-19	2 3/8	5 1/4	Med. Screw	50	.64	.70
0		S-21	2 3/8	5 1/2	Med. Screw	50	.82	.90

PEAR SHAPE—TYPE C

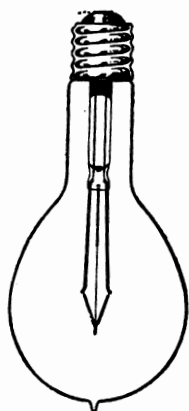
0	1.00	PS-25	3 1/8	7 1/8	Med. Screw	24	\$2.00	\$2.10
0	.90	PS-30	3 3/8	8 3/8	Med. Scr. Sk.	24	4.00	4.10
0	.82	PS-35	4 1/8	9 3/8	*Mog. Screw	24	6.00	6.20
0	.82	PS-40	5	10	Mog. Screw	12	8.00	8.34
0	.78	PS-40	5	10	Mog. Screw	12	9.00	9.30
0	.74	PS-52	6 1/2	13 3/8	Mog. Scr. Sk.	8	12.00	12.50
0	.70	PS-52	6 1/2	13 3/8	Mog. Scr. Sk.	8	14.00	14.50
0	1.00	PS-30	3 3/8	8 3/8	Med. Scr. Sk.	24	4.40	4.54
0	.92	PS-35	4 3/8	9 3/8	Mog. Screw	24	7.20	7.40
0	.90	PS-40	5	10	Mog. Screw	12	9.60	9.90
0	.85	PS-40	5	10	Mog. Screw	12	10.80	11.10
0	.82	PS-52	6 1/2	13 3/8	Mog. Scr. Sk.	8	14.40	14.90
0	.78	PS-52	6 1/2	13 3/8	Mog. Scr. Sk.	8	16.80	17.30

discounts on all large style Mazda lamps can be given only on orders for exact quantities or multiples thereof. It is allowable, however, to combine in one standard package style Mazda lamps having the same standard package quantity. Such lamps are of the same age and finish of bulb.

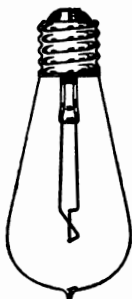
* (Style 400) regularly supplied and recommended. Medium Screw Skirted Base listed at same price, but is not recommended since it is contrary to the Underwriters' rule (100) base the lamps have an over all length of 10 1/4 inches.

† C Nitrogen filled lamps. Not recommended frosted. ‡ Maximum diameter.

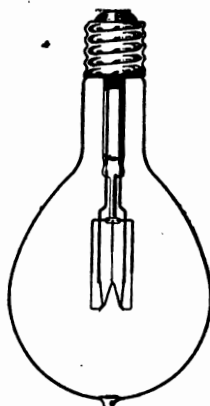
Western Electric **SUNBEAM INCANDESCENT LAMPS**



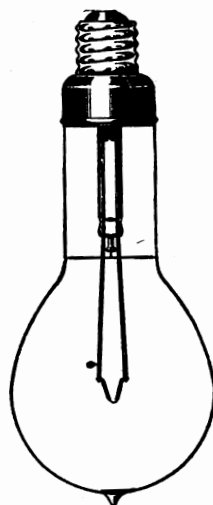
PS-35 250 C.P.



S-24 1/2 60, 80 and 100 C.P.



PS-4 400 C.P.



PS-40 600 C.P.

Street-Series Lamps

Mazda Street-Series lamps are designed for use on constant-current circuits, either in series with arc lamps or in straight Mazda systems. Mazda street-lighting systems are characterized by pleasing uniformity of illumination and freedom from flicker, excessive glare and long shadows. Their decorative value alone has done much to bring them into popular favor.

MAZDA, STREET-SERIES STYLE

Fitted with Mogul screw base (Style 400). Medium screw skirted base (Style 100) also supplied at same price, except the 400, 600 and 1000 C.P. lamps, which are supplied only with Mogul screw skirted or unskirted base (Style 400) as indicated.

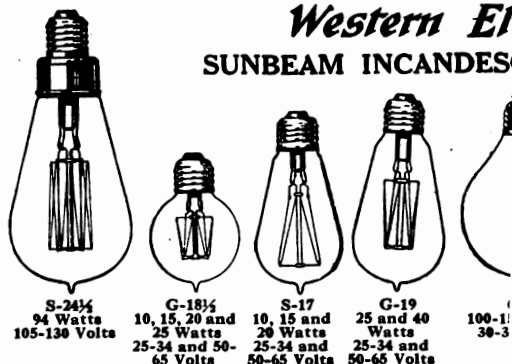
List No.	Amperes	Candle-Power	Average Volts	Style and Size Bulb	Diam. Inches	Over All Length Inches	Base Regularly Supplied	Std. Pkg. Qty.	Price Each	
									Clear	*Frosted
400048	5.5	60	8.5	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	\$2.00	\$2.10
400049		80	10.8	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.40	2.50
400050		100	13.1	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.40	2.50
400051		250	30.9	PS-35	4 3/8	9 3/4	Mog. Screw	24	4.70	4.90
400052		400	49.5	PS-40	5	10	Mog. Screw	12	8.00	8.30
400055	6.6	60	7.1	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.00	2.10
400056		80	9.0	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.40	2.50
400057		100	10.8	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.40	2.50
400058		250	24.6	PS-35	4 3/8	9 3/4	Mog. Screw	24	4.70	4.90
400059		400	38.8	PS-40	5	10	Mog. Screw	12	8.00	8.30
400355	7.5	600	58.2	PS-40	5	10	Mog. Screw	12	10.00	10.30
400062		60	6.2	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.00	2.10
400063		80	7.9	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.00	2.50
400064		100	9.5	S-24 1/2	3 1/8	7 1/4	Mog. Screw	50	2.40	2.50
400356		250	21.0	PS-35	4 3/8	9 3/4	Mog. Screw	24	4.70	4.90
400357	15.0	400	33.1	PS-40	5	10	Mog. Screw	12	8.00	8.30
400358		600	49.6	PS-40	5	10	Mog. Screw	12	10.00	10.30
400359		400	13.3	PS-40	5	12 1/2	Mog. Scr. Sk.	12	8.00	8.30
400360		600	14.1	PS-40	5	12 1/2	Mog. Scr. Sk.	12	10.00	10.30
400361		1000	22.5	PS-40	5	12 1/2	Mog. Scr. Sk.	12	12.00	12.30

Orders for lamps of 250 C.P. and higher should specifically state if they are to be burned in other than pendant position.

*These lamps are not recommended frosted. If frosted lamps are required, bowl frosted lamps are preferable.

Standard package discounts on all large style Mazda lamps can be given only on orders for exact standard package quantities or multiples thereof. It is allowable, however, to combine in one standard package all sizes of large style Mazda lamps having the same standard package quantity. Such lamps may be of different voltages and finish of bulb.

Western Electric SUNBEAM INCANDESCENT



S-24 1/2 94 Watts 105-130 Volts
G-18 1/2 10, 15, 20 and 25 Watts 25-34 and 50-65 Volts
S-17 10, 15 and 20 Watts 25-34 and 50-65 Volts
G-19 25 and 40 Watts 25-34 and 50-65 Volts
100-110 30-3

Mazda Street-Rail

A lamp for street railway use should embrace above all power regulation. The drawn-wire Mazda lamp has repeated by successful operation in actual practice.

STRAIGHT SIDE

List No.	Voltage	Bulb		Base Regularly Supplied	Size of Lamp in W.
		Style	Diam. Inches		
400065	105	S-19	2 3/8	Med. Screw	
400066	110	S-19	2 3/8	Med. Screw	
400067	115	S-19	2 3/8	Med. Screw	
400067	120	S-21	2 3/8	Med. Screw	
400068	125	S-24 1/2	3 1/8	Med. Screw Sk.	
	130				

All the lamps listed above are selected for amperes and power ratings of 575, 600, 625 and 650 watts.

Mazda Train-Lighting and

The round-bulb lamps designated in the table below are selected for amperes and power ratings of 575, 600, 625 and 650 watts. Owing to the limited current supply, high efficiency is preferred.

The straight-sided lamps may be used for low-voltage compensator circuits.

MAZDA-STRAIGHT

List No.	Volts	Size of Lamp in Watts	Efficiency W. P. C.	Type and Size of Bulb	Diam. Bulb Inches	Max. Length Over Inc.
400071		10	1.17	G-18 1/2	2 1/8	
400072	25-34	15	1.12	G-18 1/2	2 1/8	
400073	and	20	1.10	G-18 1/2	2 1/8	
400074	50-65	25	1.10	G-18 1/2	2 1/8	
400075		40	1.00	G-30	3 3/4	
400362	30-34 and 60-65	75	.95	G-30	3 3/4	

MAZDA-STRAIGHT

400085		10	1.17	S-17	2 1/8	
400100	25-34	15	1.12	S-17	2 1/8	
400156	and	20	1.10	S-17	2 1/8	
400115	50-65	25	1.10	S-19	2 3/8	
400116		40	1.00	S-19	2 3/8	
400379	5 1/2	36	....	G-18 1/2	2 1/8	
400380	and	72	....	G-25	3 1/8	
400381	6	108	....	G-30	3 3/4	
400382		100	....	G-25	3 1/8	
400383	30-34	150	....	G-25	3 1/8	
400384		250	....	*G-30	3 3/4	

Standard package discounts on all large style Mazda lamps in standard package quantities or multiples thereof. It is package all sizes of large style Mazda lamps having the same size of different voltages and finish of bulb.

*Can be burned in any position except vertically, base up.

Incandescent Lamps

Western Electric **SUNBEAM INCANDESCENT LAMPS**



FE-3 1/4
1 1/2 Flat End
Opal Back



FE-4 1/4
1 1/2 Flat End
Opal Back



G-3 1/2
1 1/2 in. Round
Tipless



G-4 1/2
1 1/2 in. Round
Tipless



G-5 1/2
1 1/2 in. Round
Tipless

Mazda Novelty Lamps

Mazda Class—Miniature Style—Round and Flat End Types for Novelty Service

*Regularly fitted with Miniature Screw Base

List No.	Description	Volts	Amperes	Type and Size Bulb	Diam. Bulb, Inches	Maximum Over All Length, Inches	Base	Unit Pkg. Qty.	Std. Pkg. Qty.	Price Each Clear
400086	Flashlight— clear Side-tip or tipless	2.7(b)	.35	G-3 1/2	1 1/8	1 1/8	Min.	10	100	\$0.20
400087		3.8(c)	.35	G-3 1/2	1 1/8	1 1/8	Min.	10	100	.20
400088		2.9(b)	.35	G-4 1/2	1 1/8	1 1/8	Min.	10	100	.20
400089		3.8(c)	.35	G-4 1/2	1 1/8	1 1/8	Min.	10	100	.20
400090		4.0(c)	.35	G-4 1/2	1 1/8	1 1/8	Min.	10	100	.20
400091		6.2(d)	.35	G-5 1/2	1 1/8	1 1/8	†Min.	10	100	.20
400092	Flashlight— opal back tipless	2.5(a)	.35	FE-3 3/4	1 1/8	3/4	Min.	10	100	.20
400093		3.8(c)	.35	FE-3 3/4	1 1/8	3/4	Min.	10	100	.20
400094		2.5(a)	.25	FE-4 1/4	1 1/8	1 1/8	Min.	10	100	.20

*If fitted with spring contact, 4 1/2 cents list additional. †If fitted with candelabra screw or bayonet candelabra bases, 15 cents list additional.

Customers are requested to order in standard package quantities to facilitate prompt deliveries.

†All flashlight lamps listed above of 0.35 amperes may be supplied at 0.30 amperes without extra charge.

(a) Intended for two cells, case type dry battery. (b) Intended for two cells, tubular type dry battery. (c) Intended for three cells, case or tubular type dry battery. (d) Intended for five cells, tubular type dry battery.



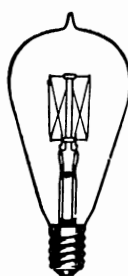
Type B-9 1/4



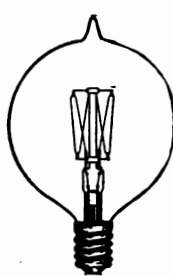
Type D-10



Type T-8



Type S-12 1/2



Type G-16 1/2

Mazda Decorative Lamps

Mazda Class—Miniature Style—Candelabra and Decorative Types

Regularly fitted with Unskirted Candelabra Screw Base

List No.	Description	Watts	Volts	Type and Size Bulb	Diam. Bulb, Inches	Max. Over All Length, Inches	Base	Unit Pkg. Qty.	Std. Pkg. Qty.	Price Each	
										Clear	Frosted
400095	Candelabra Style B	15	105-125	B-9 1/2	1 1/8	3 3/4	Candelabra Screw	5	100	\$0.83	\$0.90
400096	Candelabra Style D	15	105-125	D-10	1 1/8	3 1/2	Candelabra Screw	5	100	.83	.90
400097	Candelabra Style E	15	105-125	T-8	1	3 3/4	Candelabra Screw	5	100	.83	.90
400098	Candelabra Style G	15	105-125	G-16 1/2	2 1/8	3 3/4	Candelabra Screw	5	100	.83	.90
400099	Decorative Style F	15	105-125	S-12 1/2	1 1/8	3 1/2	Candelabra Screw	5	100	.83	.90

Customers are requested to order in unit package quantities to facilitate prompt deliveries. Clear bulbs are shipped on orders unless otherwise specified.

SUNBEAM INCANDESCENT LAMPS

 Style No. 500
 Candelabra
 Screw Base

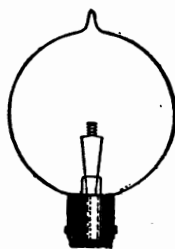
 Style No. 1000
 Bayonet Candel-
 abra Base
 Double Contact

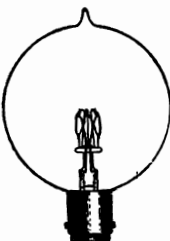
 Style No. 1100
 Bayonet Candel-
 abra Base
 Single Contact

 Style No. 600
 Miniature
 Screw Base

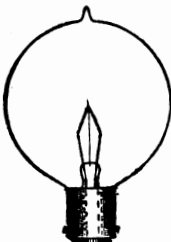
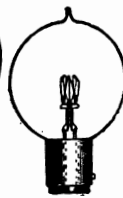
 G-6
 Rear and Speed-
 ometer Light
 3 Cell 6-8 Volts

 G-8 or G-10
 Sidelight
 3 Cell
 6-8 Volts

 G-12
 Headlight
 Mazda B
 3 Cell 6-8 Volts

 G-16 1/2
 Headlight (Mazda B)
 3 Cell 6-8 Volts

 G-10
 Electric
 Vehicle

 G-16 1/2
 Electric
 Vehicle

 G-6
 Rear Light
 6 Cell
 12-16 Volts

 G-8
 Side Light
 6 Cell 12-16 Volts

 G-16 1/2
 Headlight (Mazda B)
 6 Cell 12-16 Volts

 G-12
 Electric
 Vehicle

**MAZDA CLASS MINIATURE STYLE ROUND TYPE
 FOR AUTOMOBILE SERVICE**
Lamps for 3 Cell (Lead Type) Storage Battery-Generator Lighting Systems (6-8 Volts)

Description	Approx. Candle Power	Ratings Appear on Lamps as Follows		W. P. C.	Type and Size Bulb	Diam. Bulb Inches	Maximum Over all Length Inches	Unit Pkg. Qty.	Std. Pkg. Qty.	List Price Clear
		†Volts	Amperes							
Rear and Speedometer (Series Burning).....	2	3-4	.84	1.15	G-6	3/4	1 1/8	10	100	\$0.31
Rear and Speedometer.....	2	6-8	.42	1.15	G-6	3/4	1 1/8	10	100	.31
Side.....	4	6-8	.84	1.00	G-8	1	1 1/8	10	100	.31
Side.....	6	6-8	1.25	1.00	G-10	1 1/4	2 1/4	10	100	.36
Headlight (Mazda B).....	12	6-8	2.00	.95	G-12	1 1/2	2 1/2	5	100	.41
Headlight (Mazda B).....	15	6-8	2.50	.95	G-16 1/2	2 1/8	3 1/8	5	100	.41

Lamps for 6 Cell (Lead Type) Storage Battery-Generator Lighting Systems (12-16 Volts)

Rear and Speedometer (two in Series).....	2	6-8	.42	1.15	G-6	3/4	1 1/8	10	100	\$0.31
Rear and Speedometer.....	2	12-16	.26	1.15	G-6	3/4	1 1/8	10	100	.36
Side.....	4	12-16	.42	1.00	G-8	1	1 1/8	10	100	.36
Headlight (Mazda B).....	15	12-16	1.00	0.95	G-16 1/2	2 1/8	3 1/8	5	100	.45

FOR ELECTRIC VEHICLE SERVICE
Lamps for Use Upon Lead and Alkaline Type Electric Vehicle Storage Battery Circuits

Ratings Appear on Lamps as Follows		W. P. C.	Type and Size Bulb	Diameter Bulb Inches	Maximum Over all Length Inches	Unit Pkg. Qty.	Std. Pkg. Qty.	List Price Clear
Watts	†Volts							
8	30-34	1.25	G-10	1 1/4	2 1/4	10	100	\$0.90
*15	40-44							
*25	60-64	1.15	G-12	1 1/2	2 1/2	5	100	.90
	80-84							
		1.15	G-16 1/2	2 1/8	3 1/8	5	100	.90

Fitted with either bayonet candelabra single or double contact (Style 1100 or 1000) bases. Can be supplied fitted with candelabra screw base (Style 500) without extra charge.

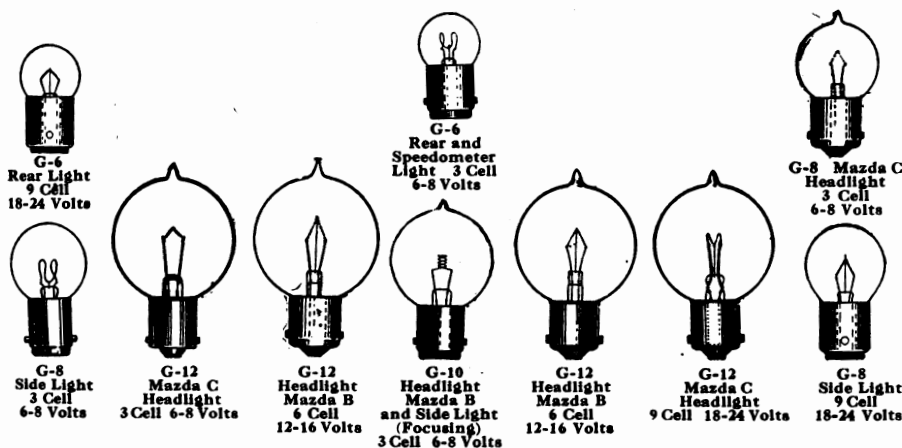
*If fitted with medium screw base (Style 100) or with medium bayonet base (Style 800) 7 cents list additional.

†The lamp voltages indicate that the lamps have been designed for operation on automobile and electric vehicle lighting systems whose voltage varies between the limits shown.

Customers are requested to order unit package quantities to facilitate prompt deliveries.

Western Electric

SUNBEAM INCANDESCENT LAMPS



MAZDA CLASS MINIATURE STYLE ROUND TYPE FOR AUTOMOBILE SERVICE

Lamps for 3 Cell (Lead Type) Storage Battery-Generator Lighting Systems (6-8 Volts)

Description	Approx. Candle Power	Ratings Appear on Lamps as Follows		W. P. C.	Type and Size Bulb	Diam. Bulb Inches	Maximum Over all Length Inches	Unit Pkg. Qty.	Std. Pkg. Qty.	List Price Clear
		*Volts	Amperes							
Rear and Speedometer.....	4	6-8	.84	1.15	G-6	3/4	1 1/8	10	100	\$0.36
Side.....	6	6-8	1.25	1.00	G-8	1	1 1/8	10	100	.36
Side (Focusing).....	6	6-8	1.00	1.00	G-10	1 1/4	2 1/4	10	100	.45
Headlight (Mazda B).....	9	6-8	1.50	1.00	G-10	1 1/4	2 1/4	5	100	.41
Headlight (Mazda B).....	12 & 18	6-8	2 & 3	.95	G-16 1/2	2 1/4	3 3/8	5	100	.41
Headlight (Mazda B).....	21	6-8	3 1/2	.95	G-16 1/2	2 1/4	3 3/8	5	100	.45

Lamps for 6 Cell (Lead Type) Storage Battery-Generator Lighting Systems (12-16 Volts)

Headlight (Mazda B).....	15	12-16	1.00	.95	G-12	1 1/2	2 1/2	5	100	\$0.45
Headlight (Mazda B).....	18 & 21	12-16	1 1/4 & 1 1/2	.95	G-16 1/2	2 1/4	3 3/8	5	100	.45

Lamps for 9 Cell (Lead Type) Storage Battery-Generator Lighting Systems (18-24 Volts)

Rear and Speedometer (two in Series).....	2	10	.26	1.15	G-6	3/4	1 1/8	10	100	\$0.42
Rear and Speedometer.....	2	18-24	.17	1.15	G-6	3/4	1 1/8	10	100	.53
Side.....	4	18-24	.26	1.00	G-8	1	1 1/8	10	100	.60
Headlight (Mazda B).....	21	18-24	1.00	.95	G-16 1/2	2 1/4	3 3/8	5	100	.75

Mazda C Lamps for 3, 6 and 9 Cell (Lead Type) Storage Battery-Generator Lighting Systems (6-8, 12-16 and 18-24 Volts Respectively)

Mazda C Headlight.....	12	6-8	1 1/2	...	G-8	1	1 1/8	10	100	\$0.60
Mazda C Headlight.....	21	6-8	2 1/2	...	G-12	1 1/2	2 1/2	5	100	.53
Mazda C Headlight.....	24	6-8	3	...	G-12	1 1/2	2 1/2	5	100	.75
Mazda C Headlight.....	36	6-8	4	...	G-16 1/2	2 1/4	3 3/8	5	100	1.13
Mazda C Headlight.....	24	12-16	1 1/2	...	G-12	1 1/2	2 1/2	5	100	.56
Mazda C Headlight.....	40	12-16	2	...	G-16 1/2	2 1/4	3 3/8	5	100	1.13
Mazda C Headlight.....	24	18-24	1	...	G-12	1 1/2	2 1/2	5	100	1.13

Lamps for Magneto Type Lighting Systems†

†Mazda B Headlight (two in Series).....	15	9	2	...	G-16 1/2	2 1/4	3 3/8	5	100	\$0.41
†Mazda C Headlight (two in Series).....	21	9	2	...	G-12	1 1/2	2 1/2	5	100	.53

Can be supplied fitted with candelabra screw base (Style 500) without extra charge. Fitted with either bayonet candelabra single or double contact (Style 1100 or 1000) bases.

*The lamp voltages indicate that the lamps have been designed for operation on automobile lighting systems whose voltage varies between the limits shown.

†The lamps are designed for use on 1915 Standard Magneto Type Lighting Systems.

Customers are requested to order in unit package quantities to facilitate prompt deliveries.

Western Electric

SUNBEAM INCANDESCENT LAMPS



S-14
 5 Watts 50-65 Volts
 7½ and 10 Watts 105-125 Volts
 (Sign Lamp)



S-14
 2½ and 5 Watts
 10½ and 12½ Volts
 (Sign Lamp)

Mazda Sign Lamps

The superiority of Mazda lamps for sign lighting is generally acknowledged. These lamps combine the desirable features of economy of operation and good light quality—both factors of importance in sign lighting.

STRAIGHT SIDE—SIGN

List No.	Voltage Class	Watts per Mean Horizontal C. P.	Efficiency in Watts	Type	Bulb Diameter in Inches	Over All Length Inches	Base	Std. Pkg. Qty.	Price Each	
									Clear	Frosted
400076	10½-12½	2½	1.20	S-14	1¾	4	Med. Screw	100	\$0.50	\$0.56
400077	10½-12½	5	1.15	S-14	1¾	4	Med. Screw	100	.50	.56
400078	50-65	5	1.30	S-14	1¾	4	Med. Screw	100	.54	.60
400079	105-125	7½	1.50	S-14	1¾	4	Med. Screw	100	.54	.60
400378	105-125	10	1.30	S-14	1¾	4	Med. Screw	100	.54	.60

Standard package discounts on all large style Mazda lamps can be given only on orders for exact standard package quantities or multiples thereof. It is allowable, however, to combine in one standard package all sizes of large style Mazda lamps having the same standard package quantity. Such lamps may be of different voltages and finish of bulb.

Luminous Radiator Heating Units

Carbon Type Frosted

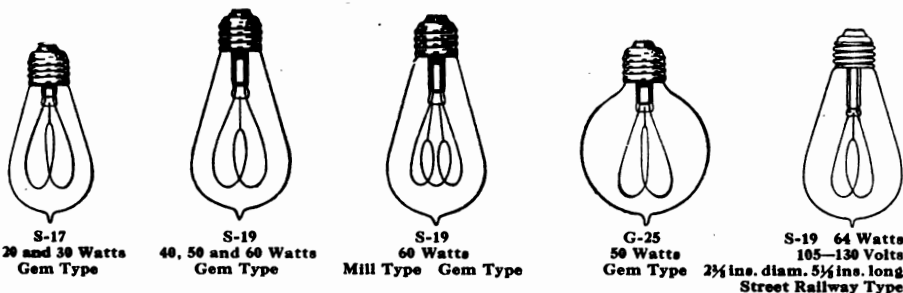
Fitted with Medium Screw Skirted Base.

Always state exact operating voltage of circuit when ordering.

List No.	Voltage	Total Watts	Bulb		Maximum Over All Length Inches	Std. Pkg. Qty.	Price Each
			Type	Diameter in Inches			
400222	100-130	250	T-21½	2½	11½	36	\$1.75
400131	100-130	500	T-21½	2½	11½	36	2.10
400132	200-250	250	T-21½	2½	11½	36	2.10
400385	73-83	500	.....	2½	11½	36	2.45

Orders for luminous radiator heating units in the above Schedule cannot be combined with orders for other types of Carbon lamps to determine the discounts on such other types of Carbon lamps.

INCANDESCENT LAMPS



Gem Class

Gem, Straight Side Type

Standard Medium Screw Base, 105 to 125 volts only

List No.	Size of Lamp in Watts	Efficiency W.P.C.	Bulb		Max. Over All Length Inches	Base Regularly Shipped	Std. Pkg. Quantity Not less than	Price Each	
			Style	Diam. In.				Plain	Frosted
400166	20	4.00	S-17	2 $\frac{1}{8}$	4 $\frac{1}{2}$	Med. Screw	200	\$0.40	\$0.45
400133	30	3.00	S-17	2 $\frac{1}{8}$	4 $\frac{1}{2}$	Med. Screw	200	.40	.45
400152	40	2.56	S-19	2 $\frac{3}{8}$	5 $\frac{1}{8}$	Med. Screw	200	.40	.45
400153	50	2.50	S-19	2 $\frac{3}{8}$	5 $\frac{1}{8}$	Med. Screw	200	.40	.45
400154	60	2.50	S-19	2 $\frac{3}{8}$	5 $\frac{1}{8}$	Med. Screw	200	.40	.45

Gem Straight Side-Mill Type

Standard Medium Screw Base, 105 to 125 volts only.

400385	60	2.6	S-19	2 $\frac{3}{8}$	200	\$0.40	\$0.45
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Round Gem

Standard Medium Screw Base, 105 to 125 volts only.

400386	50	2.5	*G-25	3 $\frac{1}{8}$	100	.50	.56
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*The 50 watt round bulb GEM lamp is regularly supplied in G-25 bulb, but can be supplied in G-18 $\frac{1}{2}$ bulb 3.0 W.P.C. (standard package quantity 200) at 50 cents clear and 55 cents frosted, but is not recommended.

Standard package discounts on all large style Gem lamps can be given only on orders for exact standard package quantities or multiples thereof. It is allowable, however, to combine in one standard package all sizes of large style Gem lamps having the same standard package quantity. Such lamps may be of different voltages and finish of bulb.

Lamps for Electric Street Railway Service

Straight Side Carbon

List No.	Voltage	Bulb		Description	Size of Lamp in Watts	Efficiency W.P.C.	Max. Over All Length Inches	Std. Pkg. Qnty.	Price Each	
		Style	Diam. Ins.						Plain	Frosted
400157	105	S-19	2 $\frac{3}{8}$	Med. Screw	64	4.0	5 $\frac{1}{8}$	250	\$0.28	\$0.34
400158	110	S-19	2 $\frac{3}{8}$	Med. Screw	64	4.0	5 $\frac{1}{8}$	250	.28	.33
400159	115	S-19	2 $\frac{3}{8}$	Med. Screw	64	4.0	5 $\frac{1}{8}$	250	.28	.33
400160	120	S-19	2 $\frac{3}{8}$	Med. Screw	64	4.0	5 $\frac{1}{8}$	250	.28	.33
400161	125	S-19	2 $\frac{3}{8}$	Med. Screw	64	4.0	5 $\frac{1}{8}$	250	.28	.33
400135	130	S-19	2 $\frac{3}{8}$	Med. Screw	64	4.0	5 $\frac{1}{8}$	250	.28	.33

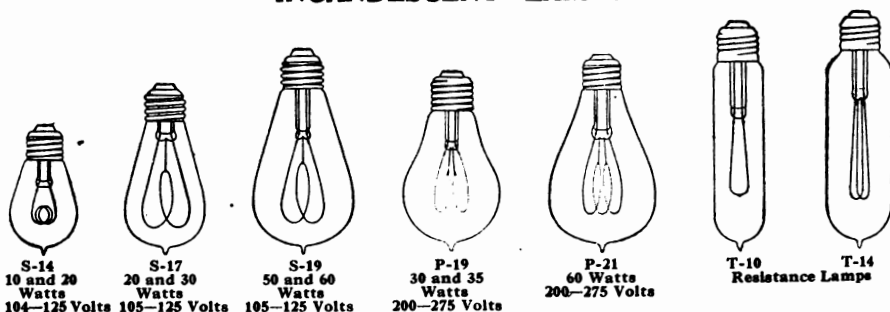
The lamps listed above are selected for amperes and are labeled for use, five in series, on 525, 550, 575, 600, 625 and 650 volts. They are rated in the following voltage groups:

105 volts for use 5 in series on 525 volts
110 volts for use 5 in series on 550 volts
115 volts for use 5 in series on 575 volts

120 volts for use 5 in series on 600 volts
125 volts for use 5 in series on 625 volts
130 volts for use 5 in series on 650 volts

Standard package discounts for lamps in the above schedule can be given on orders for not less than a standard package quantity. Lamps of different voltages, wattages and finish of bulb may be combined in one package.

INCANDESCENT LAMPS



Carbon, Large Style
Regular Type, 105-250 Volts
 Plain Lamps—Standard Medium Screw Base
STRAIGHT SIDE

List No.	Voltage	Base Regularly Supplied	Size of Lamp in Watts	Efficiency W.P.C.	Bulb		Max. Over All Length in Inches	Std. Pkg. Qty.	Price Each	
					Style	Diameter in Inches			Plain	Frosted
400121	105	Med. Screw	20	4.15	S-17	2 1/8	4 1/2	200	\$0.28	\$0.33
400123	to	Med. Screw	30	3.23	S-17	2 1/8	4 1/2	200	.28	.33
400124	125	Med. Screw	50	2.97	S-19	2 3/8	5 1/2	200	.28	.33
400125		Med. Screw	60	2.97	S-19	2 3/8	5 1/2	200	.28	.33
400128	220 to	Med. Screw	35	4.40	P-19	2 3/8	4 3/8	200	.32	.37
400129	250	Med. Screw	60	3.69	P-21	2 3/8	5	200	.32	.37

STRAIGHT SIDE—SIGN

400118	105 to	Med. Screw	10	5.00	S-14	1 3/4	3 1/2	200	\$0.28	\$0.33
400119	125	Med. Screw	20	4.15	S-14	1 3/4	3 1/2	200	.28	.33
400134	220 to 250	Med. Screw	30	5.9	P-19	2 3/8	4 3/8	200	.32	.37

The rating of lamps shown in the above table is for voltage of high operating efficiency. Lamps of voltage for high operating efficiency will always be shipped unless order specifies otherwise.

Standard package discounts for lamps in the above schedule can be given only on orders for not less than a standard package quantity of one size or assorted sizes of bulbs. For any one size of bulb, lamps of different voltages, wattages and finish of bulb may be combined in one package.

Resistance Lamps**T-10 or T-14 Bulb. Medium Screw Base**

T-10 or T-14 Bulb. Medium Screw Base								
List No.	*Resistance in Ohms		Amperes	Volts	Watts	Price Each		
	Cold	Hot				Clear T-10 or T-14 Bulb	Frosted	
							T-10 Bulb	T-14 Bulb
Low Current								
400120	40 ohms and below	36 ohms and below	0.3	3-11	0.9-3.3	\$0.56	\$0.61	\$0.62
400122	41- 80 ohms	37- 72	0.3	11-22	3.3-6.6	.68	.73	.74
400126	81-100 ohms	73- 90	0.3	22-27	6.6-8.1	.76	.81	.82
400127	101-140 ohms	91-126	0.14	13-18	1.8-2.5	.56	.61	.62
400130	141-280 ohms	127-252	0.14	18-32	2.5-4.5	.68	.73	.74
400111	281-350 ohms	253-315	0.14	32-40	4.5-5.6	.76	.81	.82
400112	351-600 ohms	281-480	0.14	40-67	5.6-9.4	.68	.73	.74
400113	601-900 ohms	481-720	0.14	67-101	9.4-14.1	.76	.81	.82
High Current								
400114	50.	25.	1.0	25	25	.96	1.01	1.02
400162	100.	50.	1.0	50	50			
400163	150.	75.	1.0	75	75			
400164	25.	12.5	2.0	25	50			
400165	16.66	8.33	3.0	25	75			

*The first six of the low current types have a cold resistance not to exceed 111 per cent. of the hot resistance, while in the last two types it does not exceed 25 per cent. The hot resistance of the high current types is one-half of the cold.

Lamps will be furnished in T-14 bulb unless order specifies otherwise. Maximum over all length of T-10 bulb, 5 1/2 inches, diameter 1 1/4 inches; T-14 bulb, 6 1/2 inches, diameter 1 3/4 inches.

Standard package quantity not less than 100 lamps of one kind or assorted.

COLOR CAPS

Half and Full Cap

or caps are used by all reliable sign manufacturers because they are absolutely method of coloring an electric sign. One equipment is the only expenditure, do not fade or wear out.

• "A" caps are usually preferable for large roof signs or permanent displays, reduce the color effect by reflection without "killing" the light.

• Use "A" Caps. Color face of letter or design same color as the caps to Use gloss paint. As some bulbs are imperfect, turn caps around until lamps firmly.

• to Use "B" Caps. These can be used, like colored lamps, on any color and. They are especially adaptable for frequent color changes or where a r is required. We recommend them for street decorating, window displays, elevator signals, stage lighting effects, etc.

STYLES "A" AND "B"

	Broken Pkg.	List Price	
		Std. Pkg. of 25	500
$\frac{3}{4}$ in., 4 c.p., also $2\frac{1}{2}$, 5 and 10 watt lamp.....	\$0.30	\$0.26	\$0.24
$\frac{1}{2}$ in., 8 c.p., also 10, 15 and 20 watt lamp.....	.40	.36	.34
$\frac{3}{8}$ in., 16 c.p., also 25 and 40 watt lamp.....	.48	.44	.42
$\frac{5}{8}$ in., 32 c.p., also 60 watt lamp.....	.54	.50	.48

Instructions for Ordering

size fits standard $1\frac{1}{4}$ inch diameter bulb, 4 c.p., also $2\frac{1}{2}$, 5, $7\frac{1}{2}$ and 10 watt n lamp.

ize fits standard $2\frac{1}{8}$ inch diameter bulb, 8 c.p., also 10, 15 and 20 watt up.

ze fits standard $2\frac{3}{8}$ inch diameter bulb, 16 c.p., also 25 and 40 watt Mazda

ze fits standard $2\frac{5}{8}$ inch diameter bulb, 32 c.p., 60 watt Mazda lamp.

THE PHOTOLITE

The Photolite is a complete lighting unit for the photographic studio. It comprises a blue bulb 1000 watt Western Electric Sunbeam Mazda Lamp, an Ivanhoe Steel Reflector with holder, a neat, substantially built iron stand and supports for a diffusing screen.

The stand is 8 feet 10 inches high. It is completely wired and provided with a switch. Being mounted on casters it can be moved easily to any part of the studio. The lamp and reflector are adjusted by means of a sliding bar between the two upright guide rods, a pulley and a counterweight. A knuckle joint permits the lamp and reflector being tilted out of the vertical plane. The steel reflector is light, strong and durable. It is finished in porcelain enamel. It affords a large measure of control in utilization of light.

The following table shows the operating conditions under which good results have been secured with the Photolite as the only source of illumination and with plates of medium speed.

Number of Photolites	Lens	Stop	Background	Time	Subject
2	f 4.5	7	Black	1 sec.	Bust
2	f 6.8	10	Black	2 sec.	Bust
2	f 4.5	7	Medium Dark	$1\frac{1}{2}$ sec.	Head
2	f 4.5	16	Medium Dark	4 sec.	Group of 15 People
2	f 4.5	4.5	Light	$\frac{1}{4}$ sec.	Child

List No.		Std. Pkg.	*List Price
400363	1000 watt W. E. Lamp.....	8	\$24.00
400364	Stand complete with reflector, holder, wiring and screen rods.....	1	48.60

*Delivery F. O. B. Factory, Cleveland, O. For warehouse deliveries write nearest house.

LAMP COLORINGS

Coloring Fluid and Lamp Frosting

A high-grade fluid for coloring incandescent lamps that is widely used and giving great satisfaction. It gives the lamp that snap and brilliance usually found in natural colored glass. Furnished in blue, green, purple, amber, red, ruby, violet, canary, pink and frosting. Satisfactory results guaranteed when used in accordance with directions. Four oz. to quart sizes in bottles and individual cartons; larger sizes in jugs. A dipping cup furnished with each pint and quart.



Lamp Coloring Fluid

List No.		List Prices
2762	Gallon	\$6.60
2763	Half Gallon	4.34
2764	Quart	2.34
2765	Pint	1.34
2766	Half pint	.98
2767	Six ounces	.76
2768	Four ounces	.54



Permacolor

Franco

Permacolor Colors

Semi-Weatherproof

Permacolor is used where a coloring is desired to last several weeks outdoors or somewhat longer than the cheaper coloring indoors. The coloring will stand considerable rough usage without injury and can be removed readily with wood alcohol when desired. A transparent, hard, glossy coating that dries in a few minutes and made especially to stand the wear and tear of the elements for 60 or 90 days.

List No.		List Price per Doz.
00342	Permacolor (semi-weatherproof) 1/2 pint bottles	\$15.00
00343	Permacolor (semi-weatherproof) pint bottles	25.00
00344	Permacolor (semi-weatherproof) quart bottles	45.00

Furnished in ruby, blue, red, green, moonlight, amber, pink, canary, purple, and white opal.

NOTE: A dipping cup is furnished with every 1/2 pint, 1 pint and quart bottles.

Cefco Weatherproof Lamp Coloring

A clear incandescent lamp dipped in Cefco will outlive a natural colored lamp. It dries without current in 3 days.

List No.		List Price Each
100345	Cefco (weatherproof) 7 oz. cans	\$1.88
100346	Cefco (weatherproof) 15 oz. cans	3.14
100347	Cefco (weatherproof) 30 oz. cans	5.64

Furnished in red, blue, green, amber, canary, and white opal.

Franco Coloring

Franco lamp coloring is especially adapted for indoor use; it is furnished in ruby, blue, red, green, amber, pink, canary, purple, white frosting, and moonlight blue.

List No.		Std. Pkg.	List Price per Doz.
400348	Franco, 4 oz. bottles	144	\$4.00
400349	Franco, 1/2 pint bottles	48	6.00
400350	Franco, pint bottles	24	12.00
400351	Franco, quart bottles	24	21.60

NOTE: A dipping cup is furnished with every 1/2 pint, 1 pint and quart bottles.

Incandescent Lamps

DECORATIVE LAMP OUTFITS

Series Outfits

For Use on 100-120 Volt Lighting Circuits



Series Outfits

List No.		List Price
0708	8 light string only, no lamps	\$2.16
0709	16 light string only, no lamps	4.32
0710	24 light string only, no lamps	5.98
0711	32 light string only, no lamps	7.92
0712	8 light extra festoon only, no lamps	1.88

WITH STYLE I LAMPS

List No.	Lights	List Price	List No.	Lights	List Price
0758	8	\$4.32	0761	32	\$13.28
0759	16	8.64	0762	8	4.32
0760	24	12.96	Festoon only with lamps		

LAMPS FOR SERIES OUTFITS

1 C. P. 14 Volt Miniature Base

List No.	Color	Lamp	List Price Each	List No.	Color	Lamp	List Price Each
01069	Clear	Style I	\$0.30	01072	Dipped blue	Style I	\$0.32
01071	Dipped ruby	Style I	.32	01073	Dipped green	Style I	.32

List No.		List Price per Set
0800	1 C.P. 14 V. Fruit and Nut Lamps, min. base, comprising the following assortment: Raspberry, Lemon, Strawberry, Tomato, Apple, Orange, Peach, Pear, Pine Cone and Walnut, 10 in box.	\$5.28
0801	1 C.P. 14 V. Large Fruit Lamps, min. base, comprising the following assortment: 2 Apples, 2 Oranges, 1 Peach, 2 Pears, 2 Bananas, 1 Ear of Corn, packed in box of 10.	6.00
0791	1 C.P. 14 V. Large Rose Lamps, min. base, comprising the following assortment: 3 Red, 3 Yellow, 2 Pink and 2 White, packed in box of 10.	6.00
0792	1 C.P. 14 V. Rosebud Lamps, min. base, comprising the following assortment: 3 Red, 3 Yellow, 2 Pink and 2 White, packed in box of 10.	6.00
0793	1 C.P. 14 V. Lily Lamps, min. base, comprising 2 each of 5 different colors, packed in box of 10.	6.00
0794	1 C.P. 14 V. Bird Lamps, min. base, comprising the following assortment: 2 Canaries, 2 Parrots, 2 Bluebirds, 2 Robins and 2 Chickens, 10 in box.	8.88
0797	1 C.P. 14 V. Animal Lamps, min. base, comprising the following assortment: 1 Cat, 2 Dogs, 2 Lions, 1 Frog, 1 Monkey, 1 Cat and Fiddle and 2 Fishes, packed in box of 10.	7.44
0795	1 C.P. 14 V. Figure Lamps, min. base, comprising the following assortment: 1 Santa Claus, 1 Snowman, 1 Dutch Girl, 1 Policeman, 2 Clowns, 1 Trumpeter Girl, 1 St. Peter, 1 Angel, 1 St. Patrick, packed in box of 10.	7.44
0796	1 C.P. 14 V. Hallowe'en Lamps, min. base, comprising the following assortment: 2 Indian Heads, 1 Pumpkin Head, 2 Oranges, 2 Two-faced Boys, 1 Witch, 2 Clowns, 10 in box.	7.44

Battery Outfits

For Use on Dry Batteries

With Round Bulb Mazda Lamps

List No.	Style	Branches	List Price
0735	8 Light Battery Outfit, complete less batteries	1 of 8	\$3.60
0736	8 Light Battery Outfit, complete less batteries	2 of 4	3.60
0737	8 Light Battery Outfit, complete less batteries	1 of 8	3.96
0738	8 Light Battery Outfit, complete less batteries	2 of 4	3.96

LAMPS FOR BATTERY OUTFITS

3 1/2 Volt Miniature Base

List No.	Color	Lamps	Prices on application	List No.	Color	Lamps	Prices on application
0822	Clear	G8		0824	Green	G8	
0823	Dipped red	G8		0825	Blue	G8	
List No.							List Price per Set
0826	1 C.P. 3 1/2 V. Fruit and Nut Lamps, min. base, comprising the same assortment as the Series Lamps, packed in box of 10		\$5.04				



Pear



Walnut



Rose



Lily



Santa Claus

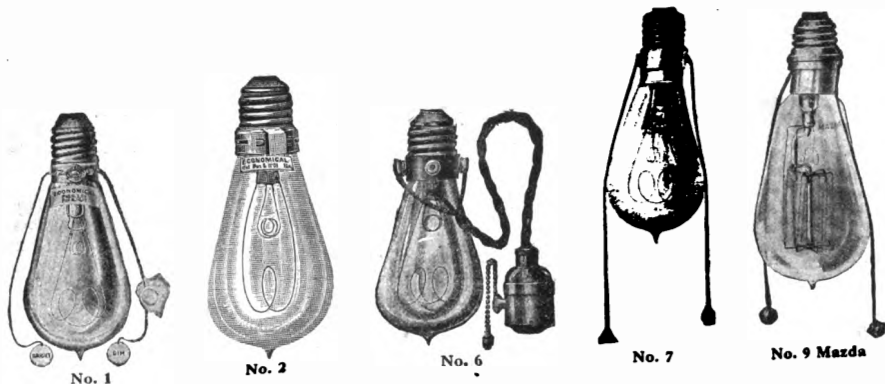


Clown



Canary

HYLO-ECONOMICAL TURN DOWN LAMPS



Turn Down Lamps

Economical and Hylo Lamps.—Fitted with Medium Screw, Thomson-Houston or Westinghouse types of turn-down bases. Either pull-string or turn-bulb style.

NO. 1 PULL STRING ECONOMICAL

List No.	Candle Power	Voltage	Std. Pkg.	Price Each
400217	8- $\frac{1}{2}$	45-130	250	\$0.90
400218	8- $\frac{1}{2}$	200-250	250	1.00
400219	16-1	45-130	250	.90
400220	16-1	200-250	250	1.00
400221	32-1	45-130	250	1.10

NO. 2 TURN BULB ECONOMICAL

400223	8- $\frac{1}{2}$	45-130	250	\$0.90
400224	8- $\frac{1}{2}$	200-250	250	1.00
400225	16-1	45-130	250	.90
400226	16-1	200-250	250	1.00
400227	32-1	45-130	250	1.10
400228	32-1	200-250	250	1.20

NO. 6 LONG DISTANCE

400229	8- $\frac{1}{2}$	45-130	250	\$1.92
400230	8- $\frac{1}{2}$	200-250	250	2.02
400231	16-1	45-130	250	1.92
400232	16-1	200-250	250	2.02
400233	32-1	45-130	250	2.12
400234	32-1	200-250	250	2.22

Standard length of cord, 3 feet. Additional cord, 6 cents a foot.

NO. 7 PULL STRING HYLO

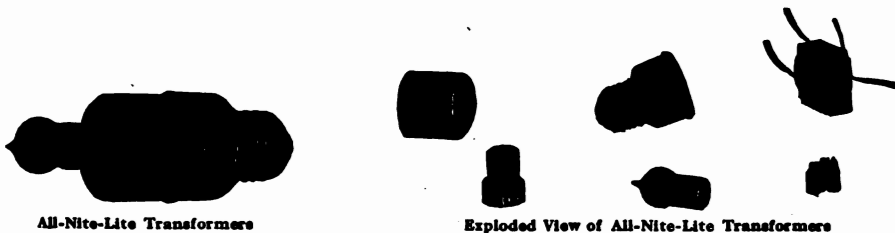
400235	8- $\frac{1}{2}$	45-130	250	\$0.94
400236	8- $\frac{1}{2}$	200-250	250	1.04
400237	16-1	45-130	250	.94
400238	16-1	200-250	250	1.04
400239	32-1	45-130	250	1.14
400240	32-1	200-250	250	1.24

NO. 9 MAZDA HYLO

400241	25x5 watts	20- $\frac{1}{2}$	100-130	100	\$1.45
400369	40x5 watts	32- $\frac{1}{2}$	100-130	100	1.45

Incandescent Lamps

G. E. ALL-NITE-LITE TRANSFORMERS



All-Nite-Lite Transformers

The function of the device listed below is to transform the normal supply voltage to approximately six volts, making it applicable to a low energy consuming miniature Tungsten lamp. The device operates on an alternating current supply circuit ranging in voltage from 100 to 125 and in frequency from 50 to 140 cycles by simply screwing it into the standard lamp socket in place of the usual incandescent lamp.

The complete device consists of a miniature transformer contained within an attractively polished brass shell, and a miniature Tungsten lamp. The transformer, although miniature in design, is constructed with primary and secondary coils, liberally insulated and with a core built of the highest grade of transformer steel punchings. The receptacle for containing the lamp is designed to fit a standard bayonet base lamp rated approximately two candle power, six volts, with a maximum energy consumption of two and one-half watts, the lamp being the same as used for lighting purposes on automobiles. The energy consumed by the transformer, combined with that of the lamp, never exceeds three and one-half watts, which is considerably below any present arrangement for all night electric illumination.

This device operates so inexpensively that it can be afforded by all. As an example, assume the average cost of electricity at 10 cents per kilowatt, and the device in operation ten hours a night. With its small energy consumption, mentioned above, the cost per night would be less than four-tenths of a cent.

Application. For use in the all-night illumination of such places as hospital rooms, door fronts, cellars, stairways, halls, bathrooms, rooms in which babies or sick members of the household have to be attended, etc. For these applications, in addition to telephone booths, closets and other places where a small energy consuming light is desired, the Nite-Lite Transformer adequately answers all of the requirements, and is a convenience fully realized when tried.

List No.		Volts	Frequency	List Price Each
190896	All-Nite-Lite Transformer	100-125	50-140 cycle	\$2.20

Use 6 volt, 2 C.P. Bayonet Base Mazda lamp. Prices do not include miniature lamp.

ELECTRIC STAGE LIGHTING APPARATUS



Open Box Arc Lamp



Lens Box Arc Lamp



No. 1050 Arc Lamp

List No. 25
Metal Color Box

Olivette or Open Box Arc Lamp

This lamp is especially designed and adapted for use in the wings to throw an equally spread light of 4000 C. P. on the scene of the play and will illuminate an area of 40 feet.

It consists of a hand feed arc lamp for direct or alternating current, sheet iron hood with screen door, provided with grooves for color slides, wrought iron telescopic stand, on which the light can be raised or lowered to any required height. An enclosed rheostat is fastened on the bottom of the stand, and is wound for 110-volt current, and is furnished with an enclosed knife switch with extra removable base, asbestos wire from rheostat to hood, and 25 feet No. 10 approved stage cable.

List No.		Amperes	Voltage	Weight	*List Price Each
1	Open box.....	25	125	71 lbs.	\$72.00
2	Open box with hood.....	25	125	75 lbs.	77.40
3	Open box.....	25	250	81½ lbs.	90.00
4	Open box with hood.....	25	250	85¾ lbs.	95.40

Lens Box Arc Lamps

This illustration shows the 6 inch lens box with color wheel attachment arranged for five separate colors, which is also used for throwing a change of light instantaneously on a performer or on the play. Lens boxes fitted with 6 inch lens and with 8 inch lens gives a larger spread of light. They are best adapted for the illumination of the entire stage.

25 Amp. 125 Volts

List No.	Weight	*List Price Each
5	5 in. lens box.....	63 lbs. \$76.50
6	6 in. lens box.....	63 lbs. 81.00
7	6 in. lens box with color wheel.....	65 lbs. 87.30
8	8 in. lens box.....	76 lbs. 90.00

25 Amp. 250 Volts

List No.	Weight	*List Price Each
5A	5 in. lens box.....	76 lbs. \$94.50
6A	6 in. lens box.....	76 lbs. 99.00
7A	6 in. lens box with color wheel.....	78 lbs. 105.30
8A	8 in. lens box.....	89 lbs. 108.00

Approved and listed by the Underwriters' Electrical Association.

Studio Lighting Arc Lamp

These lamps are for use in conjunction with the regular Klieglight Arc lamps. It is a suitable portable photo lighting unit for traveling purposes. Especially adapted for motion picture photography.

List No.		Volts	Weight	*List Price Each
1050	Liliput Arc lamp without stand.....	1.10	20 lbs.	\$135.00
1051	Stand extra.....		10½ lbs.	7.20

This lamp works equally well on either direct or alternating current 110 volts.

Incandescent Lens Box or Spot Lights

5B	5 in. lens box.....	48 lbs.	\$54.90
6B	6 in. lens box.....	48 lbs.	59.40
7B	6 in. lens box with color wheel.....	50 lbs.	65.70
8B	8 in. lens box.....	61 lbs.	68.40

No lamps included in these prices.

Approved and listed by the Underwriters' Electrical Association.

Metal Color Box

List No. 25 represents the Metal Color Box. It is fitted with six frames operated from the outside by simply pulling the strings. It will slide in front of the lens box, preserves the color mediums, and gives excellent and quick service.

25	For 5 or 6 in. lens box.....	9¾ lbs.	\$16.20
26	For 8 in. lens box.....	14 lbs.	21.60

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Theatrical and Lighting Specialties

ELECTRIC STAGE LIGHTING APPARATUS

Baby Spot Light



List No. 60
Baby Spot Light

The Baby Spot Light is a device for throwing light without using an arc lamp. It gives a mild ray of light to represent sun rays or a beam of light from a fireplace, to illuminate a performer with a strong center light, fading out at the ends. It consists of a wrought iron telescopic stand on which the light can be raised and lowered with a Russian iron hood fitted with an Edison Base Receptacle 300 W Stereopticon Lamp, with concentrated filament, is generally used. This lamp is adjustable in the hood, in the center of a 5 inch lens, which is in the front of the hood. The rear of the hood is provided with a door. The hood is lightproof and well ventilated and is provided with grooves for color slides. 25 feet of No. 14 approved stage cable is included in the price. A small dimmer is fastened on the stand to control the power of the light.

List No.	Description	Weight Lbs.	*List Price Each
60	Baby Spot Light, complete, without lamp.....	30	\$46.80
61	Extra lamp, 50 C.P., 125 volts, conical spiral, without lamp ..		1.80
62	Extra lamp, 100 C.P., 125 volts, cylindrical spiral, without lamp ..		3.60
63	Dimmer for one 100 C.P. lamp, 125 volts, without lamp ..		13.50
64	300 watt 125 volt stereopticon type lamp with concentrated filament ..		7.20

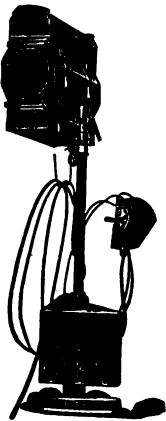
Long Distance Spot Light

Approved and listed by the Underwriters' National Electrical Association

The new style lamp, List No. 9, is superior to any other spot light for light throwing at long distances. It is designed to give a 3 foot spot at a distance of 100 feet as well as a 20 foot spread.

This lamp is neat in appearance, efficient and compact in construction. The hood is made of Russian iron with aluminum front and rear, with large side door on spring hinges, and grooves for color slides or color wheel.

It carries a special arc lamp focusing frame for quick focus, which is controlled by rear wood knob, allowing the operator to change quickly from spot to flood or vice versa without unscrewing set screws or handle. The arc lamp burner is handfeed for A. C. or D. C. current, and is operated by wood knob under hood. The lens used is 6 inches in diameter of a special focus. The hood is well ventilated and thoroughly light-tight, and is fastened by swinging attachment to a telescopic iron stand with enclosed rheostat, detachable switch, asbestos wire and 25 feet approved stage cable.



List No. 9
Long Distance Spot Light

30 Amperes 125 Volts

List No.	Description	Weight Lbs.	*List Price Each
9	6 in. lens box.....	68	\$90.00
22	Color wheel.....	2 3/4	6.30
289	6 in. lens, plano-convex.....	1 1/2	4.05

30 Amperes 250 Volts

9A	6 in. lens box.....	81	\$108.00
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60 Amperes 125 Volts

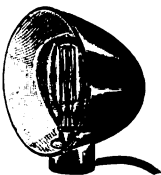
9B	6 in. lens box.....		\$126.00
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100 Amperes 125 Volts

9C	6 in. lens box.....		\$333.00
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Incandescent Lamp Reflectors

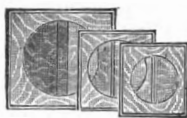
These reflectors are spun of aluminum, polished or white opaque on inside for high candle-power Tungsten lamps, furnished with E. B. Receptacle and 3 feet cable. Has proved very satisfactory for church work, illuminating pictures, windows, fountains, etc.

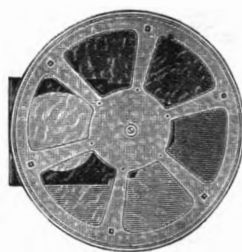


List No. 294
Lamp Reflector

List No.	Description	*List Price Each
294	Size 9 inch.....	\$17.10
294A	300 watt tungsten lamp, 110 volts nitrogen.....	5.40

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

ELECTRIC STAGE LIGHTING APPARATUS

 Mfr. Nos. 38, 36, 35
 Color Frame

 Mfr. No. 40
 Color Frame

 Mfr. No. 22
 Color Wheel

Automatic Color Wheel

A device for changing colors in front of a lens box in the gallery by the operator from the stage. It is generally provided with automatic arc lamp, but can also be used on any of the lens boxes. Color wheel has five colors, and by simply pushing the button once, one color changes and so on. Automatic color wheel is furnished complete ready for use.

List No.		*List Price
30	For 5 and 6 in. lens box.....	\$81.00
31	For 8 in. lens box.....	88.20

Color Frame for Lens Box

Metal frames which fit in front of condenser on lens box are made to hold colored gelatine to show different colored rays of light on the performer.

For 5 and 6 Inch Lens Box

List No.		Size	*List Price
35	For 1 color	7 in. x 7 in.	\$0.45
36	For 1 color	8 in. x 9 in.	.45
36A	For 2 color	8 in. x 15 in.	.81
36B	For 3 color	8 in. x 21 in.	1.71
36C	For 4 color	8 in. x 27 in.	2.25
37	Cardboard	8 in. x 9 in.	.36

For 8 Inch Lens Box

38	For 1 color	10 in. x 11 in.	\$0.54
39	Cardboard	10 in. x 11 in.	.45

Color Frames for Open Box

Mfr. No. 40. Wooden frames which come in pairs and are wired to hold gelatine mediums.

They are used in front of Open Box Arc Lamps, Mfr. No. 1 and 2, page 2; also Bunch Lights, Mfr. No. 641, page 5.

List No.		*List Price
40	18 in. x 20 in.....	\$0.63

Lens Box Color Wheel

Illustration No. 22 shows the color wheel for 5 and 6 inch lens boxes. It is made of galvanized iron, with sliding attachment to fit the grooves on the spot light or Lens Box Arc Lamps.

Mfr. No. 23. Color wheel for 8 inch lens box.

List No.		Size	Weight	*List Price
22	For 5 or 6 in. lens boxes, 5 openings.....	18 in.	2¼ lbs.	\$6.30
24	For 5 or 6 in. lens boxes, 7 openings.....	20 in.	2¾ lbs.	7.20
23	For 8 in. lens boxes, 5 openings.....	28 in.	3¼ lbs.	14.40

Add \$27.00 to price for color wheel with clockwork.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

THEATER DIMMERS



CR 9301



CR 9302

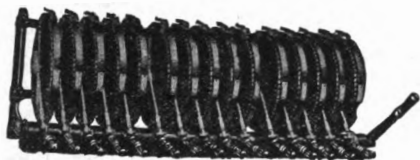
Single Plate Dimmers

Wall Type

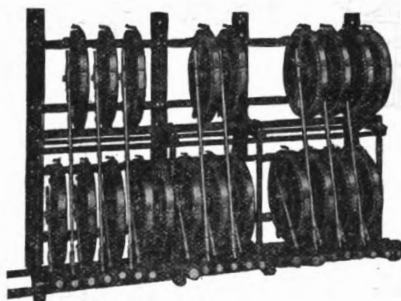
In small theaters, lodge rooms, clubs, etc., where only a few lights are to be controlled, we recommend the use of wall type dimmers which occupy small space and are very readily mounted flat against the wall or at right angles to it. These are known as types CR-9301 and CR-9302 respectively.

Although dimmers of 60 to 100 lights capacity require two plates, both plates are operated simultaneously by the same lever.

Prices for these dimmers will be found on page that follows.



CR 9303



CR 9331

Fifty Step Bank Construction

The non-interlocking and interlocking theater dimmers are so designed that they will meet all requirements for stage and auditorium lighting.

The plates are supported in an iron frame and so grouped that they occupy a minimum of space. The contacts have liberal area and the contact shoes are so designed that excellent electrical connection is obtained and, at the same time, the operation is rendered noiseless.

The switch arms are rotated by gears and pinions and controlled by individual levers which have a movement of 70 degrees to produce full dimming.

Non-interlocking dimmers are so arranged that each plate is operated by an individual lever.

Interlocking dimmer plates may be operated separately or may be operated in groups by one or more master levers.

One hundred step dimmers are recommended for Mazda or metallic filament lamps.

Prices for CR-9303, 9304, 9321 and 9323, fifty step dimmers, will be found on pages that follow.

One Hundred Step Bank

Construction for Mazda Lamps

The application of Mazda lamps to theater lighting has made it desirable to have a dimmer with a larger number of regulating points than are now included with the standard carbon lamp dimmer which has been in use for a number of years. Each plate in the carbon lamp dimmer has 50 steps, while the new plate for Mazda lamp has 100 steps. When the 50 step dimmer is used with Mazda lamps, it is possible to detect the change in illumination or, in other words, the lamps flicker when passing from step to step. Therefore, 100 steps are used.

The construction of the 100 step dimmer is the same as the 50 step dimmer except that an additional inner row of buttons has been placed on each 100 step plate.

The plunger brush contact shoes render operation just as noiseless as with the 50 step dimmer.

One hundred step dimmers are supplied either non-interlocking or interlocking.

Prices on CR-9313, 9314, 9331 and 9332 one hundred step dimmers will be found on pages that follow.

THEATER DIMMERS



Fig. 1



Fig. 2

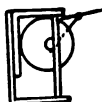


Fig. 3

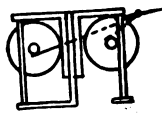


Fig. 4

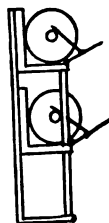


Fig. 5



Fig. 6

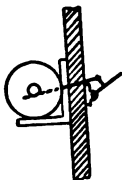


Fig. 7

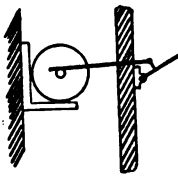


Fig. 8

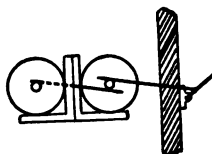


Fig. 9

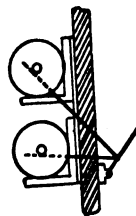


Fig. 10

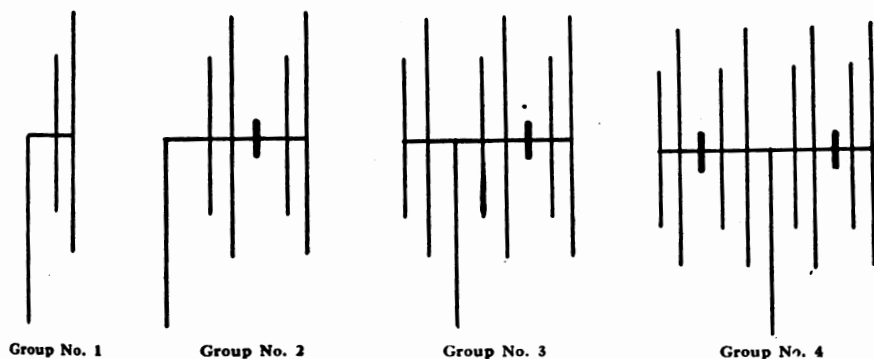
Methods of Mounting Theater Dimmers (Rod Drive)

Ordering Directions

When ordering theater dimmers, the following information should be given:

1. Voltage of circuit.
2. Is system two or three wire?
3. Number of circuits.
4. Number of lights per circuit.
5. Type and candle power of lamps. If metallic filament, give number of watts per lamp.
6. Is dimmer to be interlocking or non-interlocking?
7. If dimmer is to be interlocking, how many master levers are desired? Give sketch showing grouping and arrangement of plates to be controlled by each master.
8. Figures 1 to 10 inclusive cover the simpler methods of arrangement of plates—state which arrangement you want.
9. Are 50 or 100 step dimmers desired?
10. Very important that you give dimensions of available space.
11. Dimmers varying in construction from Fig. 1 to 10 inclusive should be accompanied with complete details, and sketch showing arrangement required. Number and grouping of plates, master levers, and masters, operating levers, etc.

THEATER DIMMERS



Showing Method of Mounting Theater Dimmers (Rod Drive)

General Data

LAMP CAPACITY OF DIMMERS

Two Wire—110 Volts				Three Wire—110, 220 Volts					
*Total Wattage of Lamps	Number Metallic Filament Lamps		No. 16 C.P. Carbon Lamps	Group Numbers	*Total Wattage of Lamps	Number Metallic Filament Lamps		No. 16 C.P. Carbon Lamps	Group Numbers
	60 Watt	40 Watt	55 Watt			60 Watt	40 Watt	55 Watt	
825	14	21	15	Group No. 1	880	14	22	16	Group No. 2
1100	18	27	20		1100	18	26	20	
1375	23	34	25		1430	24	36	26	
1650	27	41	30		1650	26	40	30	
1925	32	48	35		1980	32	50	36	
2200	37	55	40		2200	36	54	40	
2475	41	62	45		2530	42	64	46	
2750	46	69	50	Group No. 2	2750	46	68	50	Group No. 2
3025	50	76	55		3080	52	76	56	
3300	54	82	60		3300	56	82	60	
3850	64	96	70		3850	64	96	70	
4400	74	110	80		4400	74	110	80	
4950	82	124	90		4950	82	124	90	
5500	92	138	100		5500	92	138	100	
6050	100	152	110	Group No. 3	6050	100	152	110	Group No. 4
6325	106	158	115		6600	112	164	120	
6875	115	172	125		7700	128	192	140	
7425	124	186	135		8800	148	220	160	
7975	133	200	145		9900	164	248	180	
8525	142	213	155		11000	184	276	200	
9075	151	227	165		12100	200	304	220	
9900	164	248	180	Group No. 4					
11000	184	276	200						
12100	200	304	220						

* For convenience, total wattage based on carbon filament lamp.

THEATER DIMMERS
Fifty Step Single and Double Plate Dimmers
CR-9301 DIMMERS FOR MOUNTING FLAT AGAINST WALL
2 Wire—110 and 220 Volts

List No.	No. of 16 C.P. Carbon Filament Lights	MAXIMUM AMPERES				No. of Plates	Approximate Shipping Weight in Lbs.	List Price
		110 Volts		220 Volts				
		First Step	Last Step	First Step	Last Step			
410255	25	12.5	3.12	6.25	1.56	1	55	\$18.00
410256	30	15	3.75	7.5	1.87	1	55	18.00
410257	40	20	5	10	2.5	1	55	18.00
410258	50	25	6.25	12.5	3.12	1	55	18.00
410259	60	30	7.5	15	3.75	2	100	41.40
410260	80	40	10	20	5	2	100	41.40
410261	100	50	12.5	25	6.25	2	100	41.40

3 Wire—110 and 220 Volts

List No.	No. of 16 C.P. Carbon Filament Lights	No. Lights Each Side of Circuit	MAXIMUM AMPERES Each Side		No. of Plates	Approximate Shipping Weight in Lbs.	List Price
			First Step	Last Step			
410262	8	4	2	.5	1	55	\$21.60
410263	12	6	3	.75	1	55	21.60
410264	20	10	5	1.25	1	55	21.60
410265	24	12	6	1.5	1	55	21.60
410266	30	15	7.5	1.88	1	55	21.60
410267	40	20	10	2.55	1	55	21.60
410268	50	25	12.5	3.12	1	55	21.60
410269	60	30	15	3.75	2	100	41.40
410270	80	40	20	5	2	100	41.40
410271	100	50	25	6.25	2	100	41.40

CR-9302 DIMMERS FOR MOUNTING AT RIGHT ANGLES TO WALL
2 Wire—110 and 220 Volts

List No.	No. of 16 C.P. Carbon Filament Lights	MAXIMUM AMPERES				No. of Plates	Approximate Shipping Weight in Lbs.	List Price
		110 Volts		220 Volts				
		First Step	Last Step	First Step	Last Step			
410272	25	12.5	3.12	6.25	1.56	1	60	\$21.60
410273	30	15	3.75	7.5	1.87	1	60	21.60
410274	40	20	5	10	2.5	1	60	21.60
410275	50	25	6.25	12.5	3.12	1	60	21.60
410276	60	30	7.5	15	3.75	2	110	45.00
410277	80	40	10	20	5	2	110	45.00
410278	100	50	12.5	25	6.25	2	110	45.00

3 Wire—110 and 220 Volts

List No.	No. of 16 C.P. Carbon Filament Lights	No. Lights Each Side of Circuit	MAXIMUM AMPERES Each Side		No. of Plates	Approximate Shipping Weight in Lbs.	List Price
			First Step	Last Step			
410279	8	4	2	.5	1	60	\$25.20
410280	12	6	3	.75	1	60	25.20
410281	20	10	5	1.25	1	60	25.20
410282	24	12	6	1.5	1	60	25.20
410283	30	15	7.5	1.88	1	60	25.20
410284	40	20	10	2.5	1	60	25.20
410285	50	25	12.5	3.12	1	60	25.20
410286	60	30	15	3.75	2	110	45.00
410287	80	40	20	5	2	110	45.00
410288	100	50	25	6.25	2	110	45.00

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest branch.
 Theatrical and Lighting Specialties

THEATER DIMMERS

Fifty Step Bank Construction

NON-INTERLOCKING TYPE

CR-9303 Dimmers							CR-9304 Dimmers			
Group Number	List Price						List Price			
	Fig. 1	Fig. 2	Fig. 3	Fig. 4	Fig. 5	Fig. 6	Fig. 7	Fig. 8	Fig. 9	Fig. 10
1.....	\$21.60	\$21.60	\$23.40	\$25.20	\$25.20	\$23.40	\$27.00	\$28.80	\$30.60	\$28.80
2.....	39.60	39.60	41.40	45.00	45.00	43.20	48.60	50.40	52.20	50.40
3.....	57.60	57.60	61.20	63.00	63.00	63.00	68.40	72.00	73.80	70.20
4.....	73.80	73.80	77.40	81.00	81.00	79.20	88.20	93.60	95.40	90.00

INTERLOCKING TYPE

CR-9321 Dimmers							CR-9323 Dimmers			
Group Number	List Price						List Price			
	Fig. 1	Fig. 2	Fig. 3	Fig. 4	Fig. 5	Fig. 6	Fig. 7	Fig. 8	Fig. 9	Fig. 10
1.....	\$25.20	\$25.20	\$27.00	\$28.80	\$27.00	\$27.00	\$30.60	\$32.40	\$34.20	\$30.60
2.....	45.00	45.00	46.80	48.60	48.60	46.80	52.20	54.00	57.60	52.20
3.....	61.20	61.20	64.80	66.60	66.60	66.60	73.80	77.40	82.80	73.80
4.....	77.40	77.40	82.80	86.40	86.40	82.80	91.80	97.20	104.40	91.80

CR-9303 and CR-9321 are 50 step, self-contained.

CR-9304 and CR-9323 are 50 step; operating mechanism mounted on wood template.

Prices covering any of the above combinations of interlocking dimmers include one master lever for every 6 plates. For each additional master lever, add \$6.00 to list price.

One Hundred Step Bank Construction

NON-INTERLOCKING TYPE

CR-9313 Dimmers							CR-9314 Dimmers			
Group Number	List Price						List Price			
	Fig. 1	Fig. 2	Fig. 3	Fig. 4	Fig. 5	Fig. 6	Fig. 7	Fig. 8	Fig. 9	Fig. 10
1.....	\$30.60	\$30.60	\$31.50	\$32.40	\$33.30	\$31.50	\$33.30	\$34.20	\$36.00	\$33.30
2.....	59.40	59.40	63.00	64.80	64.80	63.00	64.80	68.40	70.20	64.80
3.....	88.20	88.20	95.40	99.00	99.00	95.40	99.00	102.60	104.40	99.00
4.....	118.80	118.80	127.80	131.40	131.40	127.80	131.40	135.00	136.80	131.40

INTERLOCKING TYPE

CR-9331 Dimmers							CR-9332 Dimmers			
Group Number	List Price						List Price			
	Fig. 1	Fig. 2	Fig. 3	Fig. 4	Fig. 5	Fig. 6	Fig. 7	Fig. 8	Fig. 9	Fig. 10
1.....	\$32.40	\$32.40	\$33.30	\$34.20	\$35.10	\$33.30	\$36.00	\$36.90	\$39.60	\$36.00
2.....	61.20	61.20	64.80	66.60	66.60	64.80	68.40	70.20	72.00	68.40
3.....	90.00	90.00	97.20	100.80	100.80	97.20	102.60	104.40	106.20	102.60
4.....	122.40	122.40	129.60	133.20	133.20	129.60	135.00	138.60	140.40	135.00

CR-9313 and CR-9331 are 100 step, self-contained.

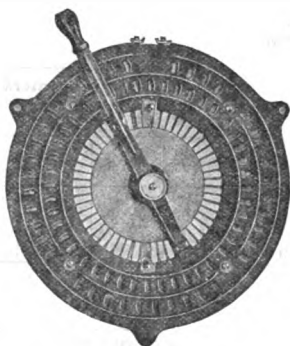
CR-9314 and CR-9332 are 100 step; operating mechanism mounted on a wood template.

Prices covering any of the above combinations of interlocking dimmers include one master lever for every 6 plates. For each additional master lever, add \$6.00 to list price.

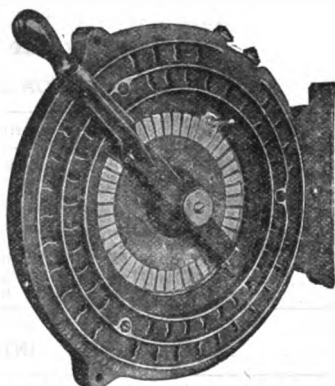
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

Theatrical and Lighting Specialties

C-H. "SIMPLICITY" THEATER DIMMERS



Type No. 3. For Mounting Flat



Type No. 4. For Mounting at Right Angle

Simplicity Theater Dimmers

TYPE 3 DIMMER FOR 2-WIRE
110 VOLT CIRCUITSTYPE 4 DIMMER FOR 2-WIRE
110 VOLT CIRCUITS

List No.	No. and Size of Plates	List Prices Each	Total Wattage in Lamps	No. of Metallic Filament Lamps		No. of Carbon Lamps	List No.	No. and Size of Plates	List Prices Each
				60 Watts	40 Watts	55 Watts			
24110	1- 9 ins.	\$10.80	220	4	6	4	25110	1- 9 ins.	\$13.20
24111	1- 9 ins.	10.80	330	5	8	6	25111	1- 9 ins.	13.20
24112	1- 9 ins.	10.80	550	9	14	10	25112	1- 9 ins.	13.20
24113	1- 9 ins.	10.80	660	11	17	12	25113	1- 9 ins.	13.20
24114	1-12 ins.	15.60	830	14	21	15	25114	1-12 ins.	18.00
24115	1-12 ins.	15.60	*1100	18	27	20	25115	1-12 ins.	18.00
24116	1-12 ins.	15.60	1370	...	...	25	25116	1-12 ins.	18.00
24130	1-16 ins.	21.60	1370	23	34	...	25130	1-16 ins.	24.00
24131	1-16 ins.	21.60	1650	27	41	30	25131	1-16 ins.	24.00
24132	1-16 ins.	21.60	*2200	36	55	40	25132	1-16 ins.	24.00
24133	1-16 ins.	21.60	2750	...	...	50	25133	1-16 ins.	24.00
24134	2-16 ins.	49.20	2750	46	70	...	25134	2-16 ins.	56.00
24135	2-16 ins.	49.20	3300	55	82	60	25135	2-16 ins.	56.00
24136	2-16 ins.	49.20	*4400	74	110	80	25136	2-16 ins.	56.00
24137	2-16 ins.	49.20	5500	...	...	100	25137	2-16 ins.	56.00
24138	3-16 ins.	74.00	5500	92	138	...	25138	3-16 ins.	86.40
24139	3-16 ins.	74.00	*6600	110	165	120	25139	3-16 ins.	86.40
24140	3-16 ins.	74.00	8200	...	...	150	25140	3-16 ins.	86.40

TYPE 3 DIMMER FOR 2-WIRE
220 VOLT CIRCUITSTYPE 4 DIMMER FOR 2-WIRE
220 VOLT CIRCUITS

List No.	No. and Size of Plates	List Prices Each	Total Wattage in Lamps	No. of Metallic Filament Lamps		No. of Carbon Lamps	List No.	No. and Size of Plates	List Prices Each
				60 Watts	40 Watts	55 Watts			
24210	1-12 ins.	\$15.60	220	4	6	4	25210	1-12 ins.	\$18.00
24211	1-12 ins.	15.60	330	5	8	6	25211	1-12 ins.	18.00
24212	1-12 ins.	15.60	550	9	14	10	25212	1-12 ins.	18.00
24213	1-12 ins.	15.60	660	11	17	12	25213	1-12 ins.	18.00
24214	1-12 ins.	15.60	830	14	21	15	25214	1-12 ins.	18.00
24215	1-12 ins.	15.60	*1100	18	27	20	25215	1-12 ins.	18.00
24216	1-12 ins.	15.60	1370	...	...	25	25216	1-12 ins.	18.00
24230	1-16 ins.	21.60	1370	23	34	...	25230	1-16 ins.	24.00
24231	1-16 ins.	21.60	1650	27	41	30	25231	1-16 ins.	24.00
24232	1-16 ins.	21.60	*2200	36	55	40	25232	1-16 ins.	24.00
24233	1-16 ins.	21.60	2750	...	...	50	25233	1-16 ins.	24.00
24234	2-16 ins.	49.20	2750	46	70	...	25234	2-16 ins.	56.00
24235	2-16 ins.	49.20	3300	55	82	60	25235	2-16 ins.	56.00
24236	2-16 ins.	49.20	*4400	74	110	80	25236	2-16 ins.	56.00
24237	2-16 ins.	49.20	5500	...	...	100	25237	2-16 ins.	56.00
24238	3-16 ins.	74.00	5500	92	138	...	25238	3-16 ins.	86.40
24239	3-16 ins.	74.00	*6600	110	165	120	25239	3-16 ins.	86.40
24240	3-16 ins.	74.00	8200	...	...	150	25240	3-16 ins.	86.40

*Maximum capacity for Metallic Filament Lamps.

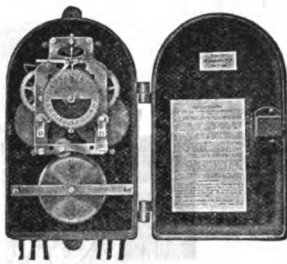
†Note: Total wattage in lamps, number of metallic filament lamps and number of carbon lamps the same for Type 4 Dimmer as for Type 3 Dimmer.

Delivery F. O. B. Factory, Milwaukee, Wis.

For warehouse deliveries write nearest house.

Theatrical and Lighting Specialists

METAL CASE TIME SWITCHES



Door Open



Door Closed

Hartford Time Switches

This is a device by which electric current is automatically turned on and off at such times with no further attention than the weekly winding.

It consists of a high-grade Seth Thomas marine clock movement, and a Standard Switch, so that each in its operation is independent of the other. This permits of perfect regulation of and assures accuracy of operation.

The switching mechanism is positive in operation; in the lower capacity-switches, it being grade rotary switch, and in the larger capacity, a high-grade standard knife switch.

The mechanism is enclosed in a dust and weatherproof japanned iron case supplied with Treasury lock and rubber gasketed door.

STANDARD TYPES

Type "B"—Throws the current on and off once each day, seven days per week.

Type "C"—The same as type "B," excepting that it automatically disconnects the switch one week, designed to omit Sunday operation.

Type "D"—Similar to type "B," but arranged to throw light on and off two periods each day (requires winding twice a week).

Type "E"—Two rate meter service control.

Type "C"—Designed to control apartment house lighting.

All switches are provided with hand trip, by which the switch can be tripped independently and are also, with the exception of Type "C," equipped with a cut-out, permitting the disc of the clock and switch, without stopping the clock.

Dimension—The enclosing cast-iron case up to 50 amperes, Double Pole, measures approximately 7 1/2 inches high, 7 1/2 inches wide, 3 1/4 inches deep.

SMALL TYPE

For use on circuits up to 250 V.—A. C. or D. C.

Description	List Price Each—		
	Type B	Type C & D	Type E
10 Amperes Single Pole	\$38.40	\$41.60	\$40.00
10 Amperes Double Pole	38.40	41.60	.....
10 Amperes Triple Pole	40.00	43.20	.....
20 Amperes Single Pole	40.00	43.20	41.60
20 Amperes Double Pole	40.00	43.20	.....
20 Amperes Triple Pole	41.60	44.80	.....
35 Amperes Single Pole	41.60	44.80	43.20
35 Amperes Double Pole	41.60	44.80	.....
35 Amperes Triple Pole	43.20	46.40	.....
50 Amperes Single Pole	46.40	49.60	.....
50 Amperes Double Pole	46.40	49.60	.....

LARGE TYPE

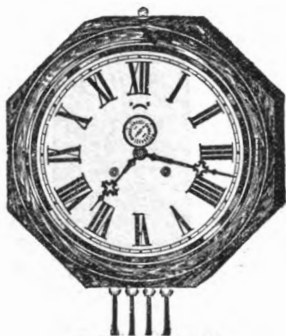
For use on circuits up to 250 V.—A. C. or D. C.

Description	List Price	
	Type B	T
50 Amperes Triple Pole	\$86.40	.....
100 Amperes Single Pole	91.20	.....
100 Amperes Double Pole	91.20	.....
100 Amperes Triple Pole	96.00	.....
200 Amperes Single Pole	100.80	.....
200 Amperes Double Pole	100.80	.....
200 Amperes Triple Pole	110.40	.....

NOTE: When ordering specify type by letter.

Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

TIME SWITCHES



G. L. Time Switch



Mesco Time Switch

G. L. Time Switch Clock

The clock has an attachment by which electric lights can be automatically turned on at any predetermined time the user may desire and turned off at a fixed time without requiring the services of an attendant.

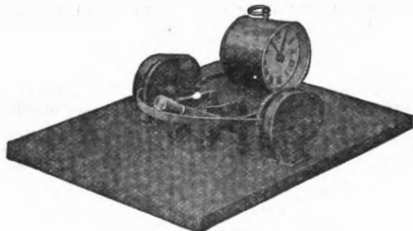
List No. 410438 G. L. Time Switch Clock.....^{*List Price Each} \$23.00

The Mesco Time Switch

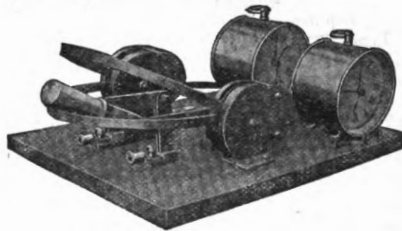
For Window Lights, Signs, Etc.

This is a simple and most reliable time switch; it requires no metal box or cabinet. Just wind the clock, switch on lights and they will be thrown off automatically at the time for which the alarm is set.

List No. 16450 For throwing off lights only, 10 ampere, 250 volts, double pole.....^{††List Price} \$13.60



Type A



Type B

Crescent Time Switches

Type "A"

The type "A" time switch is a simple, inexpensive device for turning off electric lights at a predetermined time.

List No.		^{*List Price Each}
410308	Two pole, 25 amperes 220 volts.....	\$15.00
410309	Two pole, 50 amperes 220 volts.....	18.75
410310	Two pole, 75 amperes 220 volts.....	22.50
410311	Three pole, 25 amperes 220 volts.....	18.00
410312	Three pole, 50 amperes 220 volts.....	21.00
410313	Three pole, 75 amperes 220 volts.....	24.00

Type "B"

The type "B" time switch is made on the same plan as type "A" except that it has two time movements: one for turning on the current and the other for throwing it off.

List No.		^{*List Price Each}
410314	Two pole, 25 amperes 220 volts.....	\$24.00
410315	Two pole, 50 amperes 220 volts.....	27.00
410316	Two pole, 75 amperes 220 volts.....	28.50
410317	Three pole, 25 amperes 220 volts.....	25.50
410318	Three pole, 50 amperes 220 volts.....	28.50
410319	Three pole, 75 amperes 220 volts.....	31.50

The Crescent time switches when used in connection with approved iron box meet all underwriters' requirements.

Prices quoted on application.

^{††}Delivery F. O. B. Factory. New York or Chicago. ^{*}Delivery F. O. B. Factory. St. Louis, Mo.
^{*}Delivery F. O. B. Factory, Valparaiso, Ind. For warehouse deliveries write nearest house.

Theatrical and Lighting Specialties

RECO SIGN FLASHERS

L. C. Type Reco Flasher

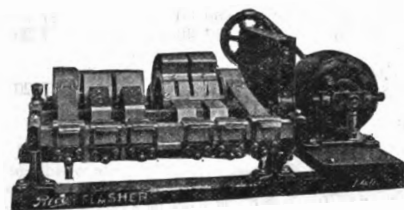


Type L. C. Reco Flasher

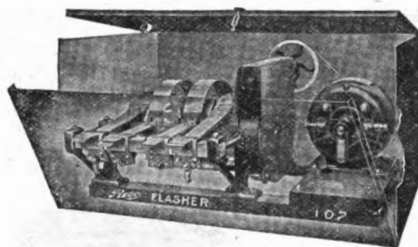
Completely equipped with steel cabinet. For small signs, transparencies, on and off, alternate sides, one or two color effects and show window lighting effects.

For 110 Volt D.C. or 110 Volt 60 Cycle Motors Only

List No.	No. of Switches	Capacity Per Switch	Dimensions Inches	Weight Lbs.	*List Price	
					With D. C. Motor and Cabinet	With A. C. Motor and Cabinet
LC-2-6	2	6 amp.	15 x 15 x 10	40	\$44.80	\$51.20
LC-2-10	2	10 amp.	15 x 15 x 10	43	48.00	54.40



**On and Off Type
Without Cabinet**



**On and Off Type
With Cabinet**

Reco On and Off Type

For flashing signs on and off alternate sides, two or three color effects, etc. Has adjustable contacts. Minor or complete changes in flashing effects can be easily made.

Capacity, 6 Amperes per Switch 110 Volts

List No.	No. of Switches	Size	Shipping Weight	*List Price Each		Steel Cabinet Only
				With D. C. Motor	With A. C. Motor	
B1-6	1	13 x 13 x 11 ins.	45 lbs.	\$48.00	\$54.40	\$7.20
B2-6	2	15 x 13 x 11 ins.	48 lbs.	51.20	57.60	7.20

Add \$3.20 list for each additional switch.

Capacity, 15 Amperes per Switch 110 Volts

B1-15	1	15 x 13 x 11 ins.	48 lbs.	\$54.40	\$60.80	\$7.20
B2-15	2	17 x 13 x 11 ins.	51 lbs.	60.80	67.20	7.20

Add \$6.40 list for each additional switch.

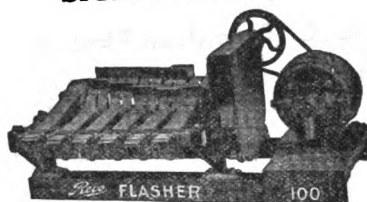
NOTE: When ordering, specify how sign is to flash, number of changes desired (the number of flasher switches is governed by the number of changes), number of lamps in each change (the size of switch is governed by the ampere load), if two or three wire service. if D.C., the voltage; if A.C., the voltage and cycles.

If above are furnished for 3 wire service add \$3.20 to list.

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

Theatrical and Lighting Specialties

SIGN FLASHERS



Lightning Type

Reco Lightning Type

These flashers give the effect of streaks of lightning in signs, displays, etc. Lightning effects are wired each streak on a separate circuit; thus a three section lightning streak requires a three switch flasher, etc. They are furnished in two sizes.

Capacity, 5 Amperes per Switch, 110 Volts

List No.	No. of Switches	Size	Shipping Weight	*List Price Each		Steel Cabinet Only
				With D. C. Motor	With A. C. Motor	
L3-5	3	16 x 13 x 11 ins.	40 lbs.	\$53.60	\$60.00	\$7.20
L4-5	4	17 x 13 x 11 ins.	43 lbs.	56.00	62.40	7.20

Add \$3.20 list for each additional switch.

Capacity, 10 Amperes per Switch, 110 Volts

L3-10	3	19 x 13 x 11 ins.	48 lbs.	\$60.80	\$67.20	\$7.20
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Add \$4.80 list for each additional switch.

If above are furnished for 3-wire service add \$3.20 to list.



Script Type

Reco Script Type

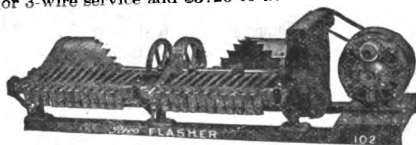
Invisible handwriting effects in script letter signs, perfectly reproduced, also used in rockets, vines, trailers, etc. Built single, double or triple deck to meet space requirements. Approved by the National Board of Fire Underwriters.

Capacity, 1 Ampere per Switch, 110 Volts

List No.	No. of Switches	Size	Shipping Weight	*List Price Each		Steel Cabinet Only
				With D. C. Motor	With A. C. Motor	
10-1	10	20 x 13 x 11 ins.	60 lbs.	\$68.00	\$74.40	\$9.60
20-1	20	28 x 13 x 11 ins.	68 lbs.	80.00	86.40	11.20

Add \$1.20 list for each additional switch.

If above are furnished for 3-wire service add \$3.20 to list.



Chaser Type

Reco Chaser Type

The type of flasher used for "crawling snakes," jumping rabbits, etc., wherever one animate object chases another around the border of a sign. This illusion is accomplished by wiring each opposite lamp in the sign on one wire, making half the number of circuits as there are lamps in the border.

Capacity, 1½ Amperes per Switch, 110 Volts

List No.	No. of Switches	Size	Shipping Weight	*List Price Each		Steel Cabinet Only
				With D. C. Motor	With A. C. Motor	
15-1½	15	26 x 13 x 11 ins.	63 lbs.	\$76.80	\$83.20	\$8.80
20-1½	20	29 x 13 x 11 ins.	68 lbs.	84.80	91.20	9.60

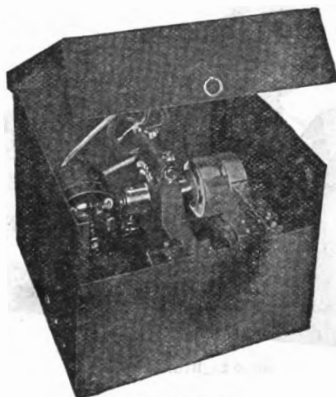
Add \$1.60 list for each additional switch.

NOTE: When ordering, specify how sign is to flash, number of changes desired (the number of flasher switches is governed by the number of changes), number of lamps in each change (the size of switch is governed by the ampere load), if two or three wire service, if D.C., the voltage; if A.C., the voltage and cycles.

If above are furnished for 3-wire service add \$3.20 to list.

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

ELECTRIC SIGN FLASHERS



No. 1-201 With Cabinet

Betts Sign Flashers

These flashers are made to produce any known flashing effect. Every contact is equipped with an interchangeable contact sector, permitting time adjustments or complete flashing changes. These sectors, in connection with the interchangeable brush holders, make it comparatively easy to completely rebuild the flasher for different effects. Guaranteed two years and approved by the National Board of Fire Underwriters.

Betts On and Off or Spelling Type

These machines are used to flash one or more circuits, such as, a whole sign on and off, varied color effects, spelling a word, etc.

CAPACITY—3 AMPERES PER SWITCH AT 110 VOLTS

List No.	No. of Switches	Size Inches	Shpg. Wgt.	*List Prices		Steel Cabinet
				With D.C. Motor	With A.C. Motor	
31	1	11 x 12 x 14	60	\$38.00	\$45.34	\$13.08
32	2	11 x 12 x 14	60	40.00	47.34	13.08

Add \$2.00 list for each additional switch.

CAPACITY—6 AMPERES PER SWITCH AT 110 VOLTS

61	1	11 x 12 x 14	62	\$40.68	\$48.00	\$13.08
62	2	11 x 12 x 14	62	43.34	50.68	13.08

Add \$2.68 list for each additional switch.

CAPACITY—10 AMPERES PER SWITCH AT 110 VOLTS

101	1	11 x 12 x 14	64	\$43.34	\$50.68	\$13.08
102	2	11 x 12 x 15	65	47.34	54.68	13.60

Add \$4.00 list for each additional switch.

CAPACITY—15 AMPERES PER SWITCH AT 110 VOLTS

151	1	11 x 12 x 14	64	\$47.34	\$54.68	\$13.08
152	2	11 x 12 x 15	65	52.68	60.00	13.60

Add \$5.34 list for each additional switch.

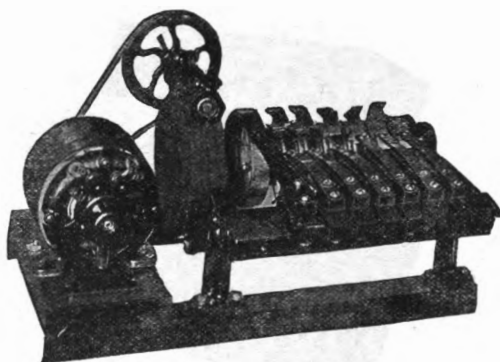
CAPACITY—20 AMPERES PER SWITCH AT 110 VOLTS

201	1	11 x 12 x 15	65	\$51.34	\$58.68	\$13.60
202	2	11 x 12 x 16	67	58.00	65.34	14.28

Add \$6.68 list for each additional switch.

* Delivery F. O. B. Factory, New York, N. Y. For warehouse deliveries write nearest house.

ELECTRIC SIGN FLASHERS



No. 6 Lightning Type

Betts No. 6 Lightning Type

The number of circuits required depends upon the number and length of sections in the stroke.

CAPACITY—3 AMPERES PER SWITCH AT 110 VOLTS

List No.	No. of Switches	Size Inches	Shpg. Wgt.	*List Prices		Steel Cabinet
				With D.C. Motor	With A.C. Motor	
4-L	4	11 x 12 x 15	70	\$47.34	\$54.68	\$13.60

Add \$2.68 list for each additional switch.

Betts No. 12 Snake Chaser Type

This type is used for producing "crawling snakes," chasing rats, jumping rabbits, and similar effects. The number of circuits should be a multiple of the number of snakes or objects employed, viz.: 60 lamps, 3 snakes would require 20 circuits. Wire accordingly.

CAPACITY—2 AMPERES PER CIRCUIT AT 110 VOLTS

List No.	No. of Switches	Size Inches	Shpg. Wgt.	*List Prices		Steel Cabinet
				With D.C. Motor	With A.C. Motor	
15-S	15	11 x 12 x 18	80	\$60.68	\$68.00	\$15.48

Add \$1.34 list for each additional switch.

INSTRUCTIONS FOR ORDERING

- 1st. Number and candle power of lamps to be controlled by each switch.
- 2d. Whether Mazda (Tungsten) or carbon lamps.
- 3d. If Mazda (Tungsten) lamps whether they are to be used on low voltage transformers.
- 4th. If direct or alternating current. If alternating, the frequency (number of cycles).
- 5th. If two- or three-wire system.
- 6th. Voltage.
- 7th. If design is complicated, give complete description of the sign, and preferably a sketch showing number of lamps for circuit and how they are to be flashed.
- 8th. Shipments: express or freight.

*Delivery F. O. B. Factory, New York, N. Y. For warehouse deliveries write nearest house.
 Theatrical and Lighting Specialties

MOTORLESS FLASHERS



Window Display Motor



Skedoodle Plug

Window Display Motor

This motor will operate satisfactorily on direct current from 100 to 125 or alternating current from 100 to 125 and frequencies of 60 cycles or lower.

List No.	List Price Each
3655 Universal Type Window Display Motor.....	\$9.60

Skedoodle Socket Plugs

These plugs fit any ordinary sockets and standard lamps. They flash the lamps on and off automatically from fifteen to twenty times per minute.

List No.	Watts	Volts	Dimensions	Std. Pkg.	Weight	List Price
162	20-60	100-250	2 3/4 x 1 1/8	100	1 3/4 oz.	\$1.00
163	60-100	100-250	2 3/4 x 1 1/8	100	1 3/4 oz.	1.20



Type A
Single Circuit 220-660 Watts



Type A
Single Circuit 55-220 Watts

Type A Flashers

SINGLE CIRCUIT—55-220 WATTS

These flashers employ a mono-metallic thermostat, both ends of which are securely bolted, thus rendering the machine absolutely unaffected by vibration. Heavy iridium platinum contacts are used. Connected in series for direct or alternating current.

List No.	Amperes	Watts at 110 Volts	Volts	Size Inches	Net Wt. Ounces	Std. Pkg.	List Price Each
184	1 1/2	55	100-125	2 x 2 x 5	7 1/2	12	\$0.96
125	1	110	100-125	2 x 2 x 5	7 1/2	12	1.20
127	2	220	100-125	2 x 2 x 5	7 1/2	12	1.80
180	1 1/4	55	200-250	2 x 2 x 5	7 1/2	12	1.50
128	1 1/2	55	200-250	2 x 2 x 5	7 1/2	12	1.80

Covers are not usually needed but can be supplied, when ordered, at 15 cents each, net.

SINGLE CIRCUIT—220-660 WATTS

These flashers are equipped with condenser and special arc eliminator.

Heavy iridium platinum contacts insure long service. Not affected by vibration; connected in series, direct or alternating current.

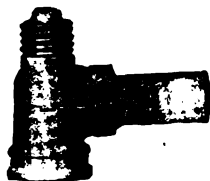
List No.	Amperes	Watts at 110 Volts	Volts	Size Inches	Net Wt. Ounces	Std. Pkg.	List Price Each
181	3	330	100-125	6 1/8 x 2 1/8 x 2 1/4	26	6	\$5.40
121	4	440	100-125	6 1/8 x 2 1/8 x 2 1/4	26	6	6.00
182	5	550	100-125	6 1/8 x 2 1/8 x 2 1/4	26	6	7.20
123	6	660	100-125	6 1/8 x 2 1/8 x 2 1/4	26	6	9.00
183	1	220	200-250	6 1/8 x 2 1/8 x 2 1/4	26	6	9.00
122	2	440	200-250	6 1/8 x 2 1/8 x 2 1/4	26	6	7.20
124	3	660	200-250	6 1/8 x 2 1/8 x 2 1/4	26	6	10.20

Covers are not usually needed but can be supplied, when ordered, at 20 cents each, net.

Above ratings for carbon lamps only. These flashers carry only 1/2 above rating with Tungsten lamps.

Theatrical and Lighting Specialties

THERMO-BLINK AUTOMATIC FLASHERS



No. 351
Flashing Plug



No. 6 Flashing Socket

Thermo-Blink Flashing Plugs

Compensating Type

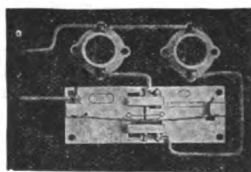
This flashing socket plug attaches to any Edison base lamp socket and holds any lamp. The same plug will flash anything from an 8 C. P. to a 32 C. P. carbon lamp or its equivalent in the Tungsten or Tantalum filament lamp. This socket is specially fitted for outdoor and interior decorative work. For use on either alternating or direct current.

List No.		Volts	Watts	Amperes	*List Price Each
351	Flashing plug.....	110	110	$\frac{1}{4}$ to 1	\$2.00
351A	Flashing plug.....	220	55	$\frac{1}{8}$ to $\frac{1}{2}$	2.20

Thermo-Blink Flashing Socket

This style socket has been specially designed for sign work, and is intended to go inside of window signs using one lamp. Porcelain base. Platinum contacts. Unaffected by external temperature changes or vibration. For use on either alternating or direct currents.

List No.		Volts	Watts	Amperes	*List Price Each
6	Flashing socket.....	110	55	$\frac{1}{2}$	\$1.20
6A	Flashing socket.....	220	30	$\frac{1}{4}$	1.28



No. 551

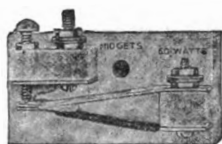
Quick Break Flasher

This flasher will flash two lamps or two circuits of lamps alternately, one set remaining lighted while the other is out and so on. It is useful for flashing colored sets of lamps alternately, for switching two portions of a sign, for illusion signs where the face lights up first, then the back of the sign, and innumerable other effects. For use on alternating or direct current.

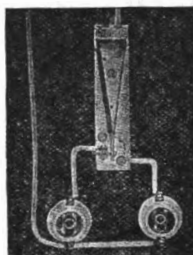
List No.		Size of Base	Volts	Watts	Amperes	*List Price Each
551	Two way	$2\frac{1}{2} \times 1\frac{3}{4} \times 6\frac{1}{2}$ ins.	110	55 to 110	$\frac{1}{2}$ to 1	\$6.00
551A	Two way	$2\frac{1}{2} \times 1\frac{3}{4} \times 6\frac{1}{2}$ ins.	220	30 to 55	$\frac{1}{4}$ to $\frac{1}{2}$	8.00
552	Two way	$2\frac{1}{2} \times 1\frac{3}{4} \times 6\frac{1}{2}$ ins.	110	220	2	9.50
552A	Two way	$2\frac{1}{2} \times 1\frac{3}{4} \times 6\frac{1}{2}$ ins.	220	110	1	10.50

*Delivery F. O. B. Factory, Jersey City, N. J. For warehouse deliveries write nearest house.
 Theatrical and Lighting Specialties

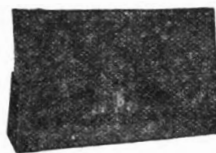
THERMO-BLINK AUTOMATIC FLASHERS



**Midget Type
No. 0**



**Lamp Controller
No. 60**



**Universal Type
No. 622**

Thermo-Blink Flashers

**Midget Type for A. C. or D. C. Current
Closed Circuit**

List No.
Midget O
Midget OA

List
No.
1
1A

2
2A

4
4A

12
12A

Volts	Watts	Amperes
110	165	1 1/2
220	165	3/4
No. 1 Type for A. C. or D. C. Current		
110	600	6
220	600	3
No. 2 Type for A. C. Current Only		
110	440	4
220	440	2
No. 4 Type for A. C. or D. C. Current		
110	220	2 1/4
220	220	1 1/4
No. 12 Type for A. C. or D. C. Current		

List Price
Each
\$1.00
1.20

List Price
Each
\$2.00
2.20

\$4.00
4.70

\$9.00
10.00

\$4.00
4.70

Signal Lamp Controllers

For Either A. C. or D. C. Current

Whenever an electric lamp is used in a signal lamp, and there would be danger if the lamp should burn out install an extra lamp with Thermo-Blink Control. The Thermo holds one lamp in reserve until the first lamp burns out, then automatically switches in the good lamp.

List
No.
60
61

Volts	Watts
110	165
220	165

List Price
Each
\$2.20
2.30

Tic-Tac Flashers

One Circuit Single Pole

Single Circuit

List No.	Amperes	100-120 Volts	200-220 Volts
606	1 1/2 - 3	\$26.40	\$27.60
607	3 - 6	27.60	28.80
608	6 - 9	28.80	30.00
609	9 - 12	30.00	30.40

Double Circuit

List No.	Amperes	Watts	List Price
610	1 1/2 - 3	300	\$30.00
611	3 - 6	600	33.00
612	6 - 9	1000	36.00
613	9 - 12	1200	39.60

Flashes Two Circuits Alternately

Single Circuit

List No.	Amperes	100-120 Volts	200-220 Volts
614	12-15	\$38.40	\$40.80
615	15-18	40.80	42.00
616	18-21	42.00	43.20
617	21-25	42.40	44.40

Double Circuit

List No.	Amperes	100-120 Volts	210-220 Volts
618	12-15	\$42.40	\$45.60
619	15-18	45.60	48.00
620	18-21	48.00	50.40
621	21-25	50.40	52.00

Universal Type Tic-Tac Flashers

List No.	Volts	Watts
622	110	1200
623	110	2500
624	110	1200 each side
625	110	2500 each side

List Price	Each
1/2 to 12	\$30.00
1/2 to 25	42.00
1/2 to 12 each side	30.00
1/2 to 25 each side	54.00

Delivery F. O. B. Factory, Jersey City, N. J. For warehouse deliveries write nearest house.

Western Electric
SILK SHADE
PORTABLE LAMPS

Type No. 15

Type No. 25

Type No. 35
Portable Mahogany Lamps

The stands of these lamps are of solid mahogany, well finished and of selected stock. Each lamp is fitted with $\frac{1}{8}$ inch iron pipe from top to bottom, which insures the socket always being tight. It also prevents the wooden shaft from warping.

The shades are of one layer of heavy silk poplin and are trimmed with metal galloon of popular width and design. These shades can be furnished in any of the following four colors: gold, old rose, Nile green and pink. They are made on tinned wire frames and all joints soldered, and all wires are wrapped in the same color of material as the shade.

Type No. 15. This is a desk or boudoir lamp equipped with one pull chain socket, six feet of silk parallel cord and attachment plug. The total height of the lamp and shade is 15 inches and the diameter of base is 5 inches. The diameter of the shade is 8 inches, and a spring fixture to fit over the lamp bulb is included.

Type No. 25. This is a table lamp, equipped with one pull chain socket, six feet of silk parallel cord and attachment plug. The total height of the lamp and shade is 19 inches and the diameter of base is $6\frac{1}{2}$ inches. The diameter of the shade is 14 inches, and a spring fixture to fit over the lamp bulb is included. It may be used as a reading lamp when equipped with a 40 watt tungsten lamp.

Type No. 35. This is a library lamp equipped with two pull chain sockets, six feet of silk parallel cord and attachment plug. The total height of the lamp and shade is 26 inches and the diameter of base is 8 inches. The diameter of the shade is 18 inches. The shade attaches solidly to the cluster box on top of the lamp and is held in place by a brass knob.

List No.	Description	List Price Each
15	Portable complete with cord shade and plug.....	\$7.70
25	Portable complete with cord shade and plug.....	12.30
35	Portable complete with cord shade and plug.....	18.30

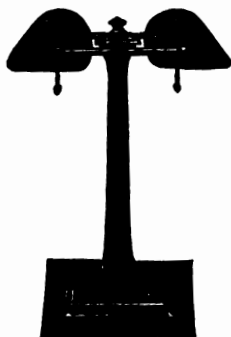
NOTE: Each base is packed in a separate box and each shade is packed in separate box.

Portables Nos. 1, 2 and 3 may be assorted.

Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

Lighting Fixtures and Accessories

"EMERALITE" PORTABLES



No. 4378 C

No. 4378B DESK PORTABLE

especially for flat-top desks and tables. The height from table to center of shade in normal position has an efficient illumination area, with ordinary 36 inches front of base. Base is 6 inches square, heavily weighted and bottom adjustable to any angle. Furnished complete with shade, pull chain socket,

*List Price
Each

\$14.00

ss and statuary bronze.

No. 4378C DESK PORTABLE

adapted for large, double flat-top desks or tables, and as the two lights no shadows whatsoever. Height from table to center of shade is 16½ inches. Heavy weighted, and bottom covered with felt. Shade adjustable to any angle. pull chain sockets, plug and six feet silk cable.

\$20.30



No. 4378 EW

NO. 4378DC ADJUSTABLE LIGHT

roll-top desks and ideal for player-pianos as the shade can be adjusted keyboard without shadows and without glare.

*List Price
Each

\$14.00

NO. 4378EW DESK PORTABLE

detail to 4378B, has an inkstand base measuring 7 x 9½ inches which ble.

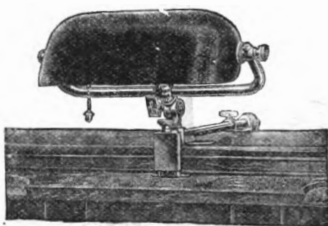
watch, pull chain socket, plug and 6 ft. silk cord..... \$25.20

watch..... 21.00

lendar instead of watch..... 23.10

City. For warehouse deliveries write nearest house.

"EMERALITE" PORTABLES



No. 4378L



No. 4378AC

No. 4378L PORTABLE FOR ROLL-TOP DESK

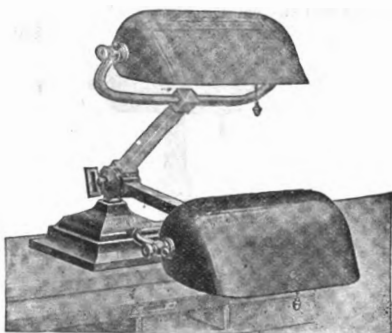
This fixture is suitable for all styles of roll-top desks. The front and rear clamps are adjustable to fit desk tops $\frac{1}{8}$ inch to 2 inches thick and 10 $\frac{1}{2}$ inches to 18 inches wide. All points of contact are covered with felt. The shade can be turned to any angle, also adjusted for projection and elevation. The horizontal arm telescopes and does not project beyond rear of desk. This type lamp is made of brass throughout. Furnished complete with shade, six feet silk cable, pull socket and plug.

List No.		*List Price Each
4378L	Portable complete, with pull socket.....	\$11.90
4378L	Portable complete, with key socket.....	11.20

No. 4378AC PORTABLE FOR ROLL-TOP DESK

This fixture is adaptable to either roll-top desk or piano. It has an adjustable clamp at the top of base, so that the shade can be raised or lowered to any desired position. Base 6 $\frac{1}{2}$ inches in diameter. Furnished complete with shade, key socket, plug and 6 feet silk cord.

4378AC	Portable complete, with key socket.....	\$9.80
4378AC	Portable complete, with pull socket.....	10.50



No. 4378G



No. 6513

No. 4378G PORTABLE FOR ROLL-TOP DESK

For modern office furniture, this new fixture will be found very desirable. The base is 6 inches x 6 inches square. The adjustable clamp has invisible locking device which holds arm in position should screw become loose. Furnished complete with shade, pull chain socket, plug and six feet cable.

List No.		*List Price Each
4378G	Portable complete, with pull socket.....	\$11.90
4378G	Portable complete, with key socket.....	11.20

No. 6513 PORTABLE

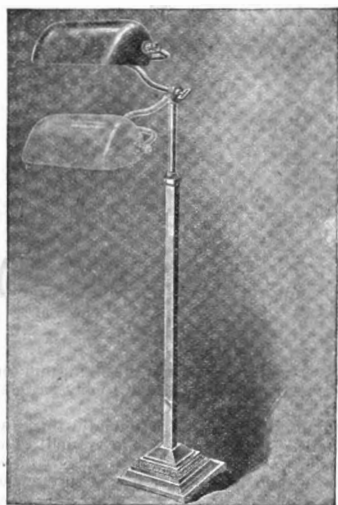
This is an ideal portable for writing tables, and it is equipped with two adjustable clamps so that it can also be used as a wall bracket. The base, which is heavily weighted, is felt covered. The height of the fixture is 17 inches; diameter of shade, 5 $\frac{1}{2}$ inches. The light is controlled by a switch in the base. Furnished complete with "Emeralite" or "Celadon" shade, socket, switch, plug and 6 feet silk cable.

6513	Portable, complete.....	\$14.00
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Standard finishes old brass and statuary bronze. Special finishes to order.

*Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

"EMERALITE" PORTABLES



No. 4378 Floor Lamp

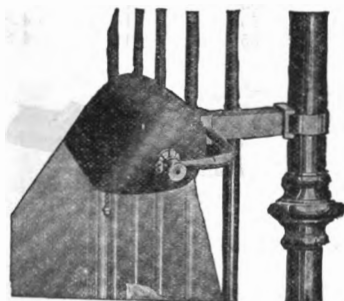
NO. 4378 FLOOR LAMP

This lamp has been designed for piano or reading lamp, and will be found exceedingly practical for many other uses where it is desired to concentrate light for any purpose such as reading, sewing, card tables, etc. The standard is adjustable in height, from 38 inches to 68 inches, and the base is 8 inches square and heavily weighted.

Standard finish, old brass and statuary bronze.

Furnished complete with shade, pull chain socket, plug, and twelve feet heavy silk cable.

List No.	*List Price Each
4378 Floor Lamp, complete.....	\$21.00



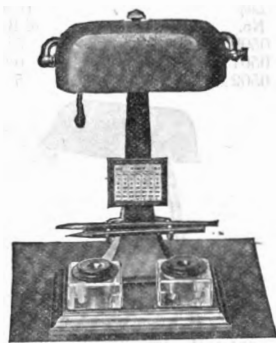
No. 4378 M Bed Lamp

4378M BED LAMP

This lamp is especially adapted for hotels, hospitals, and private homes. It can be attached to either round, square, vertical or horizontal bed-posts, without injury to bed finish. The patent clamp is self-contained, neat in appearance, felt lined, and adjustable to all posts from $\frac{3}{4}$ to $2\frac{1}{2}$ inches diameter. It is operated by means of a special key, and once attached is securely locked, and proof against removal except by use of key. Extension $7\frac{1}{2}$ inches from center of post to center of shade.

Price, complete with Emeraldite glass shade, 6 feet silk cord, pull socket, plug and key.

List No.	*List Price Each
4378M Bed Lamp, complete.....	\$12.60



No. 4378 EC Special

4378EC SPECIAL

This fixture is similar in detail to 4378B, has an inkstand base, 7 x 9 inches, fitted with cut glass self-closing ink-wells, and a brass calendar frame, $2\frac{3}{4}$ x $3\frac{1}{4}$ inches. Calendar contains six sheets with a month printed on each side.

Price, complete with shade, calendar, pull chain, socket, plug and 6 feet silk cord.

List No.	*List Price Each
4378EC Portable, complete.....	\$30.10

* Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

IVANHOE PORTABLES



No. 0502



No. 0500



No. 0501

Desk Portables.

No. 0500 is a convertible portable changed from horizontal to vertical by removing the stem from the base. The stem will rotate to any position around the base and it has a friction adjustment to any angle at the socket. No. 0500 may be used for desk lighting—flat or roll top.

No. 0501 has an adjustable hinge connection between the stem and base, and a friction adjustment at the socket, which permits the use of the stem and reflector at any angle. Tubing and base are round. For desk and reading table lighting.

No. 0502 is an adjustable portable with friction adjustment top and bottom for use at any angle. Tubing and base square. An attractive home unit.

List No.	Dimensions in Inches		Standard Quantity	Approx. Ship. Wt. Standard Quantity	No. in Carton	List Price	
	Diam. of Base	*Height				Each	
0500.....	5¼	9¾	10	65	1	\$4.06	
0501.....	6¾	14¾	10	75	1	4.82	
0502.....	5	11¼	10	65	1	4.82	



No. 0503



No. 0504



No. 0505

Desk Portables

No. 0503 has a round stem and base. No. 0504 has a square stem and base. The Navy type reflector on these portables produces a bright illumination over the entire table or desk top. It shades the light from the eyes. This portable is useful, ornamental and efficient.

No. 0505 has a round stem and base. The reflector is designed for the new T-8 Mazda show case lamps. As piano lamps and for the lighting of objects which call for a wide distribution of light these types have no equal.

List No.	Dimensions in Inches		Standard Quantity	Approx. Ship. Wt. Standard Quantity	No. in Carton	List Price	
	Diam. of Base	*Height				Each	
0503.....	6¾	14¾	10	75	1	\$5.46	
0504.....	5	11¼	10	65	1	5.46	
0505.....	6¾	14¾	10	75	1	7.98	

Finish: Brush brass.

Equipment: Portable without lamp, wired complete, with cord, socket, reflector and attachment plug.

*The height of the portable is measured from the bottom of the base to the upper adjustable joint when the arm is vertical.

Lighting Fixtures and Accessories

ALMOND FLEXIBLE LAMPS AND ARMS



Flexible Lamp

Almond Desk Type

List No.		*List Price Each
12	With 12 in. Almond Flexible Arm.....	\$8.00
69	With 6 in. elevated stem, 9 in. Almond Flexible Arm.....	6.00



Flexible Arm For Portable Lamps



Flexible Arm For Factory Lighting

Flexible Arms

Flexible Arms for portable lamps; $\frac{1}{8}$ inch pipe thread each end. Has $\frac{1}{4}$ inch hole all the way through.

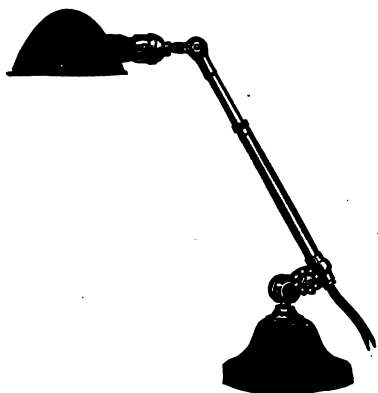
Flexible Arms for factory lighting; $\frac{3}{8}$ inch pipe thread each end. Has $\frac{3}{8}$ inch hole all the way through.

	*List Price Each		*List Price Each
6 in. Flexible Arm.....	\$1.19	15 in. Flexible Arm.....	\$1.98
9 in. Flexible Arm.....	1.35	18 in. Flexible Arm.....	2.44
12 in. Flexible Arm.....	1.62	24 in. arm and longer, \$1.62 per foot.	

NOTE: Arms for portable lamps and factory lighting are the same price.

*Delivery F. O. B. Factory, Ashburnham, Mass. For warehouse deliveries, write nearest house.

WHITE ADJUSTABLE FIXTURES Desk Portables



Style 7P

No. 7P PORTABLE

Solid, substantial and ornamental. Telescoping and universally adjustable. Height closed 15 inches. Height extended 24 inches. Adapted to the requirements of banks, libraries, business offices and entirely suitable for and very useful in dwelling houses.

List No.	Description	*List Price Each
7P	Portable as shown, less shade, socket and wiring. Standard finishes.	\$5.26

No. 5P PORTABLE

5P	This portable is the same as Type 7P, except that it does not have telescoping arm. Portable as shown, less shade, socket and wiring. Standard finishes.	\$4.56
5P	Nickel finish with japanned joint.	4.20



Style 6P

No. 6P PORTABLE

This portable is the same as No. 5P, with the exception that it has goose-neck arm to allow use of 10 inch deep cone reflector.

List No.	Description	*List Price Each
6P	Portable as shown, less shade, socket and wiring. Standard finish.	\$4.90
6P	Nickel finish, with japanned joint.	4.56

No. 8P PORTABLE

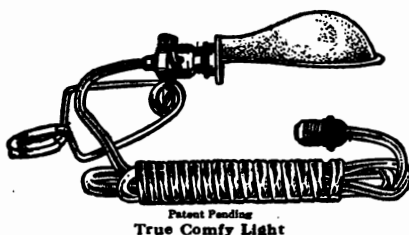
This portable is similar to No. 5P, with the exception that it is provided with a heavy slate base, and a different type of base joint.

8P	Portable as shown, less shade, socket and wiring. Old brass finish.	\$3.16
8P	Same, oxidized copper finish.	3.16

NOTE: Standard finishes are old brass, oxidized copper, polished brass and nickel. For special finishes add 10%.

* Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.

LIGHTING SPECIALTIES



The True Comfy Light

This light is made of brush brass beautifully finished. The inside of the shade is aluminum finish and reflects a clear, soft light. The clip or holder is made of heavy spring wire and in an instant can be fastened to any projecting surface from $\frac{1}{8}$ to $2\frac{1}{2}$ inches in thickness. The grip is rubber covered and will hold to a polished surface without scratching it.

The special socket supplied with this light is made to fit all screw sockets intended for use with the ordinary incandescent bulbs.

The shade of this lamp will revolve, can be moved up and down and the light may be adjusted to any angle. The eight foot silk cord furnished with every light permits a wide range of uses. The lamp may be carried into closets, into vaults, or into the remotest corners of the home or office, can be used in the sick room, on the summer porch, in the garage, in fact it is always available wherever electricity is used.

List No.		List Price Each
42	The True Comfy Light.....	\$2.50



Adapt-A-Lite



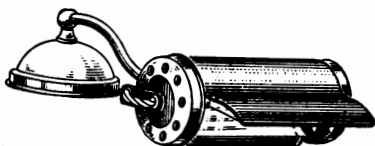
Adapt-A-Lite
Ball and Socket

The Adapt-A-Lite

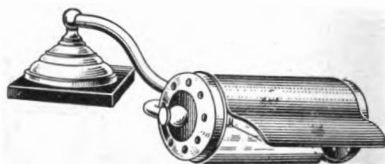
The Adapt-A-Lite is an electric lighting appliance consisting of a handsomely finished brass ball, containing a winding mechanism and a drum, with a capacity of 10 feet of insulated lamp cord. This light stays "put" at any fraction of the cord length, and a slight pull operating the release draws the cord gently into the device and lands the lamp without jar. The lamp does not revolve, nor does the cord twist during the winding operation. The device screws into the fixture socket in place of lamp, and there it conveniently remains, instantly available whenever an emergency demands a portable light. In addition to the portable equipment each Adapt-A-Lite is furnished with a metal shade and universal clamp which furnishes a support for the lamp and provides means for hanging from the side walls, frame of the bed or allows it to be clamped to the outer edge of desk or table when the cord is extended. By manipulating the shade the eye can be shielded from lamp glare as the light may be thrown in any desired direction. The Adapt-A-Lite may be attached to any socket. It is always in place and after momentary use need not be stored in some out-of-the-way place.

	List Price Each
Adapt-A-Lite clamp socket and shade, brush brass finish.....	\$7.00
Note: The price of the Adapt-A-Lite is less lamp.	

ADJUSTABLE FIXTURES



No. 20 Desk Portable



No. 27 Swivel Portable

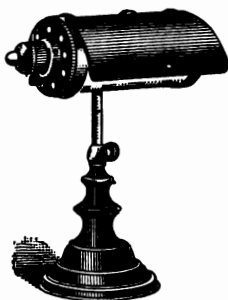
 List
 No.
 20
 20A
 27
 27A
 27C

Portables

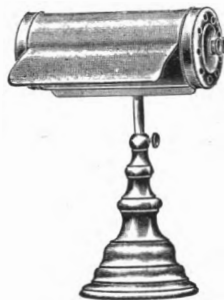
	Desk portable with adjustable opening.....
	Desk portable without adjustable opening.....
	Swivel portable with adjustable opening.....
	Swivel portable without adjustable opening.....
	Portable without swivel or adjustable opening.....

List Price Each	
Unwired	*Wired
\$8.68	\$10.34
8.00	9.68
8.68	10.34
8.00	9.68
7.34	9.00

Finished in brush brass, polished brass, nickel plated or oxidized copper.



No. 3



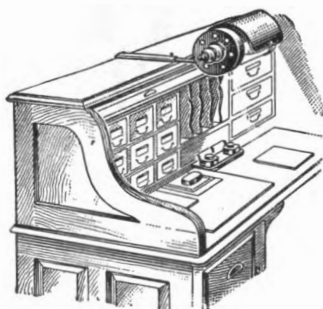
No. 42

 List
 No.
 3
 4
 7
 42

Portables

	Portable finished in polished or brush brass, nickel plate or oxidized copper....
	Similar to No. 3 except finish, which is green enamel.....
	Double cylinder for 2 lamps, finish same as No. 3.....
	Portable, finished in polished or brush brass, nickel plate or oxidized copper..

List Price Each	
Unwired	*Wired
\$10.68	\$12.34
6.68	8.34
20.00	21.34
7.34	9.00



No. 1



No. 25

 List
 No.

Desk Lamps

	One light, finished in polished or brush brass, nickel plate or oxidized copper...
	Two light, finished in polished or brush brass, nickel plate or oxidized copper...
	One light, same as No. 1 except finished in Japanese bronze only.....
	Typewriter desk lamps, finished in polished or brush brass, nickel plate or oxidized copper.....
	Head only of above ready to attach to any stand with one light stem.....

List Price Each	
Unwired	*Wired
\$6.00	\$7.68
12.00	14.48
6.00	7.68
9.34	11.00
2.68	.....

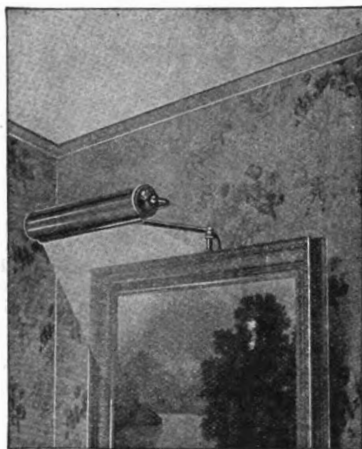
*Wiring consists of socket, plug and six feet of cord.

Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

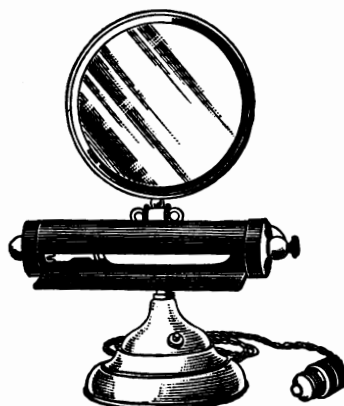
Lighting Fixtures and Accessories

20-2

ADJUSTABLE FIXTURES



No. 12 Picture Lamp

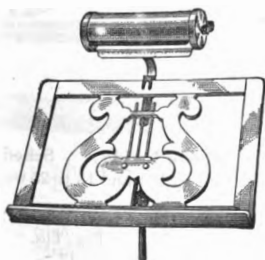


No. 73 Dressing Lamp

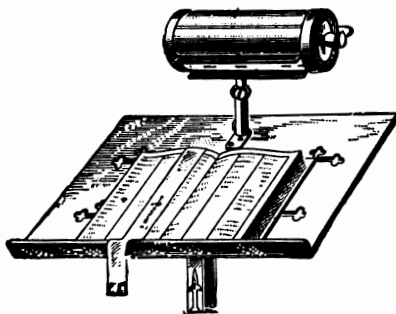
Picture Lamp

This lamp is now being used extensively for lighting oil paintings. The light may be regulated as to quantity and thrown on the exact place desired. It can be easily fastened to the back of a picture frame, the supporting arm being adjustable.

List No.		List Price Each	
		Unwired	*Wired
12	One light, 9 in. cylinder with $\frac{1}{8}$ in. nipple.....	\$7.34	\$9.00
13	Two light, 16 in. cylinder with $\frac{1}{8}$ in. nipple.....	11.34	13.68
14	Three light, 23 in. cylinder with $\frac{1}{8}$ in. nipple.....	16.68	18.54
15	Four light, 30 in. cylinder with $\frac{1}{8}$ in. nipple.....	20.68	24.08
*Wiring consists of sockets, plug and 6 feet of cord.			
73	Complete with socket, 6 ft. silk cord, plug and 25 watt frosted Mazda lamp.....		\$14.68
73A	Same as 73 except it has no switch and cylinder is large enough to take a regular 40 watt lamp; price does not include the lamp.....		10.68



No. 10 Orchestra Lamp



No. 16 Pulpit Lamp $3\frac{1}{4}$ Inches Diameter, 9 Inches Long

Orchestra Lamp

List No.		List Price Each	
		Unwired	*Wired
10	Green enamel with $\frac{3}{8}$ in. nipple.....	\$2.88	\$4.60
10A	Green enamel for two lamps with $\frac{3}{8}$ in. nipple.....	5.74	8.08
11	For one lamp with $\frac{3}{8}$ in. nipple.....	5.54	7.28
11A	For two lamps with $\frac{3}{8}$ in. nipple.....	8.40	10.74

Pulpit Lamp

List No.		List Price Each	
		Unwired	*Wired
16	Ward lamp.....	\$6.68	\$8.34
16A	Ward lamp.....	13.34	15.54

*Wiring consists of socket, plug and 6 feet of cord.

Finished in old brass, polished brass, nickel plate or oxidized copper.

Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

OAMCO REFLECTORS



No. 543D

Picture Reflectors

Schedule BX

These Reflectors have linings of Matte Aluminum and are equipped with adjustable brackets to fasten to the back of the picture frame or wall. The reflector can be adjusted to reflect the light at any desired angle.

Made of Steel, Gold Bronze Finish

List No.	No. Lights	Length	Std. Pkg.	*List Price Each Wired	List No.	No. Lights	Length	Std. Pkg.	*List Price Each Wired
543	1	7 ins.	15	\$7.20	543E	4	36 ins.	10	\$19.20
543A	1	12 ins.	15	9.60	543F	5	42 ins.	10	21.60
543B	2	18 ins.	15	12.00	543G	6	48 ins.	10	24.00
543C	3	24 ins.	15	14.40	543H	7	54 ins.	10	26.40
543D	4	30 ins.	15	16.80	543I	7	60 ins.	10	28.80

Brass, Satin Gold Finish

List No.	No. Lights	Length	Std. Pkg.	*List Price Each Wired	List No.	No. Lights	Length	Std. Pkg.	*List Price Each Wired
543J	1	7 ins.	15	\$8.64	543O	4	36 ins.	10	\$23.04
543K	1	12 ins.	15	11.52	543P	5	42 ins.	10	25.92
543L	2	18 ins.	15	14.40	543Q	6	48 ins.	10	28.80
543M	3	24 ins.	15	17.28	543R	7	54 ins.	10	31.68
543N	4	30 ins.	15	20.16	543S	7	60 ins.	10	34.56

The above prices include wiring with keyless sockets.



No. 779



No. 647

Orchestra Reflector

Steel, Gold Bronze Outside, Silver Aluminum Bronze Inside

Schedule BX

Equipped with adjustable bracket. Designed for use with $\frac{3}{8}$ inch pull socket and 15 to 25 watt lamp. Length 10 inches. Diameter 3 inches.

List No.	Reflector only	Carton Quantity	Std. Pkg.	Wt. Std. Pkg., Lbs.	*List Price Each
779	Reflector only	1	10	17	\$2.88
779-A	Reflector, with pull socket	1	10	18	4.08
779-B	Reflector, with pull socket and 8 ft. reinforced lamp cord	1	10	20	5.04
779-C	Reflector, with pull socket and 8 ft. reinforced lamp cord	1	10	21	5.52

Pulpit or Music Stand Reflector

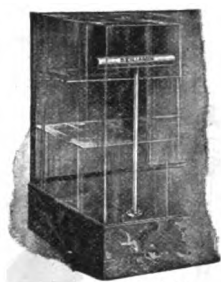
Brush Brass Finish, Reflecting Surface Matte Aluminum

Schedule E

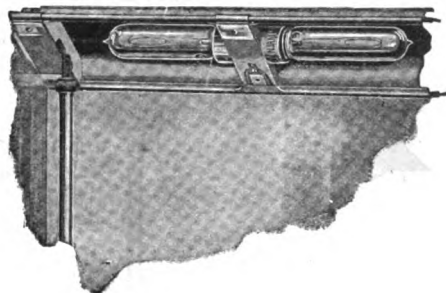
List No.	No. Lights	Length	Std. Pkg.	Wt. Lbs.	*List Price Each
647	1	13 ins.	10	7	\$2.76
647A	2	16½ ins.	10	7	3.86

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.
 Lighting Fixtures and Accessories

BENJAMIN SPECIALTIES



No. 4282



No. 4290

Show Case Fixtures

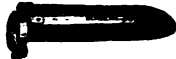
Schedule 3

Show Case Fixture 4282 has twin socket, reflector, brass stem, and flange, all of which are nickel-plated. Reflector may be rotated for directing the light. Standard height is 26 inches. Additional length stems list at 56 cents per foot. **Fixture 4290** continuous show case reflector consists of nickel-plated reflector, twin sockets, supporting clips wired to insulated connecting block at one end, and are regularly furnished with supporting straps. There are no tapped connections. Sockets should be spaced from 18 inch to 30 inch center. For $\frac{3}{8}$ inch nickel-plated brass tubing for leading in wires, add 56 cents per foot list; for terminal bushings add 14 cents list; for nickel-plated floor flange to slip tubing, add 28 cents list. Reflectors over 10 feet in length will be shipped in sections. Prices are less lamps.

List No.		Std. Pkg.	Wt. Lbs.	List Price
4282	2-Light Complete, not wired	10	6	\$3.92
4290	3 foot lengths with two twin sockets, per foot	20 ft.	13	9.80
4292	Extra length reflectors, less sockets, per foot	20 ft.	23	2.24
4294	Extra twin sockets, each attached	50 ft.	13	1.12



No. 272



No. 21



No. 282

Half Shades

Schedule 4

Nickel-Plated Half Shades 272-282 are especially adapted for use with Benjamin twin sockets in show case and window lighting, with angle, twin, or rotating sockets, and tubular lamps.

List No.		Std. Pkg.	Wt. Lbs.	List Price
272	Twin Half Shade, nickel-plated	50	25	\$1.20
282	Twin Half Shade, nickel-plated with stem opening	50	25	1.20
21	Half Shade, nickel-plated	50	8	.96



No. 351



No. 353



No. 460



No. 470



No. 180



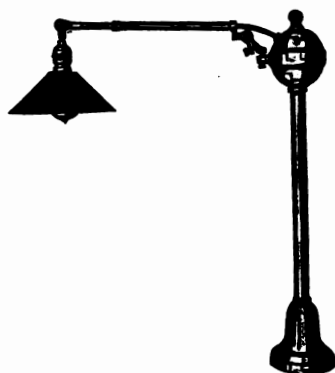
No. 194

Tubing and Clamps

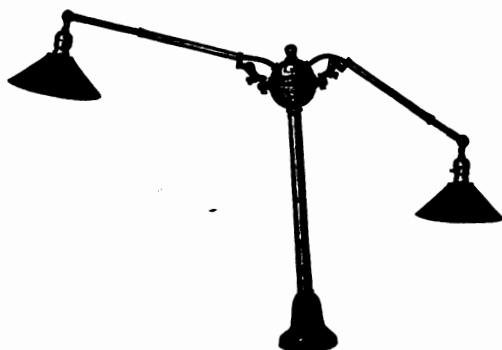
List No.		Std. Pkg.	Wt. Lbs.	List Price
STEMS—BRASS TUBING				
351	Stem, $\frac{5}{8}$ in. Polished Brass Tubing, threaded, 8 in.	20	4	\$0.36
352	Stem, $\frac{3}{4}$ in. Iron Pipe, $\frac{3}{4}$ in. Polished Brass Casing, 8 in.	20	10	.60
355	Stem, $\frac{1}{2}$ inch Iron Pipe, 1 in. Polished Brass Casing, 12 in.	20	20	.84
Additional lengths list at 36, 60 and 84 cents per foot respectively.				
353	Tubing, polished brass, $\frac{5}{8}$ in., per foot.	20	27	\$0.36
354	Tubing, nickel-plated, $\frac{5}{8}$ in., per foot.	5-ft. lgths.		.48
T-CLAMPS—ELBOWS				
460	Polished Brass T, for $\frac{5}{8}$ in. Brass Tubing.	50	10	\$0.42
461	Nickel-Plated T, for $\frac{5}{8}$ in. Brass Tubing.	50	10	.48
470	Polished Brass L, for $\frac{5}{8}$ in. Brass Tubing.	50	7	.36
471	Nickel-Plated L, for $\frac{5}{8}$ in. Brass Tubing.	50	7	.42
NIPPLES—FLANGES				
180	Nipple, polished brass, $\frac{1}{8}$ in. x $\frac{3}{4}$ in.	50	1	\$0.15
181	Nipple, nickel-plated, $\frac{1}{8}$ in. x $\frac{3}{4}$ in.	50	1	.18
194	Flange, polished brass, $\frac{1}{8}$ in. x $1\frac{1}{4}$ in.	50	1	.10
196	Flange, nickel-plated, $\frac{1}{8}$ in. x $1\frac{1}{4}$ in.	50	1	.12

WHITE ADJUSTABLE FIXTURES

Office Desk Standards



No. 8Q



No. 8QQ

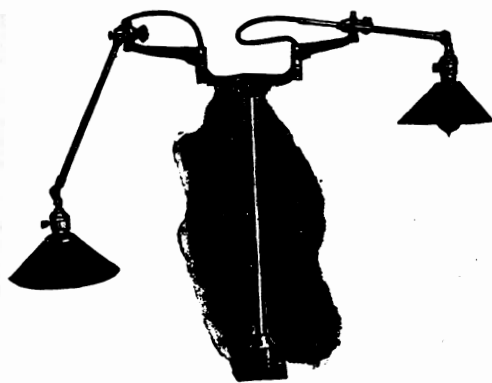
WITH TELESCOPING ARMS

The lamp arms swing in either direction and raise or lower to any height without attention to thumb-nuts or other fastenings. The lamp arm telescopes from a 15 inch to a 24 inch extension. Height over all 27½ inches.

List No.	No. of Lights	Description	*List Price Each
8Q	1	Standard, less shades, sockets and wiring. Standard finishes.....	\$11.56
8QQ	2	Standard, less shades, sockets and wiring. Standard finishes.....	16.80
8Q4	4	Standard, less shades, sockets and wiring. Standard finishes.....	27.30



No. 3R



No. 1RR

WITH PLAIN ARMS

These standards may be used when inexpensive desk fixtures are desired. Very strongly made and instantly adjustable to any position without touching thumb-nut or other fastenings.

List No.	Description	Height	Spread	*List Price Each
3R	One-light standard, less shade, socket and wiring. Standard finishes.....	24 ins.	26 ins.	\$6.66
1RR	Two-light standard, less shades, sockets and wiring. Standard finishes.....	28 ins.	30 ins.	10.02

NOTE: Standard finishes are old brass, oxidized copper, polished brass and nickel. For special finishes add 10%.

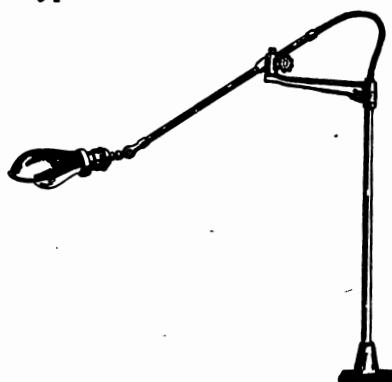
* Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.

Lighting Fixtures and Accessories

WHITE ADJUSTABLE FIXTURES Factory Bench Type



Style 1D



Style 3D

STYLE 1D BENCH FIXTURE

This fixture is for direct attachment to work bench. Can be furnished with base for side attachment instead of regular base. Wires through lamp arm only. Height 24 inches, spread 25 inches.

List No.	Mfr. No.	Description	*List Price Each
420038	1D	Fixture as shown, less shade, socket and wiring. Plain black finish.....	\$3.46

STYLE 3D BENCH FIXTURE

This fixture is much heavier in construction than the No. 1D, and is thoroughly insulated for wiring through the upright as well as the lamp arm. Height 24 inches, spread 26 inches.

420039	3D	Fixture as shown, less shade, socket and wiring. Plain black finish.....	\$4.20
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Style 4D



Style 1DD

STYLE 4D BENCH FIXTURE

This fixture is arranged for clamping on bench or lathe. Clamp is adjustable for receiving thicknesses varying from one to four inches. It is quickly and easily adjusted. The fixture is firm and rigid and will stand the most severe usage. Regular size has 24 inch upright, 8 inch crank arm and 18 inch lamp arm.

List No.	Mfr. No.	Description	*List Price Each
420040	4D	Fixture as shown, less shade, socket and wiring. Black finish.....	\$4.74

STYLE 1DD BENCH FIXTURE

This style of fixture is exceptionally convenient and useful where the work is spread over a considerable area on a bench or large desk. The regular size of the fixture has a 28 inch upright, 7 inch crank arms and 18 inch lamp arms.

420041	1DD	Fixture as shown, less shade, socket and wiring. Black finish.....	\$6.76
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NOTE: Black finish sent unless otherwise ordered, on all factory fixtures, but they can be furnished in any finish desired for use in hospitals, offices, etc. Prices in finishes other than black, on request.

*Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.

WHITE ADJUSTABLE FIXTURES

Floor Portables



Style 10P



Style 12P

STYLE 10P FLOOR PORTABLE

This portable is adjustable in height from 3 to 6 feet. The base has an insulated outlet so that the fixture may be wired through the upright, there being a chamber under the canopy which takes care of all loose cord, when the fixture is not extended to full height.

List No.	Mfr. No.	Description	*List Price Each
420028	10P	Portable as shown, less shade, socket or wiring. Old brass or oxidized copper.	\$7.00
420176	10P	Portable as shown, less shade, socket or wiring. Statuary bronze or gun metal.	7.70

STYLE 12P FLOOR PORTABLE

This portable has a double frictional telescope in the upright making it possible to vary the height of the lamp itself from 3 to 7 feet from the floor, and to swing it in any position desired without lifting the portable from the floor. It wires freely with heavy cord through the whole fixture, the cord coming out at the base. Any type of shade, either plain or ornamental, can be used on this portable.

420029	12P	Portable as shown, less shade, socket or wiring. Old brass or oxidized copper.	\$14.00
420177	12P	Portable as shown, less shade, socket or wiring. Statuary bronze or gun metal.	15.40



No. 5—4 1/4 Inch Base



No. 6—2 1/2 Inch Base



No. 7—For 3/4 Inch Pipe

Ball Joint Wall Plates

These wall plates are attachable to any flat surface and are for use with reflectors for directing the lamp's rays at different angles. They are very useful in window-lighting. Made of brass and bronze and carefully insulated.

List No.	Mfr. No.	Description	*List Price Each	
			Unfinished	Standard Finishes
420030	5	4 1/2 inch base, for attachment over conduit box.....	\$1.50	\$1.88
420031	6	2 1/2 inch base, for attachment to woodwork or plaster.....	1.17	1.28
420032	7	Base, for attachment to 3/8 inch pipe.....	1.35	1.58

NOTE: Standard finishes are old brass, oxidized copper, polished brass and nickel. For special finishes add 10%.

* Delivery F. O. B. Factory, Worcester, Mass. For warehouse deliveries write nearest house.

FARIES WALL BRACKETS



No. 173



No. 3112



No. 3114

Electric Wall Brackets

List No.		Finish	*List Price
173	Electric Wall Bracket, extends 5 in.....	Brush brass	\$0.54
173	Electric Wall Bracket, extends 5 in.....	Ox. copper	.60
3112	Electric Wall Bracket, extends 6 in.....	Brush brass	.78
3112	Electric Wall Bracket, extends 6 in.....	Ox. copper	.90
3114	Electric Wall Bracket, extends 6 in.....	Brush brass	1.20
3114	Electric Wall Bracket, extends 6 in.....	Ox. copper	1.44



No. 3113



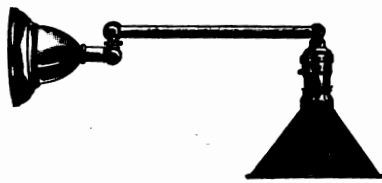
No. 3111

Electric Wall Brackets

List No.		Tubing	Finish	*List Price
3113	Electric Wall Bracket, extends 10 in.....	1/2 in.	Brush brass	\$1.08
3113	Electric Wall Bracket, extends 10 in.....	1/2 in.	Ox. copper	1.20
3111	Electric Wall Bracket, extends 10 in.....	1/2 in.	Brush brass	1.08
3111	Electric Wall Bracket, extends 10 in.....	1/2 in.	Ox. copper	1.20



No. 180



No. 537

Swing Wall Brackets

List No.		Extends	Std. Pkg.	Finish	*List Price
180	One swing, heavy cast base.....	12 in.	12	Brush brass	\$1.68
180	One swing, heavy cast base.....	12 in.	12	Ox. copper	2.00
537	One swing, canopy 4 1/2 in.....	15 in.	12	Brush brass	2.00
537	One swing, canopy 4 1/2 in.....	15 in.	12	Ox. copper	2.34

Prices do not include shades, lamps, shade holders, sockets or wiring.

*Delivery F. O. B. Factory, Decatur, Ill. For warehouse deliveries write nearest house.

BRASCOLITES


Type NB

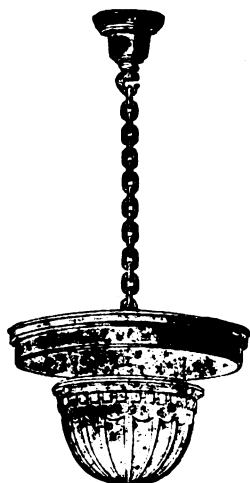
TYPE NB
Band, Dull Brass Finish, Reflector, White Enamelled Steel

		Outside Diameter Inches	Bowl Inches	List Price
40	watt, medium receptacle	11	6	\$9.60
60				
100				
100	watt, medium receptacle	16	8¼	12.00
200				
200				
300	watt, medium receptacle	19	11½	15.60
400				
500				
500	watt, Mogul receptacle	23	14½	22.80

*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Finishes other than specified will delay shipment.



Type OB

TYPE OB
**Band, Chain and Canopy, Brush Brass Finish
Reflector, White Enamelled Steel**

		Outside Diameter Inches	Bowl Inches	List Price
40	watt, medium receptacle	11	6	\$13.20
60				
100				
100	watt, medium receptacle	16	8¼	15.60
200				
200				
300	watt, medium receptacle	19	11½	20.40
400				
500				
500	watt, Mogul receptacle	23	14½	27.60

*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Finishes other than specified will delay shipment.

Standard length, 4 feet. Additional length per foot, 48 cents.



Type PB

TYPE PB
**Band, Chain and Canopy, Brush Brass Finish
Reflector, White Enamelled Steel**

		Outside Diameter Inches	Bowl Inches	List Price
40	watt, medium receptacle	11	6	\$14.40
60				
100				
100	watt, medium receptacle	16	8¼	16.80
200				
200				
300	watt, medium receptacle	19	11½	20.70
400				
500				
500	watt, Mogul receptacle	23	14½	27.90

*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Standard length, 4 feet. Additional length per foot, 60 cents.

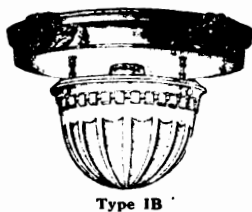
Finishes other than specified will delay shipment.

Delivery F. O. B. St. Louis, Mo. For warehouse deliveries, write nearest house.

BRASCOLITES

TYPE IB

**Band and Ornaments, Brush Brass Finish
Reflector, White Enameled Steel**



Type IB

		Outside Diameter Inches	Bowl Inches	List Price
40	} watt, medium receptacle	11	6	\$12.60
60				
100				
100	} watt, medium receptacle	16	8¼	15.60
200				
*200				
300	} watt, medium receptacle	19	11½	19.80
400				
500				
	} watt, Mogul receptacle	23	14½	27.00

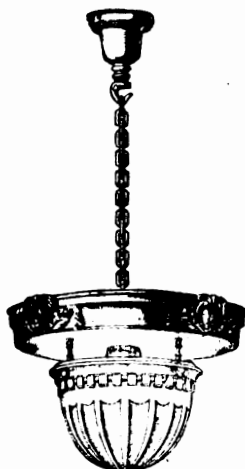
*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Finishes other than specified will delay shipment.

TYPE JB

**Band, Ornaments, Chain and Canopy, Brush Brass Finish
Reflector, White Enameled Steel**



Type JB

		Outside Diameter Inches	Bowl Inches	List Price
40	} watt, medium receptacle	11	6	\$16.20
60				
100				
100	} watt, medium receptacle	16	8¼	19.20
200				
*200				
300	} watt, medium receptacle	19	11½	24.60
400				
500				
	} watt, Mogul receptacle	23	14½	31.80

*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Standard length, 4 feet. Additional lengths, per foot, 48 cents.

TYPE KB

**Band, Ornaments, Chains and Canopy, Brush Brass Finish
Reflector, White Enameled Steel**



Type KB

		Outside Diameter Inches	Bowl Inches	List Price
40	} watt, medium receptacle	11	6	\$17.40
60				
100				
100	} watt, medium receptacle	16	8¼	20.40
200				
*200				
300	} watt, medium receptacle	19	11½	24.90
400				
500				
	} watt, Mogul receptacle	23	14½	32.10

*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Standard length, 4 feet. Additional lengths, per foot, 60 cents.

Delivery F. O. B. St. Louis, Mo. For warehouse deliveries, write nearest house.

BRASCOLITES


Type FB

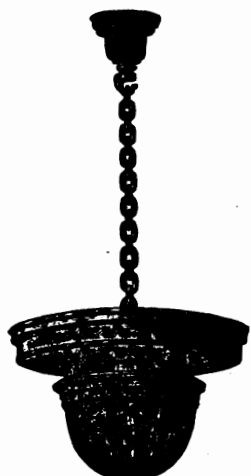
TYPE FB

Band, Brush Brass Finish
Reflector, White Enameled Steel

		Outside Diameter Inches	Bowl Inches	List Price
40	watt, medium receptacle.....	11	6	\$12.00
60				
100				
100	watt, medium receptacle.....	16	8¼	15.60
200				
200				
*200	watt, medium receptacle.....	19	11½	19.80
300				
400				
500	watt, Mogul receptacle.....	23	14½	28.50

*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.



Type GB

TYPE GB

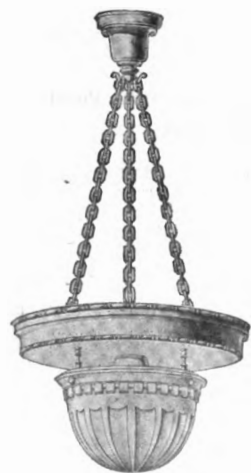
Band, Chain and Canopy, Brush Brass Finish
Reflector, White Enameled Steel

		Outside Diameter Inches	Bowl Inches	List Price
40	watt, medium receptacle.....	11	6	\$15.60
60				
100				
100	watt, medium receptacle.....	16	8¼	19.20
200				
200				
*200	watt, medium receptacle.....	19	11½	24.60
300				
400				
500	watt, Mogul receptacle.....	23	14½	32.70

*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Standard length, 4 feet. Additional lengths, per foot, 48 cents.



Type HB

TYPE HB

Bands, Chain and Canopy, Brush Brass Finish
Reflector, White Enameled Steel

		Outside Diameter Inches	Bowl Inches	List Price
40	watt, medium receptacle.....	11	6	\$16.80
60				
100				
100	watt, medium receptacle.....	16	8¼	20.40
200				
200				
*200	watt, medium receptacle.....	19	11½	24.90
300				
400				
500	watt, Mogul receptacle.....	23	14½	33.00

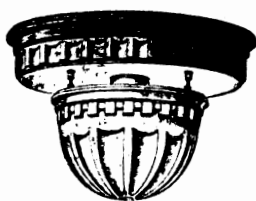
*Mogul receptacle for 19 inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Standard length, 4 feet. Additional lengths, per foot, 60 cents.

Delivery F. O. B. St. Louis, Mo. For warehouse deliveries write nearest house.

BRASCOLITES



Type AC

TYPE AC

Band and Ornaments

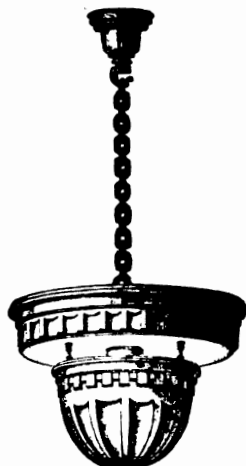
Reflector, White Vitreous China

	Outside Diameter Inches	Bowl Inches	List Price
100 watt, medium receptacle.....	15	8¼	\$16.80
200 watt, medium receptacle.....	15	8¼	16.80
*200 watt, medium receptacle.....	18½	11½	26.40
*300 watt, medium receptacle.....	18½	11½	26.40

*Mogul receptacle for 18½ inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Finishes other than specified will delay shipment.



Type DC

TYPE DC

Chain and Canopy, Brush Brass Finish

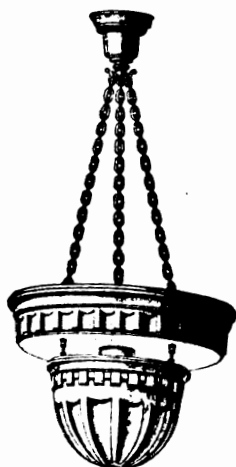
Reflector, Vitreous China

	Outside Diameter Inches	Bowl Inches	List Price
100 watt, medium receptacle.....	15	8¼	\$20.40
200 watt, medium receptacle.....	15	8¼	20.40
*200 watt, medium receptacle.....	18½	11½	31.20
*300 watt, medium receptacle.....	18½	11½	31.20

*Mogul receptacle for 18½ inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Standard length, 4 feet. Additional lengths, per foot, 48 cents.



Type EC

TYPE EC

Chains and Canopy, Brush Brass Finish

Reflector, Vitreous China

	Outside Diameter Inches	Bowl Inches	List Price
100 watt, medium receptacle.....	15	8¼	\$21.60
200 watt, medium receptacle.....	15	8¼	21.60
*200 watt, medium receptacle.....	18½	11½	31.50
*300 watt, medium receptacle.....	18½	11½	31.50

*Mogul receptacle for 18½ inch size, \$1.20 additional.

Pull switch concealed in body and wired, \$1.80 additional.

Standard length, 4 feet. Additional length, per foot, 60 cents.

Delivery F. O. B. St. Louis, Mo. For warehouse deliveries, write nearest house.

Western Electric

REFLECTOLYTE

Type P. F.

BAND, DULL BRASS FINISH

Reflector, White Porcelain Enamel

Type P. F.

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423816	100	watt, medium receptacle....	12	6	\$7.60
	200	watt, medium receptacle....	16	9¼	9.80
423817	300	watt, Mogul receptacle.....	20	12¾	14.00
	400				
	500				
423818	750	watt, Mogul receptacle.....	24	14	18.40
	1000				

Band can also be supplied in plain white.

With pull switch, \$1.60 list additional.

Type P. O. C.

BAND, CHAIN AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

Type P. O. C.

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423819	100	watt, medium receptacle....	12	6	\$10.80
	200	watt, medium receptacle....	16	9¼	\$12.80
423820	300	watt, Mogul receptacle.....	20	12¾	18.00
	400				
	500				
423821	750	watt, Mogul receptacle.....	24	14	22.80
	1000				

Standard length, 4 feet. Extra lengthening per foot, 40 cents list.

Band can also be supplied in plain white.

With pull switch, \$1.60 list additional.

Type P. T. C.

BAND, CHAINS AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

Type P. T. C.

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423822	100	watt, medium receptacle....	16	9¼	\$14.00
	200				
	300				
423823	400	watt, Mogul receptacle.....	20	12¾	18.40
	500				
	750				
423824	1000	watt, Mogul receptacle.....	24	14	23.60

Standard length, 4 feet. Extra lengthening per foot, \$0.48 list.

Band can also be supplied in plain white.

With pull switch, \$1.60 list additional.

Delivery F. O. B. St. Louis, Mo. For warehouse deliveries, write nearest house.

**Western Electric
REFLECTOLYTE**

Type C. F.

BAND AND ORNAMENTS, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	List Price
423825	100	watt, medium receptacle....	12	6	\$10.40
	200	watt, medium receptacle....	16	9¼	12.80
423826	300	watt, Mogul receptacle.....	20	12¾	17.60
	400				
	500				
423827	750	watt, Mogul receptacle.....	24	14	22.40
	1000				

With pull switch, \$1.60 list additional.

Type C. O. C.

BAND, ORNAMENTS, CHAIN AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	List Price
423828	100	watt, medium receptacle....	12	6	\$13.20
	200	watt, medium receptacle....	16	9¼	16.00
423829	300	watt, Mogul receptacle.....	20	12¾	21.20
	400				
	500				
423830	750	watt, Mogul receptacle.....	24	14	26.40
	1000				

Standard length, 4 feet. Extra lengthening per foot, 40 cents list.

With pull switch, \$1.60 list additional.

Type C. T. C.

BAND, ORNAMENTS, CHAINS AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	List Price
423831	100	watt, medium receptacle....	16	9¼	\$17.20
	200				
	300				
423832	400	watt, Mogul receptacle.....	20	12¾	22.00
	500				
	750				
423833	1000	watt, Mogul receptacle.....	24	14	27.60

Standard length, 4 feet. Extra lengthening per foot, \$0.48 list

With pull switch, \$1.60 list additional.

Delivery F. O. B. St. Louis, Mo. For warehouse deliveries, write nearest house.

Lighting Fixtures and Accessories

Western Electric

REFLECTOLYTE

Type G. F.

BAND AND ORNAMENTS, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423834	100	watt, medium receptacle....	12	6	\$11.20
	200	watt, medium receptacle....	16	9¼	14.00
423835	300	watt, Mogul receptacle.....	20	12¾	19.20
	400				
	500				
423836	750	watt, Mogul receptacle.....	24	14	24.40
	1000				

With pull switch, \$1.60 list additional.

Type G. O. C.

BAND, ORNAMENTS, CHAIN AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423837	100	watt, medium receptacle....	12	6	\$14.20
	200	watt, medium receptacle....	16	9¼	17.20
423838	300	watt, Mogul receptacle.....	20	12¾	22.80
	400				
	500				
423839	750	watt, Mogul receptacle.....	24	14	28.40
	1000				

Standard length, 4 feet. Extra lengthening per foot, 40 cents list.

With pull switch, \$1.60 list additional.

Type G. T. C.

BAND, ORNAMENTS, CHAIN AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423840	100	watt, medium receptacle....	16	9¼	\$18.40
	200	watt, Mogul receptacle.....	20	12¾	22.60
423841	300				
	400				
	500	watt, medium receptacle....	24	14	29.60
423842	750				
	1000				

Standard length, 4 feet. Extra length per foot, 48 cents list.

With pull switch, \$1.60 list additional.

*Delivery F. O. B. St. Louis, Mo. For warehouse deliveries, write nearest house.



Type G. F.



Type G. O. C.



Type G. T. C.

Western Electric
REFLECTOLYTE



Type B. F.



Type B. O. C.



Type B. T. C.

Type B. F.

BAND AND ORNAMENTS, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423843	100	watt, medium receptacle....	12	6	\$12.40
	200	watt, medium receptacle....	16	9 1/4	15.60
423844	300				
	400	watt, Mogul receptacle.....	20	12 3/4	20.80
	500				
423845	750				
	1000	watt, Mogul receptacle.....	24	14	26.00

With pull switch, \$1.60 list additional.

Type B. O. C.

BAND, ORNAMENTS, CHAIN AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423846	100	watt, medium receptacle....	12	6	\$15.60
	200	watt, medium receptacle....	16	9 1/4	18.80
	300				
423847	400	watt, Mogul receptacle.....	20	12 3/4	24.80
	500				
423848	750				
	1000	watt, Mogul receptacle.....	24	14	30.40

Standard length, 4 feet. Extra lengthening, per foot, 40 cents list.

With pull switch, \$1.60 list additional.

Type B. T. C.

BAND, ORNAMENTS, CHAINS AND CANOPY, DULL BRASS FINISH

Reflector, White Porcelain Enamel

List No.			Out. Diam. Ins.	Bowl Ins.	*List Price
423849	100	watt, medium receptacle....	16	9 1/4	\$20.00
	200				
	300				
423850	400	watt, Mogul receptacle.....	20	12 3/4	26.00
	500				
423851	750				
	1000	watt, Mogul receptacle.....	24	14	31.60

Standard length, 4 feet. Extra lengthening, per foot, 48 cents list.

With pull switch, \$1.60 list additional.

*Delivery F. O. B. St. Louis, Mo. For warehouse deliveries, write nearest house.

BENJAMIN FIXTURES



No. 700C



No. 716C



No. 728C



No. 740C

Fixtures for Type C High Efficiency Mazda Lamps

Fixtures Nos. 700C-736C include ventilated hoods and holders of material as listed, stalactite globe of proper density, two-piece easy-wire porcelain socket with lamp grip. Flange secures parts of hood so that support of fixture does not depend on socket or wires. Fittings are regularly supplied for $\frac{1}{2}$ inch pipe; $\frac{3}{8}$ inch may be ordered without change in price.

List No.	Description	Size of Globe, In.	Size of Lamp, Watts	Price Each
700C	Copper, natural finish	8 x 6	†200	\$4.65
702C	Copper, black enamel	8 x 6	†200	4.95
704C	Brass, brush brass finish	8 x 6	†200	4.80
706C	Steel, black enamel finish	8 x 6	†200	3.30
708C	Copper, natural finish	8 x 6	300, 400, 500	4.80
710C	Copper, black enamel	8 x 6	300, 400, 500	4.95
712C	Brass, brush brass finish	8 x 6	300, 400, 500	5.10
714C	Steel, black enamel finish	8 x 6	300, 400, 500	3.46
730C	Copper, natural finish	10 x 8	750, 1000	7.65
732C	Copper, black enamel	10 x 8	750, 1000	7.95
734C	Brass, brush brass finish	10 x 8	750, 1000	7.80
736C	Steel, black enamel finish	10 x 8	750, 1000	5.40

Overall lengths: 200 and 300 watt sizes, 12 inches; 400 and 500 watt sizes, $13\frac{1}{4}$ inches; 750 and 1000 watt sizes, $15\frac{1}{4}$ inches.

Chain Suspensions

716C	Brass, brush brass finish	8 x 6	†200	\$6.45
718C	Brass, brush brass finish	8 x 6	300, 400, 500	6.90
719C	Brass, brush brass finish	10 x 8	750, 1000	9.45

Overall lengths: No. 716C, 26 inches; No. 718C, 27 inches; No. 719C, 29 inches.

†300 watt medium screw base lamps may be used.

Prices are less wires and lamps.

Fixtures with Chain Suspension

Fixtures Nos. 727C-728C consist of solid brass ventilated hoods and 8 inch holder, opal globe of proper density, brass chain support, canopy and crowfoot. Hood tapped to $\frac{1}{4}$ inch and chain loops are drilled to take No. 14 asbestos covered cord. Overall length, 33 inches. Standard finish, brush brass. Porcelain Mogul Easy-wire Sockets are equipped with lamp grip. Prices are less wires and lamps.

727C	With brush brass hood	10 x 8	400, 500	\$8.70
728C	With brush brass hood	12 x 8	750, 1000	9.30

Semi-indirect Fixtures

Fixtures Nos. 740C-742C consist of brass hood and 6 inch holder, 16 inch opal dome reflector and 8 inch diffuser, brass chain support, canopy and crowfoot. Chain loops are drilled to take No. 14 asbestos covered cord. A 16 inch upper opal reflector aids in downward reflection, while an 8 inch small inner globe diffuses the direct light rays which would otherwise injure the eyes. The porcelain sockets furnished are equipped with lamp grip. Prices are less wires and lamps.

List No.	Description	Size of Lamp, Watts	Price Each
740C	With brush brass hood	†200	\$11.55
742C	With brush brass hood	*300, 400, 500	12.00

*Mogul base. †300 watt medium screw base lamps may be used.

BENJAMIN LIGHTING FIXTURES



No. 6157



No. 6049



No. 6103

Fixtures for "Type C" Mazda Lamps

Schedule "2"

Fixtures 6153-6158 have holders and hoods as follows: (1) copper, black finish; (2) steel, heavily copper plated, statuary bronze finish; (3) brush brass. Fixture support is independent of socket. The alabaster globe offers good diffusion, and has ventilating opening in the bottom. The method of hooding protects the lamp against rain and snow. Socket with lamp grip is regularly supplied. Copper and steel hoods are tapped for $\frac{1}{2}$ inch, brass hoods for $\frac{3}{8}$ inch pipe, but $\frac{1}{2}$ inch may be ordered without change in price. For grooved copper collar, equalizing pressure between globe and set screws, add 48 cents list. For fixtures less 10 x 8 inch globe, deduct \$3.00 list; for fixtures less 12 x 8 inch globe, deduct \$3.60 list. Prices are less lamps.

Fixtures 6100-6104 are substantially those described above with suspension fitting No. 6031 ($\frac{1}{2}$ inch) added. For fitting No. 6049 ($\frac{1}{2}$ inch) instead, add 18 cents list; for 20 inch enameled steel reflector No. 6109, add \$3.60 list. Standard finish is black.

List No.

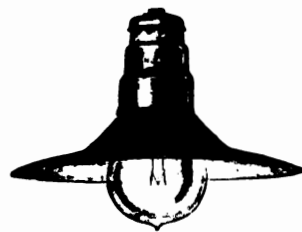
	Lamp Size	List Price
6153 With copper hood, globe size 10 x 8 ins.	400 to 500 watts	\$7.80
6154 With steel hood, copper plated, globe size 10 x 8 ins.	400 to 500 watts	6.42
6155 With brush brass hood, globe size 10 x 8 ins.	400 to 500 watts	7.20
6156 With copper hood, globe size 12 x 8 ins.	750 to 1000 watts	8.40
6157 With steel hood, copper plated, globe size 12 x 8 ins.	750 to 1000 watts	7.02
6158 With brush brass hood, globe size 12 x 8 ins.	750 to 1000 watts	7.80
6100 With copper hood, globe size 10 x 8 ins.	400 to 500 watts	8.76
6101 With steel hood, copper plated, globe size 10 x 8 ins.	400 to 500 watts	6.00
6103 With copper hood, globe size 12 x 8 ins.	750 to 1000 watts	9.36
6104 With steel hood, copper plated, globe size 12 x 8 ins.	750 to 1000 watts	6.60



No. 6121



No. 6129



No. 6109

Fixtures for "Type C" Mazda Lamps

Schedule "2"

Fixtures 6121-6124 are substantially those listed above with 20 inch enameled steel reflector added. Standard finish is black.

Fixtures 6126-6129 have shallow bowl enameled steel reflector with ventilated hood. The former is easily removed to facilitate wiring. For fixture with suspension fitting No. 6031 and $\frac{1}{2}$ inch nipple, shown top of page 3, add 78 cents list; with fitting No. 6049 ($\frac{1}{2}$ inch), add 96 cents list. Standard finish is black.

Fixtures 6106-6109 have flat cone enameled steel reflector. Standard finish is black.

List No.

	Lamp Size	List Price
6121 Copper, globe size 10 x 8 ins.	400 to 500 watts	\$11.58
6122 Steel, copper plated, globe size 10 x 8 ins.	400 to 500 watts	8.82
6123 Copper, globe size 12 x 8 ins.	750 to 1000 watts	10.66
6124 Steel, copper plated, globe size 12 x 8 ins.	750 to 1000 watts	9.42
6126 With copper hood, reflector size 18 ins.	400 to 500 watts	7.08
6127 With steel hood, copper plated, reflector size 18 ins.	400 to 500 watts	6.24
6128 With copper hood, reflector size 20 ins.	750 to 1000 watts	9.90
6129 With steel hood, copper plated, reflector size 20 ins.	750 to 1000 watts	8.52
6106 With copper hood, reflector size 20 ins.	400 to 500 watts	7.68
6107 With steel hood, reflector size 20 ins.	400 to 500 watts	7.20
6108 With copper hood, reflector size 20 ins.	750 to 1000 watts	8.28
6109 With steel hood, reflector size 20 ins.	750 to 1000 watts	6.84

BENJAMIN LIGHTING FIXTURES



No. 6116



No. 6113

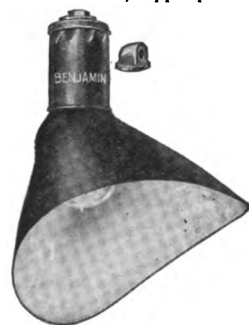
Fixtures for "Type C" Mazda Lamps

Schedule "2"

Fixtures 6116-6119 have 3 foot mast arm of $\frac{3}{4}$ inch pipe, head, No. 5031 pole fitting with porcelain wire openings, and chain with attaching terminals. For fixture less 10 x 8 inch globe, deduct \$3.00 list; less 12 x 8 inch globe, deduct \$3.60 list. For fixture less mast arm and fitting, deduct \$2.88 list. Standard finish on fixture is black; on mast arm, galvanized iron.

Fixtures 6111-6114 have $\frac{3}{4}$ x 40 inch gooseneck and No. 5031 pole fitting with porcelain wire openings. For 20 inch enameled steel reflector shown below, add \$3.60 list. Standard finish on fixtures is black; on gooseneck and flange, galvanized iron.

List No.	Lamp Size	List Price
6116 With copper hood, globe size 10 x 8 ins.	400 to 500 watts	\$14.46
6117 With steel hood, copper plated, globe size 10 x 8 ins.	400 to 500 watts	11.70
6118 With copper hood, globe size 12 x 8 ins.	750 to 1000 watts	15.06
6119 With steel hood, copper plated, globe size 12 x 8 ins.	750 to 1000 watts	12.30
6111 With copper hood, globe size 10 x 8 ins.	400 to 500 watts	9.78
6112 With steel hood, copper plated, globe size 10 x 8 ins.	400 to 500 watts	7.02
6113 With copper hood, globe size 12 x 8 ins.	750 to 1000 watts	10.38
6114 With steel hood, copper plated, globe size 12 x 8 ins.	750 to 1000 watts	7.62



No. 5551



No. 5557

Angle Reflector Fixtures

Schedule "2"

Fixture 5551 has a symmetrical enameled steel reflector adapted for sign board and factory lighting. Height dimensions given include vertical fitting. The latter is regularly supplied tapped $\frac{1}{2}$ inch, but $\frac{3}{4}$ inch or 1 inch may be ordered at an advance of 18 cents list. Corresponding angle fittings may be substituted without change in price. Two-piece lamp grip socket is furnished. Standard finish is black.

List No.	Reflector Height	Diameter	Fitting Size Tapping	Lamp Size	List Price
5551	19 ins.	14 x 20 ins.	$\frac{1}{2}$ in.	400 to 500 watts	\$7.80

Fixtures 5555-5559 have symmetrical enameled steel reflector. In Nos. 5555-5557 the angle is 30° with the vertical, adapting it for the lighting of open areas such as athletic fields, tennis courts, etc. No. 5559 has angle of 20°, adapting it for billboard and factory use. For sockets and fittings see listing above. Standard finish is black.

List No.	Reflector Height	Diameter	Angle with Vertical	Fitting Size Tapping	Lamp Size	List Price
5555	15 $\frac{1}{2}$ ins.	16 ins.	30°	$\frac{1}{2}$ ins.	400 to 500 watts	\$8.22
5557	18 ins.	16 ins.	30°	$\frac{1}{2}$ ins.	750 to 1000 watts	9.42
5559	18 ins.	16 ins.	20°	$\frac{1}{2}$ ins.	750 to 1000 watts	9.42

Lighting Fixtures and Accessories

CUTTER SOL-LUX FIXTURES

For Type C Lamps—Pendent Style

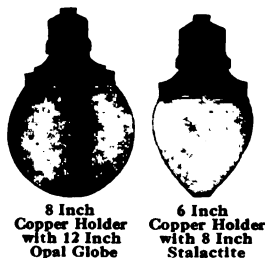
STANDARD PACKAGE QUANTITY, 20 OF ONE STYLE OR MFR. NO.

Sol-lux holders with and without glassware and suspension parts for making complete Sol-lux fixtures are listed separately below.

For 500 watt or smaller Type C lamps, use 6 x 10 inch opal globe or 6 x 8 inch stalactite; for larger lamps, use 8 x 12 inch opal globe.

Sol-lux Copper Holders

Have gun metal finished copper holders for reflectors or globes, lamp grip sockets, ventilated copper hoods and iron supports threaded for ½ inch pipe.



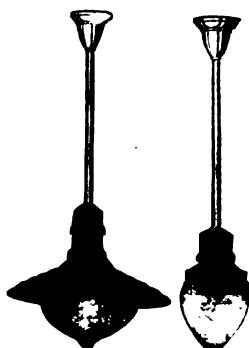
**8 Inch
Copper Holder
with 12 Inch
Opal Globe**

**6 Inch
Copper Holder
with 8 Inch
Stalactite**



**8 Inch
Copper Holder
with Globe
(Showing Chain
Suspension)**

**6 Inch
Copper Holder
with Stalactite
(Showing Chain
Suspension)**



**4 Inch Copper
Holder with 20 Inch
Concentric Reflector
and Acorn Diffuser
(Showing Stem
Suspension)**

**6 Inch Copper
Holder and
Stalactite
(Showing
Stem
Suspension)**



**3 1/4 Inch
Cast Iron
Holder**

**Insulated
Suspension
Ring**

Description	Medium Screw Socket			Mogul Screw Socket		
	Wt., Lbs. Each	List No.	Mfr. No.	List Price Each	List No.	Mfr. No.
3 1/4 in. cop. holder	2 1/2	442315	30001	\$3.12	442322	30002
4 in. cop. holder	2 3/4	442316	30003	3.24	442323	30004
6 in. cop. holder	3 1/4	442317	30013	3.78	442324	30014
6 in. cop. holder with 10 in. opal globe	10 3/4	442318	30017	5.88	442325	30018
6 in. cop. holder with 8 in. opal Stalactite	10 1/4	442319	30019	5.28	442326	30020
8 in. cop. holder	3 1/2	442320	30015	4.02	442327	30016
8 in. cop. holder with 12 in. opal globe	13	442321	30021	6.42	442328	30022

Chain or stem suspension parts extra as listed below.

Sol-lux 4 Inch Copper Holders

With 20 Inch Porcelain Enameled Concentric Dome Reflector

4 in. cop. holder and reflector only	7	442329	30023	\$6.36	442332	30024	\$6.60
Same, with 8 x 12 in. opal globe	16 1/2	442330	30025	10.08	442333	30026	10.32
Same, with Acorn Diffuser	17 1/2	442331	30027	11.28	442334	30028	11.52

Chain or stem suspension parts extra as listed below.

Sol-lux 3 1/4 Inch and 4 Inch Cast Iron Holders

Made of cast iron, of light but substantial construction. Finished in black paint enamel or galvanized. Threaded in top for ½ inch pipe.

3 1/4 in., paint enam.	6	442335	30005	\$1.56	442339	30006	\$1.80
3 1/4 in., galvanized	6	442336	30007	1.92	442340	30008	2.16
4 in., paint enam.	7	442337	30009	2.16	442341	30010	2.40
4 in., galvanized	7	442338	30011	2.52	442342	30012	2.76

Chain or stem suspension parts extra as listed below.

Suspension Parts

For convenience in making up various combinations of parts for complete fixtures, the suspension parts listed below may be used with any of the holders listed above.

Insulated Suspension Rings

Made of cast iron, finished in black paint enamel or galvanized. Has porcelain bushings for wires and a suspension ring which is insulated from the hanger proper. Threaded for ½ inch pipe.

List No.	Mfr. No.	Description	Wt., Lbs. Each	List Price Each
442343	30029	Paint enameled	1 1/2	\$0.84
442344	30030	Galvanized	1 1/2	.96

Stems and Chains—Gun Metal Finish

Stems, 18 Inch Drop, Including Canopy and Wiring			
442345	30031	With crowfoot	6
442346	30032	With 3/8 in. hickey	6
442347	30033	With 3/8 in. insulating joint	6
Chain, 18 Inch Drop, Including Canopy and Wiring			
442348	30034	With crowfoot	4
442349	30035	With 3/8 in. hickey	4
442350	30036	With 3/8 in. insulating joint	4

One-half inch hickies and insulating joints will be furnished in place of 3/8 inch size when so ordered, without additional charge. Longer lengths of either stem or chain suspension will be furnished for 60 cents per foot list additional.

IVANHOE "C" LINE FIXTURES



No. 08210
Fixture and Glass
No. 0821
Fixture Only
No. 775
Glass Only



No. 08241
Fixture and Glass
No. 0824
Fixture Only
No. 777
Glass Only



No. 08252
Fixture and Glass
No. 0825
Fixture Only
No. 778
Glass Only



No. 08230
Fixture and Glass
No. 0823
Fixture Only
No. 774
Glass Only



No. 08263
Fixture and Glass
No. 0826
Fixture Only
No. 779
Glass Only

Ivanhoe "C" Line Fixtures

FIXTURES FOR 200 AND 300 WATTS MAZDA LAMPS

List No.	*Mfr. No.	Description	Dimensions in Inches			Recom- mended MAZDA Lamp Watts	Std. Quan- tity	Approx. Ship. Wt. Std. Quan- tity	List Price Each
			Length Over All	Max. Diam.	Size of Holder				
423609	08210	Fixture and glass	26	8	6	200, 300	12	75	\$6.76
423610	0821	Fixture only (glass not included)	18	7	6	200, 300	12	50	5.54
423611	775	Glass only (fixture not included)	8	8	6	200, 300	12	25	1.22
423612	08241	Fixture and glass	31	10 $\frac{3}{8}$	6	200, 300	6	90	13.64
423613	0824	Fixture only (glass not included)	19	6	6	200, 300	6	30	6.08
423614	777	Glass only (fixture not included)	12	10 $\frac{3}{8}$	6	200, 300	6	60	7.56

FIXTURES FOR 400 AND 500 WATT MAZDA LAMPS

423618	08252	Fixture and glass	31	12	6	400, 500	6	95	\$12.92
423619	0825	Fixture only (glass not included)	19	6	6	400, 500	6	35	6.96
423620	778	Glass only (fixture not included)	12	12	6	400, 500	6	60	6.18

*Fixtures include sockets, but are not wired.

Finish: Brush brass.

Suspension: Additional list price each for single hook link, 23 cents. Additional list price each for double hook link, 32 cents. Where desired, a chain of standard link of same length will be furnished at no additional charge instead of the link above shown.

FIXTURES FOR 750 AND 1000 WATT MAZDA LAMPS

For large installations, No. 08263, which includes the Veluria Globe No. 779, will be found entirely satisfactory in appearance, volume of light and price. No. 08230 is a moderate priced unit for lighting large areas.

423621	08230	Fixture and glass	31	12	8	750, 1000	12	190	\$9.32
423622	0823	Fixture only (glass not included)	19	8	8	750, 1000	12	70	6.58
423623	774	Glass only (fixture not included)	12	12	8	750, 1000	12	120	2.76
423624	08263	Fixture and glass	34	11 $\frac{1}{2}$	8	750, 1000	4	125	21.96
423625	0826	Fixture only (glass not included)	19	8	8	750, 1000	4	35	7.38
423626	779	Glass only (fixture not included)	15	11 $\frac{1}{2}$	8	750, 1000	4	90	14.58

*Instead of No. 779, we can supply to fit Fixture No. 0826 a 16 inch stalactite like No. 777 at a list price each of \$15.54; and also a 16 inch sphere like No. 778 at a list price each of \$13.24.

†A 12 inch round ball No. 776 can be supplied instead of No. 774 at the same price.

Finish: Brush brass.

Suspension: Additional list price each for single hook link, 23 cents. Additional list price each for double hook link, 32 cents. Where desired, a chain of standard link of same length will be furnished at no additional charge instead of the link above shown.

Lighting Fixtures and Accessories

BENJAMIN LIGHTING FIXTURES



No. 6125



No. 6179



No. 6271

Fixtures for "Gas Filled" Mazda Lamps

Schedule 2

FIXTURES WITH REFLECTORS AND SKELETON HOLDERS

Fixtures Nos. 6125-6275 have enameled steel reflector of indicated design and dimensions with skeleton holder and two-piece Mogul base socket with lamp grip. Holders are tapped $\frac{1}{2}$ inch. They are intended for service where hood is unnecessary, and a maximum amount of ventilation is desired. Standard finish is black.

List No.		Size Inches	Lamp Size Watts	List Price
6125	Shallow bowl.....	18	400 to 500	\$5.40
6130	Shallow bowl.....	20	750 to 1000	7.20
6175	Deep bowl fluted.....	17	400 to 500	7.44
6181	Deep bowl fluted.....	17	750 to 1000	7.56
6270	Deep bowl.....	15	400 to 500	5.58
6275	Deep bowl.....	15	750 to 1000	6.66

Fixtures 6176-6179 have deep bowl, fluted enameled steel reflector which protects the eyes against direct rays of the lamp. Standard finish is black.

Fixtures 6271-6274 have enameled steel deep bowl reflector. Standard finish is black.

List No.		Lamp Size, Watts	List Price
6176	With cop. hood, reflector size 17 ins.....	400 to 500	\$8.40
6177	With steel hood, reflector size 17 ins.....	400 to 500	7.92
6178	With cop. hood, reflector size 17 ins.....	750 to 1000	9.36
6179	With steel hood, reflector size 17 ins.....	750 to 1000	8.04
6271	With cop. hood, reflector size 15 ins.....	400 to 500	7.68
6272	With steel hood, copper plated, reflector size 15 ins.....	400 to 500	7.20
6273	With cop. hood, reflector size 15 ins.....	750 to 1000	8.04
6274	With steel hood, copper plated, reflector size 15 ins.....	750 to 1000	6.72

Fixtures for "Gas Filled" Mazda Lamps

Schedule 2

1013	With brush brass hood, globe size 10 x 8 ins.....	400 to 500	\$9.60
1014	With steel hood, globe size 10 x 8 ins.....	400 to 500	8.82
1015	With brush brass hood, globe size 12 x 8 ins.....	750 to 1000	10.20
1017	With steel hood, globe size 12 x 8 ins.....	750 to 1000	9.42

Prices are less wires and lamps. Standard finish on Nos. 1013 and 1015 is brush brass; on Nos. 1014 and 1017, statuary bronze.

Indirect Units

Schedule 2C

Fixtures 1010-1012 have 20 inch enameled steel reflector with chain suspension, central stem, socket with lamp grip, canopy, and crowfoot.

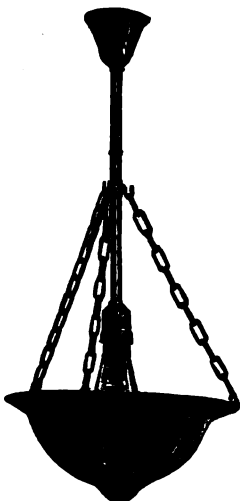
1010C	Medium screw base, reflector size 20 ins...	250	\$15.00
1012C	Mogul base, reflector size 20 ins.....	400 to 1000	15.46

Prices less wires and lamps.

Lighting Fixtures and Accessories



No. 1015

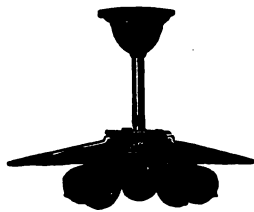


No. 1012C

BENJAMIN LIGHTING FIXTURES



No. 022P



No. 015H

INTERIOR PENDENT FIXTURES

Multiple

Schedule 2

These fixtures consist of cluster body, 8 x 5/8 inch brass stem, 3 1/4 inch reflector holder, 14 inch opal reflector, 4 1/4 x 2 1/2 inch canopy, and crowfoot. Clusters used are National Electrical Code Standard. Standard finish is polished brass.

WITH OPAL REFLECTOR

List No.	Cluster Body Type No.	Description	Std. Pkg.	List Price Each
082P	8	2-Light Fixture—with 14 in. opal reflector.....	10	\$3.00
022P	2	2-Light Fixture—with 14 in. opal reflector.....	10	3.42
023P	2	3-Light Fixture—with 14 in. opal reflector.....	10	3.72
024P	2	4-Light Fixture—with 14 in. opal reflector.....	10	3.90
052P	5	2-Light Fixture—with 14 in. opal reflector.....	10	3.78
053P	5	3-Light Fixture—with 14 in. opal reflector.....	10	4.08
054P	5	4-Light Fixture—with 14 in. opal reflector.....	10	4.38
055P	5	5-Light Fixture—with 14 in. opal reflector.....	10	4.68
056P	5	6-Light Fixture—with 14 in. opal reflector.....	10	4.98

Cluster bodies Types 5K, 1, or 1K will be substituted for Type 5 if so ordered.

WITH ENAMELED STEEL REFLECTOR

012H	1	2-Light Fixture—with 15 in. enameled steel reflector.....	10	\$4.14
013H	1	3-Light Fixture—with 15 in. enameled steel reflector.....	10	4.44
014H	1	4-Light Fixture—with 15 in. enameled steel reflector.....	10	4.74
015H	1	5-Light Fixture—with 15 in. enameled steel reflector.....	10	5.04
016H	1	6-Light Fixture—with 15 in. enameled steel reflector.....	10	5.34

Type 7 body with snap switch may be ordered instead of Type 1 at an advance of \$1.20 list.



No. 22H



No. 322P

INTERIOR CEILING FIXTURES

Multiple

Schedule 2

Fixtures Nos. 22H to 16H are provided with cluster body less flange. 15 inch porcelain enameled steel reflector is included in price. Reflector is placed between cluster back and ceiling.

Fixtures Nos. 322 to 323P have ornamental sub-base with 15 inch opal reflector. Clusters used are National Electrical Code Standard.

List No.	Cluster Body Type No.	Description	Std. Pkg.	List Price Each
22H	2	2-Light Fixture—with 15 in. enameled steel reflector.....	10	\$3.06
23H	2	3-Light Fixture—with 15 in. enameled steel reflector.....	10	3.36
12H	1	2-Light Fixture—with 15 in. enameled steel reflector.....	10	3.36
13H	1	3-Light Fixture—with 15 in. enameled steel reflector.....	10	3.66
14H	1	4-Light Fixture—with 15 in. enameled steel reflector.....	10	3.96
15H	1	5-Light Fixture—with 15 in. enameled steel reflector.....	10	4.26
16H	1	6-Light Fixture—with 15 in. enameled steel reflector.....	10	4.56
322	2	2-Light, 6 x 3 1/4 in. No. 300 base only.....	10	3.00
323	2	3-Light, 6 x 3 1/4 in. No. 300 base only.....	10	3.30
322P	2	2-Light, No. 300 base, 14 in. reflector.....	10	3.72
323P	2	3-Light, No. 300 base, 14 in. reflector.....	10	4.02

NOTE: Above Fixtures may be assorted to make up standard package.

Lighting Fixtures and Accessories

BENJAMIN INDUSTRIAL FIXTURES

NATIONAL ELECTRICAL CODE STANDARD

Industrial Clusters

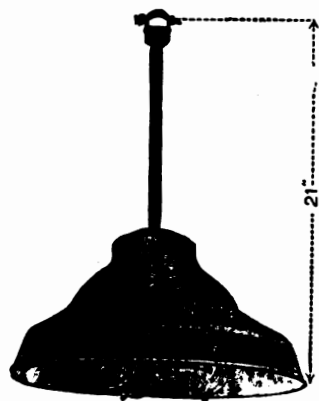
Schedule 2

Fixtures 0632L-0635½ have 3T wireless cluster body, 18-inch deeply hooded enameled steel reflector, 12-inch stem of ¾-inch iron pipe, and shock absorber. Iron parts are galvanized. Socket outlets are at an angle of 18 degrees with the vertical. 4-light fixtures will take 150-watt lamps; 5-light fixtures, 60-watt lamps. For 16-inch reflector instead of 18-inch, deduct 36 cents list. Additional length stems list at 24 cents per foot. Prices are less wires and lamps.



No. 0634L. 19" Over All

List No.		List Price
0632L	2-Light Multiple.....	\$5.28
0633L	3-Light Multiple.....	5.53
0634L	4-Light Multiple.....	5.88
0635L	5-Light Multiple.....	6.18
0634SM	4-Light Series Multiple.....	5.00
0632½	2-Light Series.....	7.28
0634½	4-Light Series.....	5.88
0635½	5-Light Series.....	6.18



No. 0644. 20" Over All

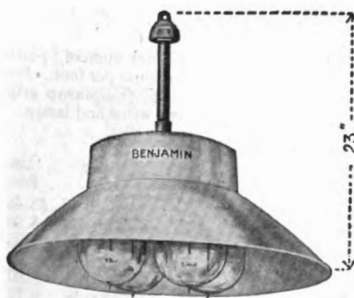
Fixtures 0642-0645½ have 3T wireless cluster body, 18-inch bowl-shaped enameled steel reflector, 12-inch stem of ¾-inch iron pipe, and shock absorber. Iron parts are galvanized. Socket outlets are at an angle of 18 degrees with the vertical. Ventilation is provided between reflector and cap. 4-light fixtures will take 150-watt lamps; 5-light fixtures, 60-watt lamps. Additional length stems list at 24 cents per foot. Prices are less wires and lamps.

List No.		List Price
0642	2-Light Multiple.....	\$6.24
0643	3-Light Multiple.....	6.54
0644	4-Light Multiple.....	6.84
0645	5-Light Multiple.....	7.14
0644SM	4-Light Series Multiple.....	6.96
0642½	2-Light Series.....	6.24
0644½	4-Light Series.....	6.84
0645½	5-Light Series.....	7.14

Mill Clusters

Schedule 2

Fixtures 0664-0694 are specially designed for the lighting of mills and factories. Nos. 0664 and 0674 have 24-inch enameled steel concentrating dome reflector, and are intended for use where it is necessary to hang the lighting units sufficiently high to clear traveling cranes; Nos. 0684 and 0694 have 24-inch enameled steel flat cone distributing reflector, for use where the units are suspended from 25 to 30 feet above the floor. Fixtures have either medium screw base or mogul screw base sockets for 250-watt lamps, 8-inch stem of ½-inch iron pipe and weather-proof shock absorber. For fitting with porcelain wire openings (No. 6031) instead of shock absorber add 24 cents list. They are regularly furnished wired multiple for 110-volt circuits, but may be ordered wired series multiple or series for 220-volt circuits, without change in price. For lamp grip described elsewhere, add 48 cents per fixture to list. Iron parts are galvanized. Prices include stem wires but are less lamps.



No. 0664

List No.		List Price
0684	4-Light Multiple with Dome Reflector (Mogul Screw Base).....	\$20.16
0674	4-Light Multiple with Dome Reflector (Medium Screw Base).....	19.20
0684	4-Light Multiple with Flat Cone Reflector (Mogul Screw Base).....	20.16
0694	4-Light Multiple with Flat Cone Reflector (Medium Screw Base).....	19.20

BENJAMIN INDUSTRIAL FIXTURES

NATIONAL ELECTRICAL CODE STANDARD

Reflector Sockets

Schedule 2

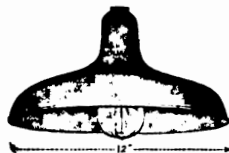
Fixtures 5431-5509 have socket tapped for $\frac{1}{2}$ -inch iron pipe, and reflector of indicated design and dimensions only. They may be ordered tapped $\frac{3}{8}$ -inch, or furnished with insulating bushing ($\frac{1}{4}$ -inch opening) for attaching lamp cord, without additional charge. For lamp grip described elsewhere, add 12 cents list. Prices are less lamps.



No. 5402

FLAT CONE REFLECTOR

List No.		Lamp Size	List Price
5430	10-inch for Short Base Lamps.....	25-40 W.	\$2.52
5431	14-inch for Short Base Lamps.....	25-40-60 W.	3.00
5402	16-inch for Skirted Base Lamps.....	100-150 W.	3.36
5403	18-inch for Skirted Base Lamps.....	200-250 W.	4.08
5501	20-inch for Large Base Lamps.....	300-400 W.	5.04
5503	22-inch for Large Base Lamps.....	400-500 W.	5.76



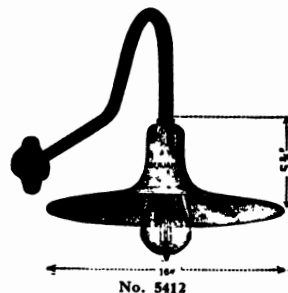
No. 5437

BOWL REFLECTOR

5438	15-inch for Short Base Lamps.....	100-150 W.	\$3.60
5437	12-inch for Short Base Lamps.....	25-40-60 W.	3.00
5423	14-inch for Skirted Base Lamps.....	60-100 W.	3.36
5425	16-inch for Skirted Base Lamps.....	150-250 W.	4.08
5427	18-inch for Skirted Base Lamps.....	200-250 W.	4.80
5507	16-inch for Large Base Lamps.....	250-400 W.	4.32
5509	18-inch for Large Base Lamps.....	300 W.	5.04

Fixtures 5443-5521 have socket, reflector of indicated design and dimensions, gooseneck of $\frac{1}{2}$ -inch iron pipe overhanging 30 inches, and wall fitting. 48-inch gooseneck of $\frac{1}{2}$ -inch iron pipe, overhanging 40 inches and pole fitting will be furnished at an advance of 48 cents list. Iron parts are galvanized. For lamp grip described elsewhere, add 12 cents list. Prices are less wires and lamps.

FLAT CONE REFLECTOR



No. 5412

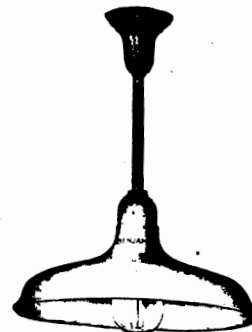
List No.		Lamp Size	List Price
5443	14-inch for Short Base Lamps.....	25-40-60 W.	\$4.08
5412	16-inch for Skirted Base Lamps.....	100-150 W.	4.44
5413	18-inch for Skirted Base Lamps.....	200-250 W.	5.16
5513	20-inch for Large Base Lamps.....	300-400 W.	6.12
5515	22-inch for Large Base Lamps.....	400-500 W.	6.84

BOWL REFLECTOR

5450	15-inch for Skirted Base Lamps.....	100-150 W.	\$4.68
5449	12-inch for Short Base Lamps.....	25-40-60 W.	4.08
5420	14-inch for Skirted Base Lamps.....	60-100 W.	4.44
5422	16-inch for Skirted Base Lamps.....	150-250 W.	5.16
5424	18-inch for Skirted Base Lamps.....	200-250 W.	5.88
5519	16-inch for Large Base Lamps.....	250-400 W.	5.40
5521	18-inch for Large Base Lamps.....	300 W.	6.12

Fixtures 6025-6139 have socket, reflector of indicated design and dimensions, 12-inch stem of $\frac{1}{2}$ -inch brass tubing, 5-inch x 4-inch canopy and crowfoot. Additional length stems list 36 cents per foot. For shock absorber instead of crowfoot add 54 cents list. For lamp grip described elsewhere, add 12 cents list. Prices are less wires and lamps.

FLAT CONE REFLECTOR



No. 6046

List No.		Lamp Size	List Price
6010	10-inch for Short Base Lamps.....	25-40 W.	\$3.48
6025	14-inch for Short Base Lamps.....	25-40-60 W.	3.96
6037	16-inch for Skirted Base Lamps.....	100-150 W.	4.32
6038	18-inch for Skirted Base Lamps.....	200-250 W.	5.04
6131	20-inch for Large Base Lamps.....	300-400 W.	6.00
6133	22-inch for Large Base Lamps.....	400-500 W.	6.72

BOWL REFLECTOR

6027	12-inch for Short Base Lamps.....	25-40-60 W.	\$3.96
6046	14-inch for Skirted Base Lamps.....	60-100 W.	4.32
6041	15-inch for Skirted Base Lamps.....	100-150 W.	4.56
6047	16-inch for Skirted Base Lamps.....	150-250 W.	5.04
6048	18-inch for Skirted Base Lamps.....	200-250 W.	5.76
6137	16-inch for Large Base Lamps.....	250-400 W.	5.28
6139	18-inch for Large Base Lamps.....	300 W.	6.00

BENJAMIN LIGHTING FIXTURES

Single Unit Pendent Fixtures

Schedule 2



No. 0371

Fixtures 0361-0381 have porcelain-lined socket with either $2\frac{1}{4}$ inch or $3\frac{1}{4}$ inch ventilated holder, standard 8 inch stem of $\frac{5}{8}$ inch brass tubing, 5 x 4 inch canopy, and crowfoot. Additional length stems list at 36 cents per foot. No. 0391 has 8 inch stem of $\frac{3}{8}$ inch iron pipe and $\frac{1}{4}$ inch brass casing. Additional lengths list at 60 cents per foot. Prices are less wires, lamps, and glassware. For shock absorber instead of crowfoot add 54 cents list. Sockets used are National Electrical Code Standard. Standard finish is brushed brass.

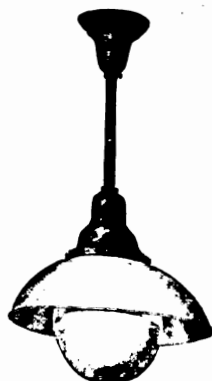
List No.	List Price Each
0361 With $2\frac{1}{4}$ in. Form "O" Holder	\$2.04
0371 With $2\frac{1}{4}$ in. Form "H" Holder	2.16
0381 With $3\frac{1}{4}$ in. Form "A" Holder	2.22
0391 With $3\frac{1}{4}$ in. Form "A" Holder for Mogul Base Lamps...	3.30



No. 321

Fixtures 301-321 have integrally formed socket shell and 6 inch shade holder, with or without 10 x 6 inch Alabaster Globe, suspension extending 13 inches from the top of socket shell to top of fixture, 5 x 4 inch canopy, and crowfoot. They are furnished with medium screw base sockets, and are intended for 100 to 250-watt lamps. Prices are less wires and lamps. Extra length chains list at 84 cents per foot. For shock absorber instead of crowfoot add 54 cents list. Sockets used are National Electrical Code Standard. Standard finish is brushed brass.

List No.	List Price Each
301 Complete less Globe only	\$4.80
321 Complete with 10 x 6 in. Alabaster Globe	8.04

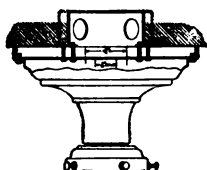


No. 0211

Fixtures 0201-0221 have integrally formed socket shell and 6 inch shade holder, mogul screw base socket, either 16 inch bowl shaped or 20 inch flat cone opal reflector of special design, 12 inch stem of $\frac{3}{8}$ inch iron pipe and $\frac{1}{4}$ inch brass casing, 5 x 4 inch canopy, and crowfoot. They are intended for 250 to 500-watt mogul screw base lamps. Sockets for medium screw base lamps may be ordered at a reduction of 24 cents list. Glassware is supported by five 8-32 screws. For shock absorber instead of crowfoot add 54 cents list. For 13 inch chain suspension shown above instead of brass stem add 72 cents list. Prices are less wires and lamps. Sockets used are National Electrical Code Standard. Standard finish is brushed brass.

List No.	List Price Each
0201 Complete less Opal Reflector only	\$4.32
0202 Complete with 16 in. Bowl Shape Reflector	6.84
0211 Complete with 16 in. Opal Bowl Shaped Reflector	7.20
0221 Complete with 20 in. Opal Flat Cone	7.20

BENJAMIN LIGHTING FIXTURES
Single Unit Ceiling Type

 Standard Finish—Enamel
 Steel. No. 4306

 A Method of
 Attaching

 Standard Finish—Brushed
 Brass. No. 4312

 Standard Finish—Brushed
 Brass. No. 4314

WITH ENAMELED STEEL BASE
Schedule 2

Fixtures 4300-4308 are ceiling fixtures embodying white enameled steel ring or base, supporting means, and porcelain-lined socket. No insulating joint is required. The base is held by a screw-threaded ring on the outside of the socket shell, thus making it unnecessary for screws to pass through the enamel. Shade holders are covered by white enameled steel cap. Holder screws are nickel-plated. With proper reflectors fixtures therefore present an all-white appearance.

Twelve inch bases have mogul screw base sockets for 400 to 500-watt lamps, and are equipped with special safety holder which securely locks the shade in position; 10 inch bases have medium screw base socket for 40 to 250-watt lamps and have holder with spring clip which prevents loosening and falling. For lamp grip add 12 cents list. Sockets used are National Electrical Code Standard. Prices are less lamps and glassware.

List No.	Description	List Price
4300	12 ins., with 3¼ in. Form "A" Holder and Cover	\$10.80
4302	10 ins., with 2¼ in. Form "O" Holder and Cover	5.10
4304	10 ins., with 2¼ in. Form "H" Holder and Cover	5.22
4306	10 ins., with 3¼ in. Form "A" Holder and Cover	5.28
4308	10 ins., with 3¼ in. Form "H" Holder and Cover	5.40

WITH BRUSHED BRASS BASE
Schedule 2

Fixtures 4310-4312 have brushed brass two-piece base. The upper portion is adapted for attaching directly to the ceiling or to outlet box by any of the usual methods. In the first fixture, socket is attached directly to the upper portion; in the second, the lower portion carrying the socket is attached to the upper by four screws. With 10 inch base, socket shell has screw thread, making it possible to use any of six sizes of holders covering the range of lamps up to 250 watts. For holders only see bottom of page. Other specifications given above apply.

List No.	Description	List Price
4310	12 ins., Mogul Screw Base Socket, 3¼ in. Holder	\$9.60
4312	10 ins., with Medium Screw Base Socket only	3.12

Fixture 4314 is essentially fixture 4312 described above with 8 inch instead of 10 inch base, and is furnished with strap for attaching to outlet box. 40 to 60-watt lamps are recommended.

List No.	Description	List Price
4314	8 ins., with Medium Screw Base Socket only	\$2.40

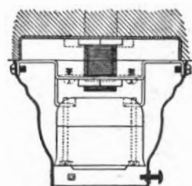
Holders for 10 and 8-inch Brass Fixtures
Schedule 2

List No.	Description	Std. Pkg.	List Price
4238	2¼ ins., Form "O" with Spring Clip	50	\$0.24
4240	2¼ ins., Form "H" with Spring Clip	50	.36
4242	3¼ ins., Form "A" with Spring Clip	50	.42
4244	3¼ ins., Form "H" with Spring Clip	50	.60
4246	4 ins., with Spring Clip	50	.72
4248	5 ins., with Spring Clip	50	.96
4250	6 ins., with Spring Clip	50	1.32

BENJAMIN LIGHTING SPECIALTIES



Standard Finish—Brushed
Brass. List No. 381



A Method of Attaching

Single Unit Ceiling Fixtures

Schedule 2

Fixtures 361-381 have base with holder, supporting strap, and two-piece medium screw base porcelain receptacle. The latter completely encloses connections making insulating joint unnecessary where approved No. 14 rubber-covered wire is used. Shell may be attached or removed after connections have been made by merely loosening the screws of the top rim. Three methods of attaching are possible: (1) directly to the ceiling or wooden block by means of wood screws; (2) to the ceiling plate, either by a lock-nut to pipe support, or by strap to fixture stud; (3) directly to outlet box, thus taking place of the cover. No. 391 has mogul screw base one-piece receptacle. For lamp grip, add 12 cents list. Sockets used are National Electrical Code Standard. Prices are less lamps and glassware.

List No.	Description	List Price
361	With 4½ in. Base, 2½ in. Form "O" Holder.....	\$1.80
371	With 6 in. Base, 2½ in. Form "H" Holder.....	2.04
381	With 6 in. Base, 3¼ in. Form "A" Holder.....	2.16
391	With 6 in. Base 3¼ in. Form "A" for Mogul Screw Base Lamps.....	2.88



Lamp Grip

Lamp Grips

The Benjamin Lamp Grip is a device intended to forestall the loosening and falling of lamps. A simple spring means engages the lamp base with sufficient force to hold it in position. It thus prevents loss from breakage, saves the time necessary for re-adjusting, and renders accidents in dangerous quarters where the lamp might strike the workman, impossible. It is of particular value in the industrial field, places exposed to the wind, on steam cars, street cars, steamships, or wherever a lamp socket is subjected to excessive vibration.

Further information on the range of its uses may be found by consulting the different devices in which it is incorporated.

Shock Absorbers

Schedule 4

Shock Absorbers 3340-3353 are designed for the protection of Tungsten lamps against sudden jars or destructive vibrations. They are furnished both with and without canopy support. The former has ¼ inch brass casing, and requires canopy with ¼ inch slip. Absorber with ¼ inch square support may be ordered at an advance of 12 cents list. Springs of different degrees of tension are furnished for fixtures of different weights. Where no weight is specified, spring suitable for 5-pound fixture will be furnished. Prices are less canopy. Iron parts are galvanized.



List No. 3340

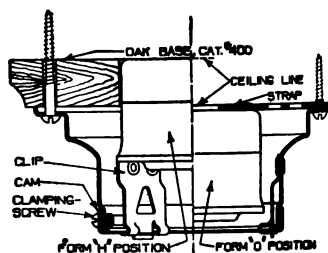
List No.		Std. Pkg.	Wt. Lbs.	List Price
3340 [▲]	Absorber complete with Canopy Support....	50	12	\$0.60
3350 [▲]	Absorber with Strap tapped for ¾ in. Insulating Joint.....	50	10	.42
3351 [▲]	Absorber with Strap for ¾ in. Iron Pipe....	50	10	.42
3352 [▲]	Absorber with Suspension Loop.....	50	10	.42
3353 [▲]	Absorber Bipod Form (less Loop and Strap)...	50	8	.36

[▲]National Electrical Code Standard.

BENJAMIN LIGHTING SPECIALTIES



No. 2377



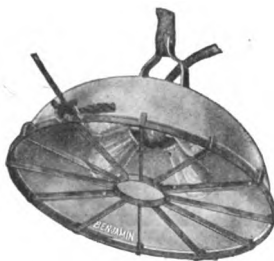
Methods of Attaching Fixture

Single Unit Car Fixtures

Schedule 2

Fixtures 2377-2378 are intended for single unit ceiling car fixtures with standard glassware having $2\frac{1}{4}$ inch fitter. Shade is securely held in position by a special safety holder, in which the usual holder screws are replaced by three spring clips, forced into engagement by a cam ring. The latter, in turn, is bolted to the casing. It can therefore not jar loose. A 2-piece porcelain receptacle provided with lamp grip secures the lamp against loosening or falling. As shown in the accompanying diagram, the receptacle may be attached in two ways: (1) to a strap; or (2) directly to the car ceiling. Fixtures for form "O" position are regularly furnished with strap. The form "H" position is secured by omitting strap and using oak base block. Sockets used are National Electrical Code Standard. Prices are less lamps and glassware.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
2377	Car Fixture, Form "O".....	10	9	\$2.80
2378	Car Fixture, with Oak Base Block, Form "H".....	10	13	3.36



No. 674

Cargo Lights

Schedule 2

Fixtures 674-676 have Type 1 cluster body, a heavy 16 inch copper hood—white enameled on the inside, black on the outside—and a strong galvanized iron guard. Metal parts are non-corrosive and durable. Rope suspension facilitates ready adjustment. They are specially serviceable around wharves, steamer holds, in building and construction work. Clusters used are National Electrical Code Standard. Prices are less wires and lamps.

List No.	List Prices and Data	List Price Each
674	4-Light Multiple.....	\$14.40
675	5-Light Multiple.....	14.70
676	6-Light Multiple.....	15.00

Lighting Fixtures and Accessories

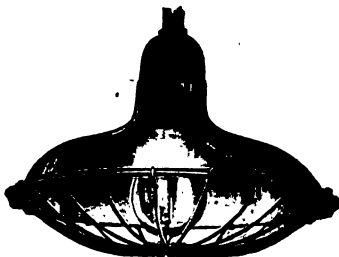
BENJAMIN SPECIALTIES

Lock Guards

PENDENT TYPE

Schedule 2

These guards have a grooved band and eye-bolt for attaching to the head of an enameled steel reflector. The band has a hinged connection, and a catch on the opposite side for holding the guard in position. Padlock may be passed through the rim and eye-bolt for locking. Lock nut on the bolt furnishes means for attaching ground wire when it is desirable to protect lamps against static currents. These pendent guards cover the entire range of Benjamin standard fixtures with enameled steel reflectors. Their depth is designed with reference to the largest lamps likely to be used. The diameter of the reflector determines the diameter of the guard. Flat cone and bowl type reflectors of the same diameter will take the same size guard.

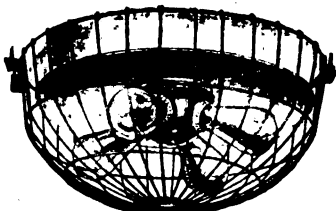


**No. 1386
Pendent Guard**

List No.	Size Diam.	Size Depth	Std. Pkg.	Wt. Lbs.	List Price
1378	7 ins.	1 1/4 ins.	10	3	\$1.40
1380	8 ins.	1 1/2 ins.	10	4	1.54
1382	9 ins.	1 3/4 ins.	10	5	1.68
1384	11 ins.	1 3/4 ins.	10	6	1.96
1386	12 ins.	2 1/4 ins.	10	8	2.10
1388	14 ins.	4 ins.	10	11	2.24
1390	15 ins.	6 3/4 ins.	10	15	2.80
1392	16 ins.	5 ins.	10	16	3.22
1394	18 ins.	5 3/4 ins.	10	25	3.92
1396	20 ins.	7 ins.	10	27	5.04
1398	22 ins.	7 1/2 ins.	10	31	5.88

CEILING TYPE

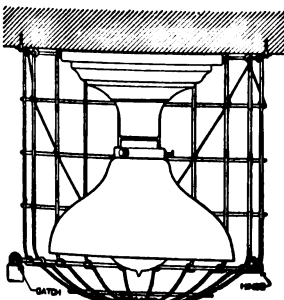
Guards 1350-1360 have hinge adapted for attaching to the ceiling by two wood screws, and a fastening plate opposite the hinge, likewise attached by screws. The plate is designed to receive a loop on the guard, thus providing supporting means. Padlock may be used if desired. When in position, guard renders the attaching screws inaccessible; released, it swings clear of the fixture, making it easy to clean or change lamps. Wire parts are of strong steel, tinned after welding. Fittings are galvanized. Guards with dagger (†) are furnished on special order only, and require two weeks' notice. Prices are less brass padlock shown.



**No. 1356
Ceiling Guard**

List No.	Size Diam.	Size Depth	Std. Pkg.	Wt. Lbs.	List Price
†1350	10 ins.	7 ins.	10	8	\$1.68
†1352	12 ins.	8 ins.	10	10	1.96
†1354	14 ins.	9 ins.	10	13	2.24
1356	16 ins.	6 3/4 ins.	10	14	2.52
1358	18 ins.	8 3/4 ins.	10	18	4.20
1360	20 ins.	11 ins.	10	29	5.60

Guards-1362-1374 have strong cylindrical upper guard adapted for attaching to the ceiling by three or more screws, and a lower or shallower portion hinged to it at the bottom. They are particularly designed for single unit ceiling fixtures. Where necessary to prevent removal, screws may be soldered in position. Lower part may be swung clear of the fixture while changing or cleaning lamps. Wire parts are of strong steel, tinned after welding. Fittings are galvanized. Guards with dagger (†) are furnished on special order only, and require two weeks' notice. Prices are less brass padlock shown.



**List No. 1364
Ceiling Guard**

List No.	Cylindrical Guard		Hinged Guard		Std. Pkg.	Wt. Lbs.	List Price
	Diam. Ins.	Depth Ins.	Diam. Ins.	Depth Ins.			
†1362	11	8	11	1 3/4	10	12	\$2.24
†1364	11	10	11	1 3/4	10	13	2.38
†1366	11	12	11	1 3/4	10	16	2.52
†1368	14	10	14	4	10	18	3.08
†1370	14	12	14	4	10	20	3.50
†1372	18	12	18	5 1/4	10	26	5.88
†1374	18	16	18	5 1/4	10	32	6.72

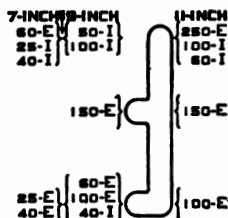
NOTE: Prices given do not include brass padlock. For padlock and two keys, add 42 cents list.

BENJAMIN LIGHTING SPECIALTIES

Adjustolites

Schedule 2

NATIONAL ELECTRICAL CODE STANDARD



Diagrams as they appear on respective reflectors showing positioning feature with lamp wattage and distribution. "E", Extensive, "I", Intensive.



No. 6162

Fixtures 6160-6164 have deep bowl enameled steel reflector detachably connected—by means of a reliable bayonet snap lock—with a brass cylinder which telescopes the socket shell, and No. 89 two-piece receptacle. Three reflectors cover a range of lamps from 25 to 250 watts. For the purpose of adjustment the cylinder is slotted on opposite sides for the passage of clamping screws carried by the socket shell. This result is brought about by merely loosening two screws and sliding the reflector to one of the three positions indicated, and again setting the screws. No change is necessary in the socket or wire. Three sizes of reflectors are furnished: 7-inch for 25 to 60-watt, extensive, and 25 to 40-watt, intensive; 9-inch for 60 to 150-watt, extensive, and 40 to 100-watt, intensive; 11-inch for 100 to 250-watt, extensive, and 60 to 100-watt, intensive. For lamp grip described elsewhere, add 12 cents to list. Standard finish is white enamel with blue bead.

For fixture with 12-inch stem of $\frac{5}{8}$ -inch brass tubing, 5-inch x 4-inch canopy, and crowfoot, add 98 cents list; with stem of $\frac{3}{4}$ -inch iron pipe and $\frac{3}{4}$ -inch brass casing instead of $\frac{5}{8}$ -inch brass tubing, add \$1.20 list; for shock absorber instead of crowfoot, add 54 cents list; for 12-inch stem of $\frac{3}{4}$ -inch iron pipe and shock absorber, add 60 cents list. Iron parts are galvanized.

List No.		List Price
6160	Adjustolite, 7-inch Reflector	\$3.00
6162	Adjustolite, 9-inch Reflector	3.36
6164	Adjustolite, 11-inch Reflector	4.08

Enameled Steel Reflectors

DEEP BOWL

Schedule 2

Reflectors 242-248P are enameled steel with shade holder for either drop cord socket or standard brass shell socket. They are furnished in four sizes, and cover a range of lamps from 25 to 250 watts, extensive. For hinged wire guard, see listing elsewhere. Standard finish is white enamel with blue bead. Prices are less lamps and sockets.



No. 244P

List No.		Lamp Size	List Price
242	7-inch for Brass Shell Socket	25-40 W.	\$1.38
242P	7-inch for Porcelain Socket	25-40 W.	1.38
244	8-inch for Brass Shell Socket	60 W.	1.62
244P	8-inch for Porcelain Socket	60 W.	1.62
246	9-inch for Brass Shell Socket	100 W.	1.90
246P	9-inch for Porcelain Socket	100 W.	1.90
248	11-inch for Brass Shell Socket	150-250 W.	3.60
248P	11-inch for Porcelain Socket	150-250 W.	3.60



Mr. No. H410—Enam. Steel Reflector. Porcelain Enam. White Both Sides



Mr. No. H515—Enam. Steel Reflector. Porcelain Enam. White Both Sides



Mr. No. H316—Enam. Steel Reflector. Porcelain Enam. White Both Sides

SHALLOW BOWL

List No.		List Price Each
H410	10-inch, for $2\frac{1}{4}$ -inch Holder	\$0.84
H412	12-inch, for $2\frac{1}{4}$ -inch Holder	1.08
H414	14-inch, for $3\frac{1}{4}$ -inch Holder	1.32
H416	16-inch, for $3\frac{1}{4}$ -inch Holder	1.80

FLAT CONE

List No.		List Price Each
H510	10-inch, for $2\frac{1}{4}$ -inch Holder	\$0.72
H515	15-inch, for $3\frac{1}{4}$ -inch Holder	1.44
H518	18-inch, for $3\frac{1}{4}$ -inch Holder	2.04
H316	16-inch, for Type 3T Cluster	2.16
H318	18-inch, for Type 3T Cluster	2.52

Lighting Fixtures and Accessories

HUBBELL METAL REFLECTORS



No. 5429
Half Tin Reflector



No. 6151



No. 5460
Parabola Reflector

Half Reflectors

Tin, Brass and Aluminum

Schedule "C"

List No.	Description	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		Outside	Inside				
5429 ^A	Half Tin	Green	White	1	50	19	\$0.38
5430 ^A	Half Aluminum	Green	Polished	1	50	17	.76
5532 ^A	Half Brass	Old Brass	Frosted Alum.	1	50	20	.64
5758 ^A	Half Brass	Polished	Frosted Alum.	1	50	20	.82
5760 ^A	Half Brass	Pol. Nickel	Dull Finish	1	50	20	.82
5761 ^A	Half Brass	Oxid. Copper	Frosted Alum.	1	50	20	.96

SMALL HALF REFLECTORS

For 10 and 15 Watt Lamps

Schedule "C"

List No.	Description	Green	White	1	50	20	\$0.38
6151	Tin	Green	White	1	50	20	.50
6152	Brass	Old Brass	Frosted Alum.	1	50	20	.64
6153	Brass	Pol. Brass	Frosted Alum.	1	50	20	.64
6154	Brass	Pol. Nickel	Dull Satin Fin.	1	50	20	.64

Parabola Reflectors

Steel, Brass and Aluminum

Schedule "C"

List No.	Description	Size	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
			Outside	Inside				
5460 ^A	Aluminum	6 1/2 ins.	Green	Polished	1	50	35	\$1.40
5461 ^A	Aluminum	6 1/2 ins.	Green	Frosted	1	50	35	.96
5564 ^A	Steel	6 1/2 ins.	Green	Frosted	1	50	40	.64
5611 ^A	Brass	6 1/2 ins.	Polished	Frosted	1	50	40	1.26
5571 ^A	Brass	6 1/2 ins.	Old Brass	Frosted	1	50	40	1.08
5572 ^A	Brass	6 1/2 ins.	Oxid. Copper	Frosted	1	50	40	1.46
5477 ^A	Aluminum	5 1/2 ins.	Green	Polished	1	50	35	1.34
5478 ^A	Aluminum	5 1/2 ins.	Green	Frosted	1	50	35	.90

If reflectors are desired for porcelain sockets, place the letter "P" after the List number. No difference in price when so equipped.

Reflector No. 5571 can be had if desired in special finish.

Prices on application.

^ANational Electrical Code Standard.

HUBBELL METAL REFLECTORS

No. 5695
Reflector 15° AngleNo. 5696
Reflector 30° AngleNo. 5697
Reflector 45° Angle

Angle Parabola Reflectors

Angle Reflectors are specially designed for direct lighting in mills and factories where it is desired to concentrate the light rays on the work and out of the operator's eyes.

Schedule "C"

List No.	Description	Size	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
			Outside	Inside				
5695 ^A	Steel, angle 15°	6½ ins.	Green	Frosted	1	30	35	\$0.64
5696 ^A	Steel, angle 30°	6½ ins.	Green	Frosted	1	30	35	.64
5697 ^A	Steel, angle 45°	6½ ins.	Green	Frosted	1	30	35	.64
5774 ^A	Brass, angle 15°	6½ ins.	Old Brass	Frosted	1	30	35	1.08
5775 ^A	Brass, angle 30°	6½ ins.	Old Brass	Frosted	1	30	35	1.08
5776 ^A	Brass, angle 45°	6½ ins.	Old Brass	Frosted	1	30	35	1.08
5777	Aluminum angle 15°	6½ ins.	Green	Polished	1	30	30	1.40
5778	Aluminum angle 30°	6½ ins.	Green	Polished	1	30	30	1.40
5779	Aluminum angle 45°	6½ ins.	Green	Polished	1	30	30	1.40
5780	Aluminum angle 15°	6½ ins.	Green	Frosted	1	30	30	1.02
5781	Aluminum angle 30°	6½ ins.	Green	Frosted	1	30	30	1.02
5782	Aluminum angle 45°	6½ ins.	Green	Frosted	1	30	30	1.02

No. 5432
Flat Tin ReflectorNo. 5463
Shallow Cone Reflector

Flat Reflectors

Tin and Aluminum

Schedule "C"

List No.	Description	Size	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price
			Outside	Inside				
5431 ^A	Flat Tin	8 ins.	Green	White	10	100	40	Per 100 \$32.76
5432 ^A	Flat Tin	10 ins.	Green	White	10	100	56	Per 100 37.80
5433 ^A	Flat Tin	12 ins.	Green	White	10	100	80	Per 100 55.14
5456 ^A	Flat Tin	14 ins.	Green	White	10	30	35	Each .90

Shallow Cone Tin Reflectors

Schedule "C"

List No.	Description	Size	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price
			Outside	Inside				
5462 ^A	Shallow Cone	8 ins.	Green	White	10	100	38	Per 100 \$34.66
5463 ^A	Shallow Cone	10 ins.	Green	White	10	100	58	Per 100 40.32
5464 ^A	Shallow Cone	12 ins.	Green	White	10	100	90	Per 100 59.86
5465 ^A	Shallow Cone	14 ins.	Green	White	10	30	35	Each .90

If reflectors are desired for porcelain sockets, place the letter "P" after the List No. No difference in price when so equipped.

^ANational Electrical Code Standard.

Lighting Fixtures and Accessories

HUBBELL METAL REFLECTORS



No. 5947

Flat Tin Diffusive

For Long Base Tungsten Lamps

Schedule "C"

List No.	Description	Size	Watts	Std. Pkg.	Pkg. Wgt. Lbs.	List Price Each
5947	Diffusive, Tin	16 ins.	100-150	50	95	\$1.58
5948	Diffusive, Tin	18 ins.	150-250	50	105	2.08



No. 5479
7 Inch Reflector



No. 5441
10 Inch Reflector



No. 5661
7 Inch Reflector

SPECIAL ALUMINUM REFLECTORS

Schedule "C"

List No.	Description	Size Ins.	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
			Outside	Inside				
5479 ^a	Aluminum	7 ins.	Green	Polished	1	30	25	\$1.40
5480 ^a	Aluminum	7 ins.	Green	Frosted	1	30	25	1.02
5854	Brass	6½ ins.	Old Brass	White	1	30	35	1.08
6094	Steel	6½ ins.	Green	Frosted	1	30	35	.64

DEEP CONE REFLECTOR

Tin and Aluminum

Schedule "C"

5440 ^a	Cone, Tin	8 ins.	Green	White	10	100	58	Per 100 \$42.84
5441 ^a	Cone, Tin	10 ins.	Green	White	10	100	80	Per 100 47.88
5442 ^a	Cone, Tin	12 ins.	Green	White	10	100	115	Per 100 75.60

The above reflectors can be furnished frosted aluminum finish instead of white, at same price.

ENAMELED STEEL REFLECTORS

Schedule "C"

5660 ^a	For 40 and 60 watt Tung. lamps	6	Green	Frosted	1	50	56	\$0.70
5661 ^a	For 60 and 100 watt Tung. lamps	7	Green	Frosted	1	50	65	.90

If reflectors are desired for porcelain sockets, place the letter "P" after the List number. No difference in price when so equipped.

^aNational Electrical Code Standard.

HUBBELL METAL REFLECTORS

For Carbon and Short Neck Tungsten Lamps
No. 5677-10 inch ReflectorFor Tungsten Lamps
No. 5672-12 inch ReflectorBAKED-ON ENAMELED STEEL REFLECTORS
Concentrating Type for High Efficiency Lamps

Schedule "C"

List No.	Description	Size Ins.	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
			Outside	Inside				
5677 [▲]	For 25 or 40 watt Tung. lamps.....	10	Green	Frosted	10	50	41	\$0.64
5678 [▲]	For 40 or 60 watt Tung. lamps.....	12	Green	Frosted	10	50	50	.82
5671 [▲]	For 40 watt Tung. lamps.....	10	Green	Frosted	10	50	50	.96
5672 [▲]	For 60 watt Tung. lamps.....	12	Green	Frosted	10	50	60	1.26

PORCELAIN ENAMELED STEEL REFLECTORS
Concentrating Type for High Efficiency Lamps

Schedule "C"

5709 [▲]	For 40 watt Tung. lamps.....	10	Green	White	10	50	50	\$1.70
5710 [▲]	For 60 watt Tung. lamps.....	12	Green	White	10	50	80	1.90
6052	For 25 and 40 watt Tung. lamps.....	10	Green	White	10	50	50	.96
6053	For 60 watt Tung. lamps.....	12	Green	White	10	50	60	1.08

For Tungsten and Type "C" Lamps
No. 5739-20 inch ReflectorFor Tungsten Lamps
No. 5655-20 inch ReflectorBAKED-ON ENAMELED STEEL REFLECTORS
Concentrating Type

Schedule "C"

†5738 [▲]	For 60, 80 and 100 watt Tung. lamps.	16	Green	Frosted	*	30	75	\$1.90
6280	For 400 watt Type C Nitrogen filled lamps.....	18	Green	Frosted	*	30	95	2.36
†5739 [▲]	For 150, 250 and 500 watt Tung. lamps.	20	Green	Frosted	*	30	113	2.52

PORCELAIN ENAMELED STEEL REFLECTORS
Concentrating Type

Schedule "C"

†6063	For 100 watt Tung. lamps.....	16	Green	White	*	30	100	\$2.96
6281	For 400 watt Type C Nitrogen filled lamps	18	Green	White	*	30	115	3.28
†6064	For 150, 250 and 500 watt Tung. lamps.	20	Green	White	*	30	145	3.54

BAKED-ON ENAMELED STEEL REFLECTORS
Diffusive Type

Schedule "C"

5673 [▲]	For 60 watt Tung. lamps.....	14	Green	Frosted	5	50	125	\$1.58
5674 [▲]	For 100 watt Tung. lamps.....	16	Green	Frosted	*	30	70	2.22
5675 [▲]	For 150 watt Tung. lamps.....	18	Green	Frosted	*	30	90	2.52
5655 [▲]	For 250 watt Tung. lamps.....	20	Green	Frosted	*	30	100	2.84

PORCELAIN ENAMELED STEEL REFLECTORS
Diffusive Type

Schedule "C"

6322	For 60 watt short base Tung. lamps....	14	Green	White	5	50	130	\$2.72
5714 [▲]	For 60 watt Tung. lamps.....	14	Green	White	5	50	130	2.72
5715 [▲]	For 100 watt Tung. lamps.....	16	Green	White	*	30	75	3.04
5716 [▲]	For 150 watt Tung. lamps.....	18	Green	White	*	30	95	3.78
5717 [▲]	For 250 watt Tung. lamps.....	20	Green	White	*	30	105	4.10

If reflectors are desired for porcelain sockets, place the letter "P" after the List No. No difference in price when so equipped. *National Electrical Code Standard. *Not in carton.

†Take 4 inch Shade Holders, Hubbell 5595 or 6276. Prices do not include holders.

HUBBELL REFLECTORS



No. 5861



No. 5862



No. 5864

Hubbell Steel Reflectors

Bowl Type—Diffusive

BAKED-ON ENAMEL—GREEN OUTSIDE, FROSTED INSIDE

Schedule "C"

List No.	Description	Carton	Std. Pkg.	Pkg. Wt. Lbs.	List Price
5866	7 in. for 60 watt Tungsten lamps.....	1	30	70	\$1.70
5867	8 in. for 100 watt Tungsten lamps.....	1	30	75	2.02
5868	10 in. for 150 watt Tungsten lamps.....	1	30	90	3.60
5869	10 in. for 250 watt Tungsten lamps.....	1	30	90	3.78
PORCELAIN ENAMELED—GREEN OUTSIDE, WHITE INSIDE					
5860	6 in. for 40 and 60 watt Tungsten lamps.....	1	30	65	\$1.70
5861	7 in. for 60 watt Tungsten lamps.....	1	30	70	2.08
5862	8 in. for 100 watt Tungsten lamps.....	1	30	75	2.40
5863	10 in. for 150 watt Tungsten lamps.....	1	30	90	4.42
5864	10 in. for 250 watt Tungsten lamps.....	1	30	90	4.68

If reflectors are desired for porcelain sockets, place the letter "P" after the manufacturer's number. No difference in price when so equipped.



No. 5533—Oval



No. 5603—For Tungsten Lamps



No. 5546—Cone



No. 5609—Flat

Porcelain Enameled Steel Reflector

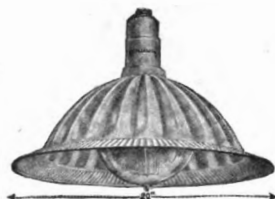
Schedule "C"

List No.	Description	Size Ins.	Finish		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
			Outside	Inside				
5533 ^A	Oval Enameled Steel.....	10	White	White	10	50	55	\$0.96
6107 ^A	Oval Enameled Steel.....	12	White	White	5	50	95	1.08
5603 ^A	Enameled Steel for 40 watt lamps.....	10	White	White	5	50	90	1.34
5604 ^A	Enameled Steel for 60 watt lamps.....	12	White	White	5	50	105	1.58
5546 ^A	Cone Enameled Steel.....	10	White	White	10	50	65	1.26
5608 ^A	Flat Enameled Steel.....	8	Green	White	10	50	30	.64
5609 ^A	Flat Enameled Steel.....	10	Green	White	10	50	40	.82
5636 ^A	Cone Enameled Steel.....	8	Green	White	10	50	35	.82
5637 ^A	Cone Enameled Steel.....	10	Green	White	10	50	55	1.14

If reflectors are desired for porcelain sockets, place the letter "P" after the List number. No difference in price when so equipped.

BENJAMIN SHADE HOLDER TYPE REFLECTORS

 With Type B or C Holder
 for Brass Shell Sockets

 With Type P Holder
 for Porcelain Sockets

 High Efficiency
 Fluted Reflector

 With Type N Neck for Standard
 2 1/4 Inch Shade Holders

 With Type S Holder for
 Benco Porcelain-Lined Sockets

Enameled Steel—Distributing
WITH TYPE B OR C HOLDER FOR BRASS SHELL SOCKETS

List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
11020B	8	10, 20	\$1.18
11040B	10	25, 40	1.32
11060B	12	40, 60	1.52
11100B	15	100	2.40
11150C	18	150	3.10
11200C	15	200	2.40
11250C	18	250	3.42

WITH TYPE P HOLDER FOR PORCELAIN SOCKETS

List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
11020P	8	10, 20	\$1.24
11040P	10	25, 40	1.38
11060P	12	40, 60	1.44
11100P	15	100	2.52
11150P	18	150	3.24
11200P	15	200	2.52
11250P	18	250	3.60

WITH TYPE N NECK FOR STANDARD 2 1/4 INCH SHADE HOLDERS

List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
11020N	8	10, 20	\$1.06
11040N	10	25, 40	1.18
11060N	12	40, 60	1.40
11100N	15	100	2.36
11150N	18	150	3.06
11200N	15	200	2.36
11250N	18	250	3.36

WITH TYPE S HOLDER FOR BENCO SOCKETS

List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
11020S	8	10, 20	\$1.20
11040S	10	25, 40	1.32
11060S	12	40, 60	1.50
11100S	15	100	2.40
11150S	18	150	3.12
11200S	15	200	2.40
11250S	18	250	3.48

BENCO PORCELAIN-LINED SOCKETS

List No.	Description	Price Each
4204	1/2 in, copper, natural finish	\$0.72
4207	1/2 in., brass, brush brass finish, with lamp grip and pull chain between lamp and reflector	1.20

HIGH EFFICIENCY FLUTED REFLECTORS

List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
1433	20	200, 250	\$6.96
*1435	20	300	7.20
*1434	20	400, 500	7.20

Fluting prevents usual loss of 12 per cent. through bulb absorption of 400, 500-watt lamps.

Standard finish on above reflectors is green outside, but white may be ordered without change in price. Holders have natural finish and are furnished as follows: Types B and C, brass; Types N, P and S, copper.

*Mogul base socket.

BENJAMIN SHADE HOLDER TYPE REFLECTORS



With Type B or C Holder
for Brass Shell Sockets



With Type N Neck for
Standard 2 1/4 Inch Shade Holders



With Type P Holder for
Porcelain Sockets

Porcelain Enameled Steel—Deep Bowl

Schedule 2

WITH TYPE B OR C HOLDER FOR BRASS SHELL SOCKETS

Extensive Distribution				Intensive Distribution			
List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each	List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each
12040B	6 1/4	25, 40	\$1.06	13040B	6 1/4	25, 40	\$1.26
12060B	7 1/4	60	1.26	13060B	7 1/4	60	1.44
12100B	8 1/4	100	1.52	13100B	8 1/4	100	2.14
12150C	10 1/4	150	2.56	13150C	10 1/4	150	2.56
12200C	8 1/4	200	2.08	13200C	8 1/4	200	2.48
12250C	10 1/4	250	2.70	13250C	10 1/4	250	2.70

WITH TYPE N NECK FOR STANDARD 2 1/4 INCH SHADE HOLDERS

Extensive Distribution				Intensive Distribution			
12040N	6 1/4	25, 40	\$0.94	13040N	6 1/4	25, 40	\$1.12
12060N	7 1/4	60	1.14	13060N	7 1/4	60	1.32
12100N	8 1/4	100	1.40	13100N	8 1/4	100	2.08
12150N	10 1/4	150	2.44	13150N	10 1/4	150	2.44
12200N	8 1/4	200	1.98	13200N	8 1/4	200	2.40
12250N	10 1/4	250	2.52	13250N	10 1/4	250	2.58

WITH TYPE P HOLDER FOR PORCELAIN SOCKETS

Extensive Distribution				Intensive Distribution			
12040P	6 1/4	25, 40	\$1.08	13040P	6 1/4	25, 40	\$1.30
12060P	7 1/4	60	1.30	13060P	7 1/4	60	1.52
12100P	8 1/4	100	1.56	13100P	8 1/4	100	2.16
12150P	10 1/4	150	2.60	13150P	10 1/4	150	2.60
12200P	8 1/4	200	2.12	13200P	8 1/4	200	2.56
12250P	10 1/4	250	2.74	13250P	10 1/4	250	2.74



With Type S Holder for Benco
Porcelain-lined Sockets



With Type B or C Holder
for Brass Shell Sockets



With Type N Neck for
Standard 2 1/4 Inch Shade Holders

With Type S Holder for Benco Sockets

Schedule 2

Extensive Distribution				Intensive Distribution			
List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each	List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each
12040S	6 1/4	25, 40	\$1.08	13040S	6 1/4	25, 40	\$1.20
12060S	7 1/4	60	1.20	13060S	7 1/4	60	1.44
12100S	8 1/4	100	1.50	13100S	8 1/4	100	2.16
12150S	10 1/4	150	2.52	13150S	10 1/4	150	2.52
12200S	8 1/4	200	2.10	13200S	8 1/4	200	2.52
12250S	10 1/4	250	2.70	13250S	10 1/4	250	2.70

Aluminized Steel—Deep Bowl

WITH TYPE B OR C HOLDER FOR BRASS SHELL SOCKETS

Extensive Distribution				Intensive Distribution			
22040B	6 1/4	25, 40	\$0.81	23040B	6 1/4	25, 40	\$0.84
22060B	7 1/4	60	.96	23060B	7 1/4	60	.96
22100B	8 1/4	100	1.18	23100B	8 1/4	100	1.18
22150C	10 1/4	150	1.72	23150C	10 1/4	150	1.72
22200C	8 1/4	200	1.44	23200C	8 1/4	200	1.44
22250C	10 1/4	250	1.86	23250C	10 1/4	250	1.86

WITH TYPE N NECK FOR STANDARD 2 1/4 INCH SHADE HOLDERS

Extensive Distribution				Intensive Distribution			
22040N	6 1/4	25, 40	\$0.72	23040N	6 1/4	25, 40	\$0.72
22060N	7 1/4	60	.84	23060N	7 1/4	60	.84
22100N	8 1/4	100	1.06	23100N	8 1/4	100	1.06
22150N	10 1/4	150	1.62	23150N	10 1/4	150	1.62
22200N	8 1/4	200	1.32	23200N	8 1/4	200	1.32
22250N	10 1/4	250	1.74	23250N	10 1/4	250	1.74

BENJAMIN SHADE HOLDER TYPE REFLECTORS

With Type P Holder for
Porcelain SocketsWith Type S Holder for
Benjamin Unit-Shell
SocketsWith Type B or C Holder
for Brass Shell Sockets
Distributing

Aluminized Steel—Deep Bowl

WITH TYPE P HOLDER FOR PORCELAIN SOCKETS

List No.	Extensive Distribution		List Price Each	List No.	Intensive Distribution		List Price Each
	Diam. In. Reflector	Lamp Size Watts			Diam. In. Reflector	Lamp Size Watts	
22040P	6 1/4	25, 40	\$0.90	23040P	6 1/4	25, 40	\$0.90
22060P	7 1/4	60	1.02	23060P	7 1/4	60	1.02
22100P	8 1/4	100	1.24	23100P	8 1/4	100	1.24
22150P	10 1/4	150	1.78	23150P	10 1/4	150	1.78
22200P	8 1/4	200	1.52	23200P	8 1/4	200	1.52
22250P	10 1/4	250	1.92	23250P	10 1/4	250	1.92

WITH TYPE S HOLDER FOR BENJAMIN UNIT-SHELL SOCKETS

List No.	Extensive Distribution		List Price Each	List No.	Intensive Distribution		List Price Each
	Diam. In. Reflector	Lamp Size Watts			Diam. In. Reflector	Lamp Size Watts	
22040S	6 1/4	25, 40	\$0.84	23040S	6 1/4	25, 40	\$0.84
22060S	7 1/4	60	.96	23060S	7 1/4	60	.96
22100S	8 1/4	100	1.20	23100S	8 1/4	100	1.20
22150S	10 1/4	150	1.74	23150S	10 1/4	150	1.74
22200S	8 1/4	200	1.44	23200S	8 1/4	200	1.44
22250S	10 1/4	250	1.86	23250S	10 1/4	250	1.86

ALUMINIZED STEEL—DISTRIBUTING

With Type B or C Holder for Brass Shell Sockets				With Type N Neck for Standard 2 1/4 Inch Holders			
List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each	List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each
21025B	6 1/4	10, 25	\$0.70	21025N	6 1/4	10, 25	\$0.58
21040B	7 1/4	40	.84	21040N	7 1/4	25, 40	.72
21060B	8 1/4	60	.96	21060N	8 1/4	60	.84
21100B	10 1/4	100	1.18	21100N	10 1/4	100	1.06
21150C	12 1/4	150	1.74	21150N	12 1/4	150	1.62
21200C	10 1/4	200	1.50	21200N	10 1/4	200	1.38
21250C	12 1/4	250	1.92	21250N	12 1/4	250	1.80

With Type S Holder
for Unit-Shell Sockets
DistributingWith Type B Holder
for Brass Shell Sockets
FocusingWith Type S Holder
for Unit-Shell Sockets
Focusing

Aluminum Steel—Distributing

With Type P Holder for Porcelain Sockets				With Type S Holder for Unit-Shell Sockets			
List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each	List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each
21025P	6 1/4	10, 25	\$0.76	21025S	6 1/4	10, 25	\$0.70
21040P	7 1/4	25, 40	.90	21040S	7 1/4	25, 40	.84
21060P	8 1/4	60	1.04	21060S	8 1/4	60	.96
21100P	10 1/4	100	1.24	21100S	10 1/4	100	1.20
21150P	12 1/4	150	1.80	21150S	12 1/4	150	1.74
21200P	10 1/4	200	1.50	21200S	10 1/4	200	1.50
21250P	12 1/4	250	1.90	21250S	12 1/4	250	1.92

ALUMINUM STEEL—FOCUSING

With Type B Holder for Brass Shell Sockets				With Type N Neck for Standard 2 1/4 Inch Holders			
List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each	List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each
24025B	6	10, 25	\$0.64	24025N	6	10, 25	\$0.52
24040B	6 1/2	25, 40	.70	24040N	6 1/2	25, 40	.58
24060B	8	60	.96	24060N	8	60	.84
24100B	10	100	1.44	24100N	10	100	1.32
24200B	10	200	1.68	24200N	10	200	1.56
With Type P Holders for Porcelain Sockets				With Type S Holder for Unit-Shell Sockets			
List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each	List No.	Diam. In. Reflector	Lamp Size Watts	List Price Each
24025P	6	10, 25	\$0.68	24025S	6	10, 25	\$0.64
24040P	6 1/2	25, 40	.76	24040S	6 1/2	25, 40	.68
24060P	8	60	1.04	24060S	8	60	.96
24100P	10	100	1.52	24100S	10	100	1.44
24200P	10	200	1.74	24200S	10	200	1.68

BENJAMIN UNIT-SHELL SOCKETS

4328	1 1/2 in., brass, brush brass finish.	\$0.36
4332	1 1/2 in., brass, brush brass finish.	.44
4334	Brass, with insulating bushing.	.36
Standard finish on above reflectors is green outside. Holders have natural finish and are furnished as follows: Types B and C, brass; Types N, P and S, copper.		
Lighting Fixtures and Accessories		

BENJAMIN SHADE HOLDER TYPE REFLECTORS



With Type B or C
Holder for Brass
Shell Sockets



With Type N Neck
for Standard 2 1/4 Inch Shade
Holders



With Type P Holder
for Porcelain
Sockets



With Type S Holder
for Benco Sockets or
Benjamin Unit-Shell
Sockets

With Type B or C Holder for Brass Shell Sockets

Porcelain Enameled Steel				Aluminized Steel			
List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each	List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
15025B	6	10, 25	\$1.38	25025B	6	10, 25	\$0.64
15040B	6 1/2	25, 40	1.52	25040B	6 1/2	25, 40	.72
15060B	8	60	1.72	25060B	8	60	.96
15100B	10	100	2.40	25100B	10	100	1.52
15200C	10	200	2.52	25200C	10	200	1.64
15250C	10 1/4	250, 150	2.96	25250C	10 1/4	250, 150	1.78

With Type N Neck for Standard 2 1/4 Inch Shade Holders

Porcelain Enameled Steel				Aluminized Steel			
List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each	List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
15025N	6	10, 25	\$1.28	25025N	6	10, 25	\$0.52
15040N	6 1/2	25, 40	1.40	25040N	6 1/2	25, 40	.58
15060N	8	60	1.60	25060N	8	60	.84
15100N	10	100	2.36	25100N	10	100	1.44
15200N	10	200	2.48	25200N	10	200	1.56
15250N	10 1/4	250, 150	2.92	25250N	10 1/4	250, 150	1.76

With Type P Holder for Porcelain Sockets

Porcelain Enameled Steel				Aluminized Steel			
List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each	List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
15025P	6	10, 25	\$1.42	25025P	6	10, 25	\$0.70
15040P	6 1/2	25, 40	1.56	25040P	6 1/2	25, 40	.76
15060P	8	60	1.78	25060P	8	60	1.02
15100P	10	100	2.52	25100P	10	100	1.64
15200P	10	200	2.64	25200P	10	200	1.76
15250P	10 1/4	250, 150	3.06	25250P	10 1/4	250, 150	1.92

With Type S Holder for Benco Sockets or Benjamin Unit-Shell Sockets

Porcelain Enameled Steel				Aluminized Steel			
List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each	List No.	Diam., Ins. Reflector	Lamp Size Watts	Price Each
15025S	6	10, 25	\$1.38	25025S	6	10, 25	\$0.64
15040S	6 1/2	25, 40	1.52	25040S	6 1/2	25, 40	.72
15060S	8	60	1.72	25060S	8	60	.96
15100S	10	100	2.40	25100S	10	100	1.52
15200S	10	200	2.52	25200S	10	200	1.64
15250S	10 1/4	250, 150	2.96	25250S	10 1/4	250, 150	1.78

Nos. 4204 and 4207 Benco porcelain-lined sockets and Nos. 4328, 4332 and 4334 Benjamin Unit-Shell sockets for use with the above reflectors are listed on preceding pages.

Standard finish on above reflectors is green outside. Holders have natural finish and are furnished as follows: Types B and C, brass; Types N, P and S, copper.

CUTTER SOL-LUX INDUSTRIAL LIGHTING REFLECTORS

The Cutter line of Sol-lux Industrial Reflectors reaches the highest degree of perfection in lighting efficiency and reflector quality. It covers all sizes of incandescent lamps and meets engineering demands in its various light distributions. It embraces all the best holders, carefully selected from present standards.

By a judicious selection of Cutter reflectors and with correct spacing and mounting height, lighting conditions nearest approaching sunlight may be obtained at minimum cost. Our engineering department will assist in planning lighting systems. This service is given without charge.

MFR. No. KEY

Mfr. Nos. on reflectors consist of six digits.

The first digit represents finish—2 being used for enam-aluminum, 3 for porcelain enamel.

The second digit represents the holder, 1 being used for snap ring holder, 2 for 2¼ inch standard heel, 3 for 3¼ inch standard heel, 4 for 4 inch standard heel, 5 represents unit socket detachable holder, while 6 represents the solid extension enclosing socket holder.

The third digit represents the distribution—1 representing the extensive curve or Type E, 2 the intensive curve or Type I, 3 the distributing curve or Type D, 4 the angle distribution or Type A, 5 the focusing distribution or Type F.

The last three digits give the lamp size of the reflector, 000 being used for the 1000 watt size.

Example: 213100

- 2 = Enam-aluminum finish.
- 1 = Snap ring holder.
- 3 = Distributing curve distribution.
- 100 = 100 watt Mazda lamp.

REFLECTOR FINISH

Enam-aluminum finish consists of 3 interior and 2 exterior coats. The interior final coat is a washable transparent enamel applied over a highly efficient matte aluminum surface. This gives a surface which will not hold the dust and which can be easily cleaned and brought to its initial efficiency.

Porcelain enamel finish consists of 3 coats, the highest grade porcelain being used. This finish will not deteriorate under normal conditions and can be readily cleaned.

HOLDERS

The holders furnished with Cutter Industrial Reflectors are shown below.



1—Snap Ring Holder



2-3-4—Standard Heel Holder
2¼, 3¼ and 4 Inches



5—Unit Screw Socket
with Lamp Receptacle



6—Solid Extension Holder
with Lamp Receptacle

The holders illustrated above are included in the prices of the reflectors designed with their respective holders.

The snap ring holder is part of the reflector, fitting directly on brass shell sockets. The 2¼ inch standard heel fits in regular 2¼ inch fixture holders. For the 3¼ and 4 inch standard heel holders, we recommend Sol-lux holders listed below. These include the Cutter lamp grip socket, which prevents the lamp loosening under adverse conditions. These are tapped for ½ inch pipe.



3¼ or 4 Inch Sol-lux
Copper Holder



3¼ or 4 Inch Sol-lux
Cast Iron Holder



6 or 8 Inch Sol-lux Copper
Holder for Glassware

Description	Std. Pkg.	Wt. Lbs. Each	Medium Screw Socket		Mogul Screw Socket	
			List No.	List Price Each	List No.	List Price Each
3¼ in. copper holder, gun metal finish.....	20	2½	30001	\$3. 12	30002	\$3. 36
4 in. copper holder, gun metal finish.....	20	2¾	30003	3. 24	30004	3. 48
3¼ in. cast iron holder, paint enameled.....	20	6	30005	1. 56	30006	2. 16
3¼ in. cast iron holder, galvanized.....	20	6	30007	1. 92	30008	2. 40
4 in. cast iron holder, paint enameled.....	20	7	30009	2. 16	30010	2. 76
4 in. cast iron holder, galvanized.....	20	7	30011	2. 52	30012	3. 00
6 in. copper holder, gun metal finish.....	20	3¼	30013	3. 78	30014	4. 02
8 in. copper holder, gun metal finish.....	20	3½	30015	4. 02	30016	4. 26

Lighting Fixtures and Accessories

2 SOL-LUX INDUSTRIAL LIGHTING REFLECTORS

Type E, Extensive Type Distribution

HOLDER—SNAP RING—FITS DIRECTLY ON BRASS SHELL SOCKETS

Enam-Aluminum Interior, Green Baked Paint Enamel Exterior

List No.	For Mazda Lamps, Size	Diam. Inches	Depth Inches	Std. Pkg.	Weight, Lbs. Std. Pkg.	List Price Each
211040.....	25-40	6¼	4¾	50	35	\$0.70
211060.....	60	7¼	5¾	50	40	.90
211100.....	100	8¼	7¾	30	40	1.08
211150.....	150	10¼	8¾	20	45	1.68
211200.....	*200	8¼	7¾	30	40	1.38
211250.....	250	10¼	8¾	20	50	1.80
211300.....	*300	10¼	8¾	20	50	1.80

Porcelain Enamel, White Interior, Green Exterior

311040.....	25-40	6¼	4¾	50	55	\$1.00
311060.....	60	7¼	4¾	50	65	1.14
311100.....	100	8¼	6¾	30	60	1.44
311150.....	150	10¼	8¾	20	65	2.28
311200.....	*200	8¼	7¾	30	60	1.84
311250.....	250	10¼	8¾	20	65	2.34
311300.....	*300	10¼	8¾	20	65	2.50

HOLDER—STANDARD HEEL—2¼ AND 3¼ INCH, SEE DESIGNATION

Enam-Aluminum Interior, Green Baked Paint Enamel Exterior						
221040.....	25-40	6¼	4¾	50	35	\$0.66
221060.....	60	7¼	5	50	40	.88
221100.....	100	8¼	7½	30	40	1.06
221150.....	150	10¼	8¾	20	45	1.62
221200.....	*200	8¼	7¾	30	40	1.32
221250.....	250	10¼	8¾	20	50	1.74
221300.....	*300	10¼	8¾	20	50	1.74
221500.....	*400-500	12¼	8½	20	55	2.10
221000.....	*750-1000	15	11¼	10	50	3.00

Porcelain Enamel, White Interior, Green Exterior

321040.....	25-40	6¼	4¾	50	55	\$0.96
321060.....	60	7¼	4¾	50	65	1.12
321100.....	100	8¼	6¾	30	60	1.42
321150.....	150	10¼	7¾	20	65	2.22
321200.....	*200	8¼	7¾	30	60	1.74
321250.....	250	10¼	8¾	20	65	2.32
321300.....	*300	10¼	8¾	20	65	2.44
321500.....	*400-500	12¼	7½	20	70	3.04
321000.....	*750-1000	15	10¾	10	75	4.00

HOLDER—UNIT DETACHABLE, ENCLOSING SOCKET, ½ INCH BUSHING. For ¼ or ⅝ In. Bushing, Add 8 Cents List

Enam-Aluminum Interior, Green Baked Paint Enamel Exterior

251040.....	25-40	6¼	6¼	50	42	\$1.20
251060.....	60	7¼	7¾	50	47	1.38
251100.....	100	8¼	9¾	30	44	1.56
251150.....	150	10¼	10¾	20	48	2.14
251200.....	*200	8¼	9¾	30	44	1.80
251250.....	250	10¼	10¾	20	53	2.16
251300.....	*300	10¼	10¾	20	53	2.16

Benjamin Unit Socket included in price.

HOLDER—SOLID EXTENSION, ENCLOSING SOCKET RECEPTACLE

Porcelain Enamel, White Interior, Green Exterior

361040.....	25-40	6¼	6¼	50	60	\$2.10
361060.....	60	7¼	6¾	30	75	2.32
361100.....	100	8¼	8¾	30	90	2.56
361150.....	150	10¼	9¾	20	85	3.40
361200.....	*200	8¼	9¾	30	90	2.94
361250.....	250	10¼	10¾	20	85	3.46
361300.....	*300	10¼	10¾	20	85	3.60

*These reflectors are for Type C high efficiency Mazda lamps.



Characteristic Curve



No. 212060



No. 222250



No. 252100



No. 362150

Lighting Fixtures and Accessories

CUTTER SOL-LUX INDUSTRIAL
REFLECTORS

Type I, Intensive Type Distrib

HOLDER—SNAP RING—FITS DIRECTLY ON
SOCKETS

Enam-Aluminum Interior, Green Baked Paint E

List No.	For Mazda Lamps, Size	Diam. Inches	Depth Inches	Std. Pkg.
212040	25-40	6 1/4	4 7/8	50
212060	60	7 1/4	5 3/8	50
212100	100	8 1/4	7 3/8	30
212150	150	10 1/4	8 3/8	20
212200	*200	8 1/4	7 3/4	30
212250	250	10 1/4	9 1/8	20
212300	*300	10 1/4	9 1/8	20

Porcelain Enamel, White Interior, Green

312040	25-40	6 1/4	5 1/4	50
312060	60	7 1/4	5 3/8	50
312100	100	8 1/4	7 3/4	30
312150	150	10 1/4	9 1/8	20
312200	*200	8 1/4	8 1/8	30
312250	250	10 1/4	9 3/8	20
312300	*300	10 1/4	9 1/8	20

HOLDER—STANDARD HEEL—2 1/4 AND 3 1/4
DESIGNATION

Enam-Aluminum Interior, Green Baked Paint E

222040	25-40	6 1/4	4 3/8	50
222060	60	7 1/4	5 1/8	50
222100	100	8 1/4	7 1/4	30
222150	150	10 1/4	8 3/8	20
222200	*200	8 1/4	7 3/4	30
222250	250	10 1/4	8 7/8	20
222300	*300	10 1/4	8 7/8	20
232500	*400-500	12 1/4	8 3/4	20
232000	*750-1000	15	11 1/4	10

Porcelain Enamel, White Interior, Green

322040	25-40	6 1/4	5	50
322060	60	7 1/4	5 1/8	50
322100	100	8 1/4	7 1/2	30
322150	150	10 1/4	8 7/8	20
322200	*200	8 1/4	7 3/8	30
322250	250	10 1/4	9 3/8	20
322300	*300	10 1/4	8 7/8	20
332500	*400-500	12 1/4	8 3/8	20
332000	*750-1000	15	12 1/2	10

HOLDER—UNIT DETACHABLE, ENCLOSING SO
BUSHING. For 1/4 or 1/2 In. Bushing, Add 1

Enam-Aluminum Interior, Green Baked Paint E

252040	25-40	6 1/4	6 7/8	50
252060	60	7 1/4	7 3/8	50
252100	100	8 1/4	9 3/8	30
252150	150	10 1/4	10 3/8	20
252200	*200	8 1/4	9 3/4	30
252250	250	10 1/4	11 3/8	20
252300	*300	10 1/4	10 7/8	20

Benjamin Unit Socket included in price.

HOLDER—SOLID EXTENSION, ENCLOSING
RECEPTACLE

Porcelain Enamel, White Interior, Green

362040	25-40	6 1/4	7	50
362060	60	7 1/4	7 1/8	30
362100	100	8 1/4	9 1/8	30
362150	150	10 1/4	10 7/8	20
362200	*200	8 1/4	9 7/8	30
362250	250	10 1/4	11 3/8	20
362300	*300	10 1/4	10 7/8	20

*These reflectors are for Type C high efficiency Ma

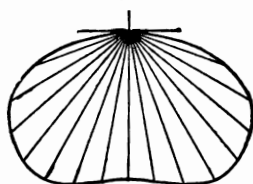
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CUTTER SOL-LUX INDUSTRIAL LIGHTING REFLECTORS

Type D, Distributing or Broad Distribution

**HOLDER—SNAP RING—FITS DIRECTLY ON BRASS SHELL
SOCKETS**

Enam-Aluminum Interior, Green Baked Paint Enamel Exterior				Weight,		List
List No.	For Mazda Lamps, Size	Diam. Inches	Depth Inches	Std. Pkg.	Lbs., Std. Pkg.	Price Each
213025	25	6 1/4	3 1/4	50	25	\$0.64
213040	40	7 1/4	3 3/4	50	30	.70
213060	60	8 1/4	4 1/4	30	30	.90
213100	100	10 1/4	5 1/4	30	45	1.08
213150	150	12 1/4	6 1/4	20	55	1.68
213200	†200	10 1/4	5 1/4	30	45	1.38
213250	250	12 1/4	7 1/4	20	55	1.80
213300	†300	10 1/4	6 3/8	20	55	1.80



Characteristic Type D Curve

Porcelain Enamel, White Interior, Green Exterior

List No.	Size	Diam.	Depth	Std. Pkg.	Weight	Price
313025	20-25-40	10	3 3/4	50	100	\$1.14
313040	40-60	12	4 1/4	30	95	1.32
*313060	60	15	4 3/8	20	90	1.74
*313100	100	15	6 3/8	20	105	2.22
*313150	150	18	7 3/8	10	85	2.82
*313200	†200	15	6 3/8	20	105	2.22
*313250	250	18	8 3/8	10	85	3.10
*313300	†300	17 7/8	7 3/8	10	85	2.82



No. 213040

HOLDER—STANDARD HEEL—2 1/4 AND 3 1/4 INCH, SEE DESIGNATION

Enam-Aluminum Interior, Green Baked Paint Enamel Exterior				Weight,		List
List No.	Size	Diam.	Depth	Std. Pkg.	Lbs., Std. Pkg.	Price
223040	40	7 1/4	3 1/4	50	30	\$0.66
223060	60	8 1/4	4 1/4	30	30	.88
223100	100	10 1/4	5 1/4	30	45	1.06
223150	150	12 1/4	6 1/4	20	45	1.62
223200	†200	10 1/4	5 1/4	30	45	1.32
223250	250	12 1/4	7 1/4	20	55	1.74
223300	†300	10 1/4	6 1/8	20	55	1.74
223500	†400-500	12 1/4	6 1/8	20	55	2.10
223000	†750-1000	15 1/8	9 3/8	10	55	3.00



No. 333500

Porcelain Enamel, White Interior, Green Exterior

List No.	Size	Diam.	Depth	Std. Pkg.	Weight	Price
323040	40	12	4	30	95	\$1.26
323060	60	15	4 1/4	20	90	1.62
323100	100	15	6 1/4	20	105	2.08
323150	150	18	7	10	85	2.70
323200	†200	15	6 1/4	20	105	2.08
323250	250	18	8	10	85	3.00
323300	†300	17 1/8	7	10	85	2.70
333400	†400-500	18	6 1/2	10	95	3.34
333500	†400-500	20	7 1/2	10	105	4.36
333000	†750-1000	20	9 3/8	6	105	5.04



No. 253200

HOLDER—UNIT DETACHABLE, ENCLOSING SOCKET

Enam-Aluminum Interior, Green Baked Paint Enamel Exterior				Weight,		List
List No.	Size	Diam.	Depth	Std. Pkg.	Lbs., Std. Pkg.	Price
253040	25-40	7 1/4	5 3/4	50	37	\$1.20
253060	60	8 1/4	6 3/8	30	34	1.38
253100	100	10 1/4	7 3/4	30	49	1.56
253150	150	12 1/4	8 3/8	20	58	2.14
253200	†200	10 1/4	7 1/4	30	49	1.80
253250	250	12 1/4	9 3/8	20	58	2.16
253300	†300	10 1/4	8 3/8	20	58	2.16

Benjamin Unit Socket included in price.

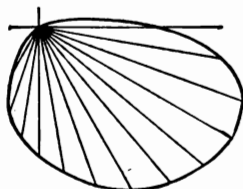
**HOLDER—SOLID EXTENSION, ENCLOSING SOCKET
RECEPTACLE**

Porcelain Enamel, White Interior, Green Exterior				Weight,		List
List No.	Size	Diam.	Depth	Std. Pkg.	Lbs., Std. Pkg.	Price
363040	25-40	12	6	15	80	\$2.44
363060	60	15	6 1/4	10	82	2.80
363100	100	15	8 1/4	10	90	3.22
363150	150	18	9	10	100	3.54
363200	†200	15	8 1/4	10	90	3.22
363250	250	18	10	10	100	4.14
363300	†300	17 7/8	9	10	90	3.54



No. 363300

*These porcelain reflectors have holders with reinforcing clamp strap.
†These reflectors are for Type C high efficiency Mazda lamps.

CUTTER SOL-LUX INDUSTRIAL LIGHTING REFLECTORS


Characteristic Angle Curve



No. 314250



No. 324300



No. 364200



No. 215100

Lighting Fixtures and Accessories

Type L, Angle Type Distribution
HOLDER—SNAP RING—FITS DIRECTLY ON BRASS SHELL SOCKETS
Enam-Aluminum Interior, Green Baked Paint Enamel Exterior

List No.	For Mazda Lamps, Size	Diam. Inches	Depth Inches	Std. Pkg.	Weight, Lbs.	List Price Each
*214040	15-20-25-40	6½	5½	50	35	\$0.72
*214060	40-60	8	6½	30	35	1.00
*214100	100	10	9½	30	40	1.54
*214200	†200	10	9½	30	40	1.54
*214250	150-250	10½	11½	20	50	1.84
*214300	†300	10½	11½	20	50	1.84

Porcelain Enamel, White Interior, Green Exterior

*314040	15-20-25-40	6½	5½	50	60	\$1.42
*314060	40-60	8	6½	30	45	1.60
*314100	100	10	9½	30	70	2.22
*314200	†200	10	9½	30	70	2.22
*314250	150-250	10½	10¾	20	70	2.70
*314300	†300	10½	10¾	20	70	2.70

HOLDER—STANDARD HEEL—2¼ AND 3¼, SEE DESIGNATION
Enam-Aluminum Interior, Green Baked Paint Enamel Exterior

224040	25-40	6½	5½	50	35	\$0.60
224060	60	8	6½	30	35	.88
224100	100	10	9½	30	40	1.38
224200	†200	10	9½	30	40	1.38
224250	150-250	10½	11	20	50	1.68
224300	†300	10½	10¾	20	50	1.68
234500	†400-500	12¼	10¾	10	55	2.92
234000	†750-1000	15	15¾	6	45	5.10

Porcelain Enamel, White Interior, Green Exterior

324040	25-40	6½	5½	50	60	\$1.26
324060	60	8	6½	30	45	1.48
324100	100	10	8¾	30	70	2.08
324200	†200	10	8¾	30	70	2.08
324250	150-250	10½	10¾	20	70	2.58
324300	†300	10½	10¾	20	70	2.58
334500	†400-500	12¼	11½	10	75	3.96
334000	†750-1000	15	15¾	6	85	5.82

HOLDER—UNIT DETACHABLE, ENCLOSING SOCKET
Enam-Aluminum Interior, Green Baked Paint Enamel Exterior

254040	15-20-25-40	6½	7¾	50	42	\$1.20
254060	40-60	8	8¾	30	39	1.50
254100	100	10	11½	30	44	1.96
254200	†200	10	11½	30	44	1.96
254250	150-250	10½	13¼	20	53	2.26
254300	†300	10½	12¾	20	53	2.26

HOLDER—SOLID EXTENSION, ENCLOSING SOCKET RECEPTACLE
Porcelain Enamel, White Interior, Green Exterior

364040	25-40	6½	7¾	50	67	\$2.44
364060	60	8	8¾	30	49	2.62
364100	100	10	10¾	30	74	3.22
364200	†200	10	10¾	30	74	3.22
364250	150-250	10½	12¾	20	73	3.76
364300	†300	10½	12¾	20	73	3.76

TYPE F, FOCUSING DISTRIBUTION
HOLDER—SNAP RING—FITS DIRECTLY ON BRASS SHELL SOCKETS
Enam-Aluminum Interior, Green Baked Paint Enamel Exterior

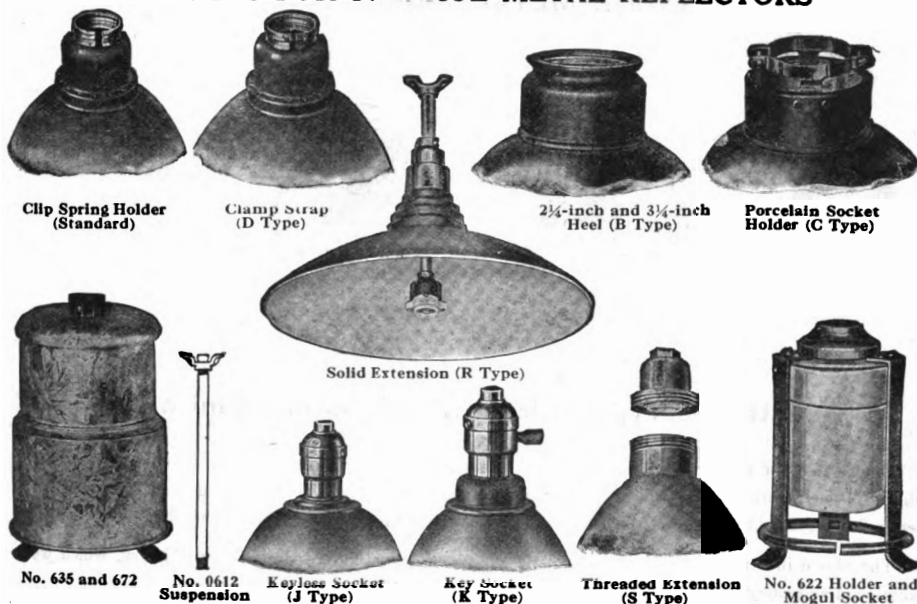
215025	10-15-20-25	6	4	50	34	\$0.54
215040	25-40	6½	4½	50	46	.58
215060	60	8	5½	30	32	.90
215100	100	10	7¾	30	60	1.38
215200	†200	10	7¾	30	60	1.60

HOLDER—UNIT DETACHABLE, ENCLOSING SOCKET
Enam-Aluminum Interior, Green Baked Paint Enamel Exterior

255025	10-15-20-25	6	6	50	41	\$1.06
255040	25-40	6½	6½	50	51	1.08
255060	60	8	7¾	30	36	1.38
255100	100	10	9¾	30	64	1.80
255200	†200	10	9¾	30	64	2.02

*All snap ring holders on angle reflectors have reinforcing clamp strap. †These reflectors are for Type C high efficiency Mazda lamps.

HOLDERS FOR IVANHOE METAL REFLECTORS



Catalog Numbering System

The letters and numbers of Mfr. Nos. have the following meaning:
 The letters designate in order:
 1. Type of holder (B, C, D, J, K, R or S).
 Note: Reflectors furnished with the Clip Spring Holder have only two letters in their stock numbers. The first letter gives the finish of the reflector and the second gives the light distribution obtained.
 2. Kind of finish (A, Cleansey aluminum; E, for porcelain enamel).
 3. Distribution of light (E, extensive; I, intensive; F, focusing; D, distributing, and L, angle).
 The number gives the size of the Masda lamp with which the reflector should be used to obtain the best results.
 Example—No. RED 60. R=Solid extension holder. E=Porcelain enamel finish. D=Distributing light distribution. 60=Size of Masda lamp to be used.
 Example—No. AE 60. Clip Spring Holder. A=Cleansey aluminum finish. E=Extensive light distribution. 60=Size of Masda lamp to be used.
 (1) Holders. B denotes 2 1/4 inch and 3 1/4 inch heel. The 2 1/4 inch heel is supplied on all reflectors below the 400 watt size. The 3 1/4 inch heel is supplied on reflectors for 400 watt lamps and larger. With the 2 1/4 inch heel use the Form O holder, never Form B. With the 3 1/4 inch heel use holders Nos. 622, 635 or 672.
 C denotes porcelain socket holder. Use with standard porcelain sockets.
 D denotes clip strap added to clip spring. Use on heavy reflectors and reflectors subjected to strong vibration.
 J denotes a reflector which has a standard brass shell keyless socket locked into it in such a manner that the reflector and socket make a solid one-piece unit. 60 and 100 watt reflectors carry 1/2 inch sockets; 150, 200 and 250 watt reflectors carry 3/4 inch sockets.
 K denotes a reflector which has a standard brass shell key socket locked into it in such a manner that the reflector and socket make a solid one-piece unit.
 R denotes solid extension enclosing lamp receptacle.
 S denotes threaded extension enclosing lamp receptacle.
 The S holder is tapped at the top for suspension from 3/4 inch pipe. As a special, if so specified on the order, the S holder will be furnished, tapped for 1/2 inch pipe.
 Clip spring holder has no letter designation. Use with standard brass shell sockets.
 (2) Finishes. A denotes Cleansey aluminum interior finish and green baking varnish exterior finish.
 E denotes white porcelain enamel interior finish and green porcelain enamel exterior finish.
 (3) Distribution of Light. E denotes extensive distribution. I denotes intensive distribution. F denotes focusing distribution. D denotes the broad distributing distribution. L denotes an angular distribution. MM denotes the "Masda Mill" distribution.
 (4) Size of Lamp. 20, 25, 40, 60, 100, etc., denote the wattage of Masda lamps which are used with reflectors so designated. The numbers of the aluminum finished reflectors of the Ivanhoe Counter Line do not follow this rule, but are serial numbers without special meaning.
 Holders for Reflectors B, C, D, J, K, R, S and clip spring holders are furnished as a part of the reflector. They are not to be ordered separately. While nearly every holder can be fitted to any reflector form, orders should be confined as far as possible to the standard combinations. The only holder supplied on the 400, 500 and 1000 watt sizes is the B type, 3 1/4 inch heel.
 Solid Extension (R Type). The R holder is a solid extension made as part of the reflector form. It is supplied in two designs as follows:
 All R type reflectors, except MM diffusers, have the Easy-to-Wire R Holder. This holder is made in two parts: a copper extension, which is locked securely into the porcelain enameled form and the lamp receptacle. The receptacle is held in the extension by three set screws. For wiring, these screws are loosened and the reflector raised on the rod hanger until the receptacle is exposed as shown in the illustration. This holder is tapped for 3/4 inch pipe only.
 The R holder on MM diffusers is solid extension, finished over its entire surface with the same finish as the body of the reflector. The porcelain receptacle, which is securely fastened to the extension, may be removed for wiring by loosening the screws which hold it. This type of holder is weatherproof, tapped for 1/2 inch pipe, and in every way substantial for outdoor service.

List No.	List Price and Data	Std. Pkg.	Wt., Pkg.	Length	Diam.	List Price Each
622	Metal part of sherardized iron	30	93	.....	.....	\$2.48
635	Is No. 622 with jap. iron canopy set over	30	110	.....	.....	3.66
672	Is No. 622 with green porcelain enameled canopy	30	120	.....	.....	4.06
6612	Suspension	20	40	12 ins.	3/4 in.	.70

Holders Nos. 622, 635 and 672 are used with those reflectors for lamps of 400 watts and larger which have 3 1/4 inch B type heels.

IVANHOE METAL REFLECTORS



Nos. AE-40, AE-60, AE-100



No. BAE-500



No. BAE-1000

Nos. AE-150, AE-200,
AE-250

Extensive Type, "Cleanzy" Aluminum Finish

Extensive Type reflectors with "Cleanzy" aluminum finish provide units of high efficiency for the lighting of such work as assembling, packing, inspecting and boxing. To produce uniform illumination, these reflectors should be spaced 2 times as far apart as the mounting height above the plane to be lighted.

The above illustrations show characteristic shapes of the standard designs listed below, which we recommend and carry in stock. For description of holders and explanation of stock numbers, see previous page.

STANDARD EXTENSIVE REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard Quantity	List Price Each
		Diam.	Depth			
AE-40	25, 40	6 $\frac{1}{4}$	4 $\frac{3}{4}$	35	50	\$0.78
AE-60	60	7 $\frac{1}{4}$	5 $\frac{3}{8}$	40	50	.82
AE-100	100	8 $\frac{3}{4}$	7 $\frac{3}{8}$	40	30	1.12
AE-150	150	10 $\frac{1}{4}$	8 $\frac{3}{8}$	45	20	1.68
AE-200	200	8 $\frac{3}{4}$	8	40	30	1.40
AE-250	250	10 $\frac{1}{4}$	8 $\frac{7}{8}$	50	20	1.82
BAE-40	25, 40	6 $\frac{1}{4}$	4 $\frac{3}{8}$	35	50	.74
BAE-60	60	7 $\frac{1}{4}$	5	40	50	.88
BAE-100	100	8 $\frac{3}{4}$	7 $\frac{1}{8}$	40	30	1.08
BAE-150	150	10 $\frac{1}{4}$	8 $\frac{1}{8}$	45	20	1.64
BAE-200	200	8 $\frac{3}{4}$	7 $\frac{3}{4}$	40	30	1.36
BAE-250	250	10 $\frac{1}{4}$	8 $\frac{5}{8}$	50	20	1.78
BAE-500	*300, 400, 500	12 $\frac{1}{4}$	6 $\frac{7}{8}$	60	20	2.18
BAE-1000	750, 1000	15	10	60	10	3.08
CAE-40	25, 40	6 $\frac{1}{4}$	4 $\frac{3}{4}$	35	50	.82
CAE-60	60	7 $\frac{1}{4}$	5 $\frac{3}{8}$	40	50	1.08
CAE-100	100	8 $\frac{3}{4}$	7 $\frac{1}{2}$	40	30	1.36
CAE-150	150	10 $\frac{1}{4}$	8 $\frac{1}{2}$	45	20	1.82
CAE-200	200	8 $\frac{3}{4}$	8 $\frac{1}{8}$	40	30	1.64
CAE-250	250	10 $\frac{1}{4}$	9	50	20	1.96
KAE-40	25, 40	6 $\frac{1}{4}$	6 $\frac{3}{4}$	90	50	1.34
JAE-60	60	7 $\frac{1}{4}$	7 $\frac{3}{8}$	100	50	1.40
JAE-100	100	8 $\frac{3}{4}$	9 $\frac{1}{8}$	85	30	1.62
JAE-150	150	10 $\frac{1}{4}$	10 $\frac{1}{2}$	80	20	2.32
JAE-200	200	8 $\frac{3}{4}$	10 $\frac{3}{8}$	85	30	2.04
JAE-250	250	10 $\frac{1}{4}$	11	80	20	2.46

Holders and Mogul sockets Nos. 622 and 635 are furnished for use with Nos. BAE-500 and BAE-1000.

The D strap can be added to any "AE" reflector at a price of \$0.09 each list additional. When ordering, specify DAE-40, DAE-60, etc.

*New Type Mazda Lamps. Write for data on reflectors for old 400, 500 watt lamps.

IVANHOE METAL REFLECTORS



Nos. EE-40, EE-60,
EE-100



No. BEE-500



Nos. EE-150, EE-200
EE-250



No. BEE-1000

Extensive Type, Porcelain Enamel Finish

Extensive Type porcelain enameled reflectors may be installed when it is thought that the service conditions are too severe for Extensive Type "Cleanzy" aluminum reflectors. To produce uniform illumination these reflectors should be spaced two times as far apart as the mounting height above the plane to be lighted.

Above illustrations show characteristic shapes of the standard designs listed below. For description of holders and explanation of stock numbers see previous pages.

STANDARD EXTENSIVE REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard Quantity	List Price Each
		Diam.	Depth			
EE-40	25, 40	6 1/4	4 3/8	45	50	\$0.98
EE-60	60	7 1/4	4 7/8	60	50	1.20
EE-100	100	8 1/4	6 1/8	53	30	1.48
EE-150	150	10 1/4	8 1/8	66	20	2.52
EE-200	200	8 1/4	7 5/8	60	30	2.04
EE-250	250	10 1/4	8 5/8	66	20	2.66
BEE-40	25, 40	6 1/4	4 1/4	45	50	.94
BEE-60	60	7 1/4	4 1/4	60	50	1.18
BEE-100	100	8 1/4	6 3/8	53	30	1.44
BEE-150	150	10 1/4	7 3/4	66	20	2.48
BEE-200	200	8 1/4	7 1/4	60	30	2.00
BEE-250	250	10 1/4	8 3/4	66	20	2.48
BEE-500	*300, 400, 500	12 1/4	7 1/2	80	20	3.36
BEE-1000	750, 1000	15	10 3/4	85	10	4.48
CEE-40	25, 40	6 1/4	4 1/4	45	50	1.12
CEE-60	60	7 1/4	4 7/8	60	50	1.34
CEE-100	100	8 1/4	7	53	30	1.62
CEE-150	150	10 1/4	8 1/8	66	20	2.66
CEE-200	200	8 1/4	8	66	30	2.18
CEE-250	250	10 1/4	8 3/4	60	20	2.80
REE-40	25, 40	6 1/4	6 1/8	60	50	2.18
REE-60	60	7 1/4	6 5/8	75	30	2.38
REE-100	100	8 1/4	8 5/8	90	30	2.66
REE-150	150	10 1/4	9 1/4	72	20	3.74
REE-200	200	8 1/4	9 5/8	90	30	3.22
REE-250	250	10 1/4	10 3/4	72	20	3.86
SEE-40	25, 40	6 1/4	6 1/8	60	50	2.18
SEE-60	60	7 1/4	6 5/8	75	30	2.38
SEE-100	100	8 1/4	8 5/8	90	30	2.66
SEE-150	150	10 1/4	9 1/4	72	20	3.74
SEE-200	200	8 1/4	9 5/8	90	30	3.22
SEE-250	250	10 1/4	10 3/8	72	20	3.86

Holders and Mogul sockets Nos. 622, 635, 672 are furnished for use with Nos. BEE-500 and BEE-1000.

*New Type Mazda Lamps. Write for data on reflectors for old 400, 500 watt lamps.

The D strap can be added to any "EE" reflector at a price of 9 cents each list additional. When ordering, specify, DEE-40, DEE-60, etc.

IVANHOE METAL REFLECTORS



Nos. AI-40, AI-60, AI-100



Nos. BAI-500 and BAI-1000

Nos. AI-150, AI-200,
AI-250

Intensive Type, "Cleanzy" Aluminum Finish

Intensive Type reflectors with "Cleanzy" aluminum finish have been designed for the uniform illumination of large areas from light units suspended well above the plane to be lighted. They should be spaced at a distance apart equal to $1\frac{1}{4}$ times their height above the plane to be lighted. They are also used for the lighting of groups of machines such as looms, winders, lathes, shapers and knitting machines.

The above illustrations show characteristic shapes of the standard designs listed below.

STANDARD INTENSIVE REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard Quantity	List Price Each
		Diam.	Depth			
AI-40	25, 40	6 $\frac{1}{4}$	4 $\frac{3}{8}$	35	50	\$0.78
AI-60	60	7 $\frac{1}{4}$	5 $\frac{3}{8}$	40	50	.92
AI-100	100	8 $\frac{1}{4}$	7 $\frac{3}{8}$	40	30	1.12
AI-150	150	10 $\frac{1}{4}$	8 $\frac{3}{8}$	45	20	1.68
AI-200	200	8 $\frac{1}{4}$	8 $\frac{1}{2}$	40	30	1.40
AI-250	250	10 $\frac{1}{4}$	9 $\frac{1}{4}$	50	20	1.82
BAI-40	25, 40	6 $\frac{1}{4}$	4 $\frac{3}{8}$	35	50	.74
BAI-60	60	7 $\frac{1}{4}$	5 $\frac{3}{8}$	40	50	.88
BAI-100	100	8 $\frac{1}{4}$	7 $\frac{3}{8}$	40	30	1.08
BAI-150	150	10 $\frac{1}{4}$	8 $\frac{3}{8}$	45	20	1.64
BAI-200	200	8 $\frac{1}{4}$	8 $\frac{1}{2}$	40	30	1.34
BAI-250	250	10 $\frac{1}{4}$	8 $\frac{1}{2}$	50	20	1.78
BAI-500	*300, 400, 500	12 $\frac{1}{4}$	8 $\frac{1}{2}$	60	20	2.18
BAI-1000	750, 1000	15	11 $\frac{1}{8}$	60	10	3.08
CAI-40	25, 40	6 $\frac{1}{4}$	5	35	50	.92
CAI-60	60	7 $\frac{1}{4}$	5 $\frac{1}{4}$	40	50	1.06
CAI-100	100	8 $\frac{1}{4}$	7 $\frac{3}{8}$	40	30	1.26
CAI-150	150	10 $\frac{1}{4}$	8 $\frac{3}{8}$	45	20	1.82
CAI-200	200	8 $\frac{1}{4}$	8 $\frac{1}{2}$	40	30	1.54
CAI-250	250	10 $\frac{1}{4}$	9 $\frac{1}{4}$	50	20	1.96
KAI-40	25, 40	6 $\frac{1}{4}$	7 $\frac{3}{8}$	90	50	1.34
JAI-60	60	7 $\frac{1}{4}$	7 $\frac{3}{8}$	100	50	1.40
JAI-100	100	8 $\frac{1}{4}$	9 $\frac{3}{8}$	85	30	1.62
JAI-150	150	10 $\frac{1}{4}$	10 $\frac{3}{8}$	80	20	2.32
JAI-200	200	8 $\frac{1}{4}$	10 $\frac{3}{8}$	85	30	2.04
JAI-250	250	10 $\frac{1}{4}$	11 $\frac{1}{8}$	80	20	2.46

*New Type Mazda Lamps. Write for data on reflectors for old 400, 500 watt lamps.

Holders and Mogul sockets Nos. 622 and 635 are furnished for use with No. BAI-500 and No. BAI-1000.

The D Strap can be added to any "AI" reflector at a price of 9 cents each list additional. When ordering, specify, DAI-40, DAI-60, etc.

Lighting Fixtures and Accessories

IVANHOE METAL REFLECTORS



Nos. EI-40, EI-60



No. BEI-1000



Nos. EI-100, EI-200



No. BEI-500



Nos. EI-150, EI-250

Intensive Type, Porcelain Enamel Finish

Intensive Type Ivanhoe reflectors with the porcelain enamel finish may be used where reflectors are exposed to such severe conditions as in dye houses, plating rooms, bleacheries and lacquering rooms. To produce uniform illumination these reflectors should be spaced at a distance apart equal to $1\frac{1}{4}$ times their height above the plane to be lighted.

The above illustrations show characteristic shapes of the standard designs listed below. For description of holders and explanation of stock numbers, see page 106.

STANDARD INTENSIVE REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard Quantity	List Price Each
		Diam.	Depth			
EI-40.....	25, 40	6 $\frac{1}{4}$	5 $\frac{1}{4}$	60	50	\$1.20
EI-60.....	60	7 $\frac{1}{4}$	5 $\frac{3}{8}$	70	50	1.40
EI-100.....	100	8 $\frac{1}{4}$	7 $\frac{3}{4}$	70	30	2.10
EI-150.....	150	10 $\frac{1}{4}$	9 $\frac{1}{4}$	70	20	2.52
EI-200.....	200	8 $\frac{1}{4}$	8 $\frac{3}{8}$	70	30	2.46
EI-250.....	250	10 $\frac{1}{4}$	9 $\frac{5}{8}$	70	20	2.66
BEI-40.....	25, 40	6 $\frac{1}{4}$	5	60	50	1.16
BEI-60.....	60	7 $\frac{1}{4}$	5 $\frac{1}{8}$	70	50	1.36
BEI-100.....	100	8 $\frac{1}{4}$	7 $\frac{1}{2}$	70	30	2.14
BEI-150.....	150	10 $\frac{1}{4}$	8 $\frac{7}{8}$	70	20	2.48
REI-200.....	200	8 $\frac{1}{4}$	8 $\frac{1}{4}$	70	30	2.42
BEI-250.....	250	10 $\frac{1}{4}$	9 $\frac{3}{4}$	70	20	2.62
BEI-500.....	*300, 400, 500	12 $\frac{1}{4}$	8 $\frac{5}{8}$	80	20	3.64
BEI-1000.....	750, 1000	15	15 $\frac{1}{8}$	75	10	4.48
CEI-40.....	25, 40	6 $\frac{1}{4}$	5 $\frac{3}{8}$	60	50	1.34
CEI-60.....	60	7 $\frac{1}{4}$	5 $\frac{1}{2}$	70	50	1.54
CEI-100.....	100	8 $\frac{1}{4}$	7 $\frac{1}{4}$	70	30	2.24
CEI-150.....	150	10 $\frac{1}{4}$	9 $\frac{1}{4}$	70	20	2.66
CEI-200.....	200	8 $\frac{1}{4}$	8 $\frac{1}{2}$	70	30	2.60
CEI-250.....	250	10 $\frac{1}{4}$	9 $\frac{3}{4}$	70	20	2.80
REI-40.....	25, 40	6 $\frac{1}{4}$	7	100	50	2.38
REI-60.....	60	7 $\frac{1}{4}$	7 $\frac{1}{8}$	80	30	2.60
REI-100.....	100	8 $\frac{1}{4}$	9 $\frac{1}{4}$	100	30	3.30
REI-150.....	150	10 $\frac{1}{4}$	10 $\frac{7}{8}$	100	20	3.72
REI-200.....	200	8 $\frac{1}{4}$	10 $\frac{1}{4}$	90	30	3.64
REI-250.....	250	10 $\frac{1}{4}$	11 $\frac{3}{8}$	100	20	3.86
SEI-40.....	25, 40	6 $\frac{1}{4}$	7	100	50	2.38
SEI-60.....	60	7 $\frac{1}{4}$	7 $\frac{1}{8}$	80	30	2.60
SEI-100.....	100	8 $\frac{1}{4}$	9 $\frac{1}{4}$	100	30	3.30
SEI-150.....	150	10 $\frac{1}{4}$	10 $\frac{7}{8}$	100	20	3.72
SEI-200.....	200	8 $\frac{1}{4}$	10 $\frac{1}{4}$	90	30	3.64
SEI-250.....	250	10 $\frac{1}{4}$	11 $\frac{3}{8}$	100	20	3.86

Holders and Mogul Sockets Nos. 622, 635, 672 are furnished for use with Nos. BEI-500 and BEI-1000.

*New type Mazda lamps. Write for data on reflectors for old 400, 500 watt lamps.

The D Strap can be added to any EI Reflector at a price of 9 cents each list additional. When ordering, specify, DEE-40, DEE-60, etc.

IVANHOE METAL REFLECTORS

Nos. AD-25, AD-40
AD-60, AD-100

Nos. AD-150, AD-200



No. BAD-500



No. BAD-1000

Distributing Types, "Cleavezy" Aluminum Finish

Distributing Type Ivanhoe reflectors with the "Cleavezy" aluminum finish may be used for general illumination in storage plants, warehouses, and in mills and factories when local lighting is provided for individual machines. These reflectors give a broad distribution of light which produces practically uniform illumination when they are spaced 1.6 times as far apart as the mounting height above the plane to be lighted.

For description of holders and explanation of stock numbers, see page 117.

STANDARD DISTRIBUTING REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard Quantity	List Price Each
		Diam.	Depth			
AD-25	10, 15, 20, 25	6 $\frac{1}{4}$	3 $\frac{1}{2}$	25	50	\$0.64
AD-40	40	7 $\frac{1}{4}$	3 $\frac{3}{4}$	30	50	.78
AD-60	60	8 $\frac{1}{4}$	4 $\frac{1}{8}$	30	30	.92
AD-100	100	10 $\frac{1}{4}$	5 $\frac{3}{4}$	45	30	1.12
AD-150	150	12 $\frac{1}{4}$	6 $\frac{7}{8}$	55	20	1.68
AD-200	200	10 $\frac{1}{4}$	6 $\frac{1}{4}$	45	30	1.40
AD-250	250	12 $\frac{1}{4}$	7 $\frac{9}{8}$	55	20	1.82
BAD-25	10, 15, 20, 25	6 $\frac{1}{4}$	3 $\frac{1}{2}$	25	50	.60
BAD-40	40	7 $\frac{1}{4}$	3 $\frac{3}{8}$	30	50	.74
BAD-60	60	8 $\frac{1}{4}$	4 $\frac{1}{4}$	30	30	.88
BAD-100	100	10 $\frac{1}{4}$	5 $\frac{3}{8}$	45	30	1.08
BAD-150	150	12 $\frac{1}{4}$	6 $\frac{1}{2}$	55	20	1.64
BAD-200	200	10 $\frac{1}{4}$	6	45	30	1.36
BAD-500	*400, 500	12 $\frac{1}{4}$	6 $\frac{1}{2}$	60	20	1.78
BAD-1000	750, 1000	15 $\frac{7}{8}$	9 $\frac{5}{8}$	60	10	2.18
BAD-250	250	12 $\frac{1}{4}$	7 $\frac{3}{4}$	55	20	3.08
CAD-25	10, 15, 20, 25	6 $\frac{1}{4}$	3 $\frac{3}{8}$	25	50	.78
CAD-40	40	7 $\frac{1}{4}$	4 $\frac{1}{4}$	30	50	.92
CAD-60	60	8 $\frac{1}{4}$	4 $\frac{5}{8}$	30	30	1.06
CAD-100	100	10 $\frac{1}{4}$	5 $\frac{3}{4}$	45	30	1.26
CAD-150	150	12 $\frac{1}{4}$	6 $\frac{7}{8}$	55	20	1.82
CAD-200	200	10 $\frac{1}{4}$	6 $\frac{3}{8}$	45	30	1.54
CAD-250	250	12 $\frac{1}{4}$	7 $\frac{3}{4}$	55	20	1.96
KAD-25	10, 15, 20, 25	6 $\frac{1}{4}$	5 $\frac{1}{2}$	80	50	1.20
KAD-40	40	7 $\frac{1}{4}$	5 $\frac{3}{4}$	75	30	1.34
JAD-60	60	8 $\frac{1}{4}$	6 $\frac{1}{8}$	100	30	1.40
JAD-100	100	10 $\frac{1}{4}$	7 $\frac{3}{4}$	110	30	1.62
JAD-150	150	12 $\frac{1}{4}$	8 $\frac{7}{8}$	70	10	2.12
JAD-200	200	10 $\frac{1}{4}$	8 $\frac{1}{2}$	110	30	2.04
JAD-250	250	12 $\frac{1}{4}$	9 $\frac{7}{8}$	70	10	2.46

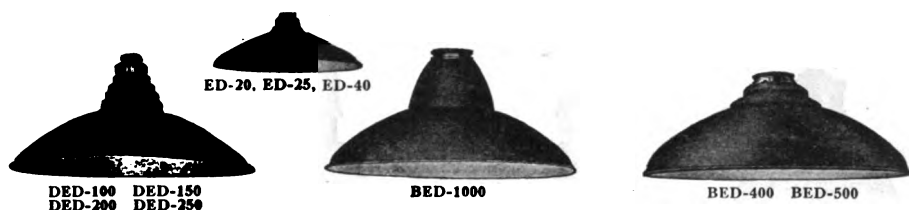
Holders and Mogul sockets Nos. 622 and 635 are furnished for use with Nos. BAD-500 and BAD-1000.

*New type Mazda lamps. Write for data on reflectors for old 400, 500 watt lamps.

The D Strap can be added to any AD Reflector at a price of \$0.09 each list additional. When ordering, specify, DAD-25, DAD-40, etc.

Lighting Fixtures and Accessories

IVANHOE METAL REFLECTORS



Distributing Type, Porcelain Enamel Finish

Distributing Type Ivanhoe porcelain enameled reflectors, although widely different in shape from the distributing type with the "Cleansey" finish, give the same broad distribution and may be used for similar illumination work. For uniform illumination, these reflectors should be spaced 1.6 times as far apart as the height above the plane to be lighted.

STANDARD DISTRIBUTING REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard Quantity	List Price Each
		Diam.	Depth			
ED-20	10, 15, 20	8	3 1/8	90	50	\$1.12
ED-25	25, 40	10	3 3/4	100	50	1.26
ED-40	40, 60	12	4 1/4	95	30	1.48
DED-60	60	15	4 5/8	90	20	1.96
DED-100	100	15	6 5/8	105	20	2.46
DED-150	100, 150	18	7 3/8	85	10	3.16
DED-200	200	15	6 5/8	105	20	2.46
DED-250	250	18	8 3/8	85	10	3.50
BED-20	10, 15, 20	8	2 7/8	90	50	1.08
BED-25	25, 40	10	3 1/2	100	50	1.22
BED-40	40, 60	12	4	95	30	1.44
BED-60	60	15	4 1/4	90	20	1.92
BED-100	100	15	6 1/4	105	20	2.42
BED-150	150	18	7	85	10	3.12
BED-200	200, 300	15	6 1/4	105	20	2.42
BED-250	250	18	8	85	10	3.46
BED-400	*300 400, 500	18	6 1/2	90	10	3.72
BED-500	300, 400, 500*	20	7 1/2	100	10	4.90
BED-1000	750, 1000	20	9 5/8	100	6	5.68
CED-20	10, 15, 20	8	3 1/4	90	50	1.26
CED-25	25, 40	10	3 7/8	100	50	1.40
CED-40	40, 60	12	4 3/8	95	30	1.48
CED-60	60	15	4 5/8	90	20	2.10
CED-100	100	15	6 5/8	105	20	2.60
CED-150	100, 150	18	7 3/8	85	10	3.30
CED-200	200	15	6 5/8	105	20	2.60
CED-250	250	18	8 3/8	85	10	3.64
RED-20	10, 15, 20	8	4 7/8	100	30	2.32
RED-25	25, 40	10	5 1/2	110	30	2.46
RED-40	40, 60	12	6	80	15	2.66
RED-60	60	15	6 1/4	82	10	3.16
RED-100	100	15	8 1/4	90	10	3.64
RED-150	100, 150	18	9	90	10	4.34
RED-200	200	15	8 1/4	90	10	3.64
RED-250	250	18	10	100	10	4.70
SED-20	10, 15, 20	8	5	100	30	2.32
SED-25	25, 40	10	5 1/2	110	30	2.46
SED-40	40, 60	12	6	80	15	2.66
SED-60	60	15	6 1/4	82	10	3.16
SED-100	100	15	8 1/4	90	10	3.64
SED-150	100, 150	18	9	90	10	4.34
SED-200	200	15	8 1/4	90	10	3.64
SED-250	250	18	10	100	10	4.70

The D Strap can be added to Nos. ED-20, ED-25, ED-40, at a price of \$0.09 each list additional. When ordering, specify, DED-20, DED-25, DED-40.

Holders Nos. 622, 635 and 672 are recommended for use with Nos. BED-400, BED-500, and BED-1000.

*New Type Mazda lamps.

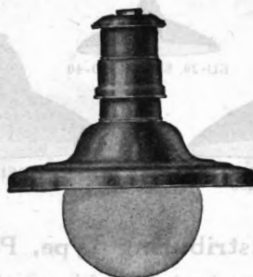
TRUTINT UNITS AND METAL REFLECTORS



No. 723



No. 734



No. 722



No. 748

TRUTINT UNITS

List No.	Description of Service	Recommended Mazda Lamp Watts	Std. Qty.	Dimensions in Inches			List Price
				Diam.	Depth	Fitter	
722	Noon Sunlight—Industrial.....	750, 1000	12	18	18 $\frac{3}{8}$	8	\$19.96
699	Fixture only.....		6	18	11 $\frac{3}{8}$	8	13.22
723	Noon Sunlight—Industrial.....	750, 1000	12	12	16 $\frac{1}{2}$	8	11.48
753	Fixture only.....		12	8 $\frac{1}{2}$	7 $\frac{1}{4}$	8	2.52
734	North Skylight—Color matching.....	400, 500	5	12	15	..	12.60
736	Fixture only.....		5	12	15	..	6.50
3015 } Trutint	Trutint Plate.....		12	11	....	..	6.10
748	Noon Sunlight.....	400, 500	12	8	14 $\frac{1}{2}$	6	6.16
729	Fixture only.....		12	8	6 $\frac{1}{2}$	6	2.16

Finish of metal parts: Nos. 723 and 748, dark Japan. No. 734, outside, brown lacquer; inside, "Clean-
ery" aluminum. No. 722, porcelain enamel.



Nos. 18491, 18493



No. 18499

Nos. 18471, 18473
and 18475

Nos. 18481, 18483 and 18485

FOR HEAVY DUTY OUTDOOR OR INDOOR SERVICE

These reflectors are especially designed for heavy duty service indoors and outdoors. With the exception of the copper nut at the top, all surfaces are heavily porcelain enameled, green outside, white inside. The copper nut is tapped for $\frac{1}{2}$ inch pipe suspension. The nut locks to the porcelain form through a bearing surface of extra large diameter. It will hold secure under all conditions and will not injure the porcelain. The bead of the reflectors at the lower edge is so rolled that it will shed water readily. For railway platform lighting, store front and billboard lighting.

List No.	Recommended Mazda Lamp Watts	Standard Quantity	Approximate Shipping Weight Standard Quantity	Dimensions in Inches		List Price
				Diameter	Depth	
18471.....	25, 40, 60	30	75	7 $\frac{1}{4}$	6 $\frac{3}{4}$	\$2.80
18473.....	100, 200	30	90	8 $\frac{1}{4}$	8 $\frac{3}{4}$	3.16
18475.....	150, 250, 300	20	90	10 $\frac{1}{4}$	10 $\frac{1}{2}$	4.20
18481.....	25, 40, 60	15	80	12	6	3.22
18483.....	100, 200, 300	10	82	15	8 $\frac{1}{4}$	4.20
18485.....	150, 250 200, 300	10	100	18	10	5.10
18491.....	25, 40, 60	30	90	8 $\frac{1}{8}$	8 $\frac{3}{8}$	3.16
18493.....	100, 200	30	100	10	11 $\frac{1}{2}$	4.20
18499.....	150, 250, 300	10	90	12 $\frac{1}{4}$	14 $\frac{1}{2}$	5.60

IVANHOE METAL REFLECTORS



Nos. AF-25, AF-40, AF-60, AF-100



No. REMM-60



No. BEMM-60

Focusing Type, "Cleanzy" Aluminum Finish

Focusing Type Ivanhoe Reflectors with "Cleanzy" aluminum finish are particularly adaptable to lighting work which requires local illumination of high intensity over a small area.

STANDARD FOCUSING REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate shipping weight standard quantity	Standard quantity	List Price Each
		Diam.	Depth			
AF-25.....	10, 15, 20, 25	6	4	25	50	\$0.56
AF-40.....	25, 40	6½	4½	30	50	.64
AF-60.....	60	8	5½	30	30	.92
AF-100.....	100	10	7½	40	30	1.40
AF-200.....	200	10	8¼	40	30	1.62
BAF-25.....	10, 15, 20, 25	6	3¾	25	50	.52
BAF-40.....	25, 40	6½	4¼	30	50	.60
BAF-60.....	60	8	4½	30	30	.88
BAF-100.....	100	10	7½	40	30	1.36
BAF-200.....	200	10	8	40	30	1.58
CAF-25.....	10, 15, 20, 25	6	4½	25	50	.70
CAF-40.....	25, 40	6½	4½	30	50	.78
CAF-60.....	60	8	5¼	30	30	1.06
CAF-100.....	100	10	7½	40	30	1.54
CAF-200.....	200	10	8¾	40	30	1.76
KAF-25.....	10, 15, 20, 25	6	6	80	50	1.12
KAF-40.....	25, 40	6½	6½	80	50	1.20
JAF-60.....	60	8	7½	80	30	1.40
JAF-100.....	100	10	9¾	100	30	1.90
JAF-200.....	200	10	10½	100	30	2.24

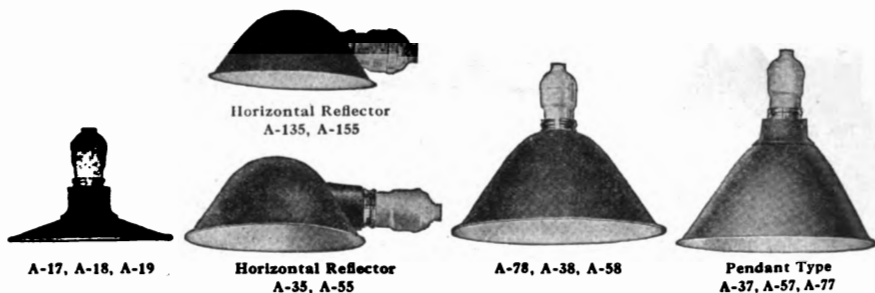
M-M Diffusers, Porcelain Enamel, for Outdoor Service

M-M Diffusers are especially designed for outdoor service. They are made of heavy metal and the contour is so designed as to give the maximum rigidity. M-M Diffusers with the R holder are tapped at the top for suspension from ½ inch pipe. The extensions for both R and B holders are of extra heavy construction, so as to withstand the severest outdoor service.

List No.	Recommended Mazda Lamp Watts	Dimensions—Inches		Approximate shipping weight standard quantity	Standard quantity	List Price Each
		Diam.	Depth			
BEMM-60.....	25, 40, 60	12	3¼	94	30	\$1.76
BEMM-100.....	100, 200	15	5	100	20	2.46
BEMM-150.....	150, 250	15	5½	110	20	2.94
BEMM-500†.....	300, 400, 500	20	6¼	100	10	4.98
REMM-60.....	25, 40, 60	12	5½	75	15	3.22
REMM-100.....	100, 200	15	7½	75	10	3.86
REMM-150.....	150, 250	15	8¾	80	10	4.06

†Holders and Mogul Sockets Nos. 622, 635 and 672 may be used with reflector.

IVANHOE COUNTER LINE METAL REFLECTORS

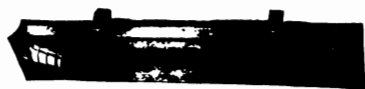


CONE AND PARABOLA REFLECTORS

There are two styles of Reflectors listed. Mfr. numbers beginning with "A," for example, A-17, A-18, A-19, etc., designate steel Reflectors finished on the interior surface with an aluminum coating, on the outer surface with brush brass or a green baking varnish.

Mfr. numbers beginning with "PD" and "DPD" designate steel Reflectors finished on the interior with a pure white paint enamel and on the outer surface with a green paint enamel.

List No.	Type	Mazda Lamp	Diam. Inches	Depth Inches	Holder	Finish	Extension	Unit Pkg.	Std. Qty.	List Price per 100
A-17.....	Flat	25	7 $\frac{1}{4}$	2 $\frac{7}{8}$	....	Alum.	.....	10	100	\$28.80
A-18.....	Flat	40	8 $\frac{1}{4}$	3	....	Alum.	.....	10	100	39.60
A-19.....	Flat	60	10 $\frac{1}{4}$	2 $\frac{7}{8}$	....	Alum.	.....	10	100	46.80
A-38.....	Horiz.	10, 15, 20	6	2 $\frac{1}{8}$	Top	Alum.	No Ext.	10	100	31.50
A-58.....	Horiz.	20, 25, 40	6 $\frac{5}{8}$	3 $\frac{3}{8}$	Top	Alum.	No Ext.	10	100	36.00
A-78.....	Horiz.	25-40&60	8	4 $\frac{3}{8}$	Top	Alum.	No Ext.	10	100	49.50
A-135.....	Horiz.	10, 15, 20	6	2 $\frac{1}{2}$	Side	Alum.	No Ext.	10	100	31.50
A-155.....	Horiz.	25, 40, 60	6 $\frac{5}{8}$	3	Side	Alum.	No Ext.	10	100	36.00
A-35.....	Horiz.	20, 25, 40	6	2 $\frac{1}{2}$	Side	Alum.	With Ext.	10	100	37.80
A-35BB.....	Horiz.	20, 25, 40	6	2 $\frac{1}{2}$	Side	B. Brass	With Ext.	10	100	55.80
A-37.....	Pend.	10, 15, 20	6	3 $\frac{3}{8}$	Top	Alum.	No Ext.	10	100	35.10
A-37BB.....	Pend.	10, 15, 20	6	3 $\frac{3}{8}$	Top	B. Brass	No Ext.	10	100	55.80
A-55.....	Horiz.	25, 40, 60	6 $\frac{5}{8}$	3	Side	Alum.	With Ext.	10	100	39.60
A-55BB.....	Horiz.	25, 40, 60	6 $\frac{5}{8}$	3	Side	B. Brass	With Ext.	10	100	59.40
A-57.....	Pend.	25, 40	6 $\frac{5}{8}$	4 $\frac{1}{8}$	Top	Alum.	No Ext.	10	100	42.30
A-57BB.....	Pend.	25, 40	6 $\frac{5}{8}$	4 $\frac{1}{8}$	Top	B. Brass	No Ext.	10	100	59.40
A-77.....	Pend.	40 & 60	8	5 $\frac{1}{8}$	Top	Alum.	No Ext.	10	100	56.70
A-77BB.....	Pend.	40 & 60	8	5 $\frac{1}{8}$	Top	B. Brass	No Ext.	10	100	42.80



No. 621 Showing Lamp Removed



No. 621 Showing Lamp Inserted

Show Case Lighting Units

No. 621

List No.	Length	Width at Mouth	List Price Each
621 Show Case Lighting Unit.....	14 ins.	2 $\frac{1}{4}$ ins.	\$4.66

The above price does not include lamp,
Lighting Fixtures and Accessories

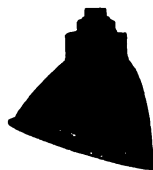
IVANHOE METAL REFLECTORS



Nos. AL-25,
AL-40, AL-60



Nos. DAL-100,
DAL-200



Nos. DAL-250



Nos. BAL-500,
BAL-1000

Angle Type, "Cleanzy" Aluminum Finish

Angle Type Ivanhoe Reflectors with "Cleanzy" aluminum finish are used in small single units for the lighting of such machine tools as speed drills, milling machines, shapers and other machines requiring a bright illumination over a small area from a light unit which cannot be placed directly above the work. The larger units may be used for the general illumination of large bays in steel mill buildings where the illumination is provided from large lamps hung from the side columns. No. DAL-100, No. DAL-250, No. BAL-500, give the maximum candle power between the angles 45° and 75°. The balance of the units give the maximum candle power between 15° and 25°.

The above illustrations show characteristic shapes of the standard designs listed below. For description of holders and explanation of stock numbers see previous pages.

STANDARD ANGLE REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard Quantity	List Price Each
		Diam.	Depth			
AL-25.....	10,15,20,25	6	5	25	50	\$0.56
AL-40.....	25, 40	6½	5½	35	50	.64
AL-60.....	60	8	6½	35	30	.92
LAL-100.....	100	10	9½	40	30	1.54
DAL-200.....	200	10	9½	40	30	1.54
DAL-250.....	150, 250	10¼	11¼	50	20	1.82

ANGLE REFLECTORS WITH SPECIAL HOLDERS

BAL-25.....	10,15,20,25	6	4¾	25	50	\$0.52
BAL-40.....	25, 40	6½	5½	35	50	.60
BAL-60.....	60	8	6½	35	30	.88
BAL-100.....	100	10	9½	40	30	1.50
BAL-200.....	200	10	9½	40	30	1.50
BAL-250.....	150, 250	10¼	11	50	20	1.78
BAL-500.....	500, 400, 300*	12¼	10¾	65	10	2.88
BAL-1000.....	750, 1000	15	15½	55	6	5.26
CAL-25.....	10,15,20,25	6	5½	25	50	.70
CAL-40.....	25, 40	6½	5¾	35	50	.78
CAL-60.....	60	8	7	35	30	1.06
CAL-100.....	100	10	9½	40	30	1.68
CAL-200.....	200	10	9½	40	30	1.68
CAL-250.....	150, 250	10¼	11¼	50	20	1.96
KAL-25.....	10, 15, 20, 25	6	7½	80	50	1.12
KAL-40.....	25, 40	6½	7¾	90	50	1.20
JAL-60.....	60	8	9	70	30	1.40
JAL-100.....	100	10	11¾	90	30	2.04
JAL-200.....	200	10	11¾	90	30	2.18
JAL-250.....	250, 150	10¼	13½	85	20	2.46

*New type Mazda lamps. Write for data on reflectors for old 400, 500 watt lamps.

Holders and Mogul Sockets Nos. 622 and 635 are furnished for use with Nos. BAL-500 and BAL-1000. The D Strap can be added to Nos. AL-25, AL-40, AL-60 at a price of \$0.09 each list additional. When ordering, specify, DAL-25, DAL-40, DAL-60.

IVANHOE METAL REFLECTORS



Angle Type, Porcelain Aluminum Finish

Angle Types of Ivanhoe Reflectors with porcelain enamel finish are designed to give the same distributions of light as are obtained from the similar shapes in the "Cleanzy" aluminum finish reflectors.

The above illustrations show characteristic shapes of the standard designs listed below which we recommend and carry in stock. For list prices of these reflectors with special holders, see below. For description of holders and explanation of stock numbers see previous pages.

STANDARD ANGLE REFLECTORS

List No.	Mazda Lamp Watts	Dimensions—Inches		Approximate Shipping Weight Standard Quantity	Standard quantity	List Price Each
		Diam.	Depth			
EL-25.....	10, 15, 20, 25	6	5	75	50	\$1.34
EL-40.....	25, 40	6 $\frac{5}{8}$	5 $\frac{5}{8}$	80	50	1.48
EL-60.....	60	8	6 $\frac{1}{8}$	60	30	1.68

ANGLE REFLECTORS WITH SPECIAL HOLDERS

BEL-25.....	10, 15, 20, 25	6	4 $\frac{3}{4}$	75	50	\$1.30
BEL-40.....	25, 40	6 $\frac{5}{8}$	5 $\frac{5}{8}$	80	50	1.44
BEL-60.....	60	8	6 $\frac{5}{8}$	60	30	1.64
BEL-100.....	100	10	8 $\frac{3}{4}$	70	30	2.42
BEL-200.....	200	10	8 $\frac{3}{4}$	70	30	2.42
BEL-250.....	150, 250	10 $\frac{1}{4}$	10 $\frac{3}{8}$	75	20	2.98
BEL-500.....	*400, 500	12 $\frac{1}{4}$	11 $\frac{3}{8}$	80	10	4.42
BEL-1000.....	750, 1000	15	15 $\frac{3}{4}$	90	6	6.52
CEL-25.....	10, 15, 20, 25	6	5 $\frac{5}{8}$	75	50	1.48
CEL-40.....	25, 40	6 $\frac{5}{8}$	5 $\frac{5}{8}$	80	50	1.62
CEL-60.....	60	8	7	60	30	1.82
CEL-100.....	100	10	9 $\frac{1}{8}$	70	30	2.60
CEL-200.....	200	10	9 $\frac{1}{8}$	70	30	2.60
CEL-250.....	150, 250	10 $\frac{1}{4}$	10 $\frac{3}{8}$	75	20	3.16
DEL-100.....	100	10	9 $\frac{1}{8}$	70	30	2.46
DEL-200.....	200	10	9 $\frac{1}{8}$	70	30	2.46
DEL-250.....	150, 250	10 $\frac{1}{4}$	10 $\frac{3}{8}$	75	20	3.02
REL-25.....	10, 15, 20, 25	6	6 $\frac{3}{4}$	75	50	2.60
REL-40.....	25, 40	6 $\frac{5}{8}$	7 $\frac{3}{8}$	90	50	2.66
REL-60.....	60	8	8 $\frac{3}{8}$	90	30	2.88
REL-100.....	100	10	10 $\frac{3}{4}$	70	30	3.64
REL-200.....	200	10	10 $\frac{3}{4}$	90	30	3.64
REL-250.....	150, 250	10 $\frac{1}{4}$	12 $\frac{3}{8}$	75	20	4.20

*New Type Mazda Lamps. Write for data on reflectors for old 400, 500 watt lamps.

The D Strap can be added to Nos. EL-25, EL-40, EL-60 at a price of \$0.09 each list additional. When ordering, specify, Nos. DEL-25, DEL-40, DEL-60.

Holders Nos. 622, 635 and 672 are recommended for use with Nos. BEL-500 and BEL-1000.

X-RAY REFLECTORS FOR DIRECT LIGHTING



No. 700
A Semi-Concentrator
Using 100 Watt Lamps



No. 696
A Concentrator
Using 25, 40, and 60 Watt Lamps



No. 710
A Concentrator
Using 100 Watt Lamps

Semi-concentrating Reflectors

The No. 700 reflector, which is similar in design to the No. 696, as illustrated, is called a semi-concentrating reflector because it does not spread the light as far as the distributing reflectors, and yet does not confine the light into such a small area as do the concentrating reflectors shown. The No. 700 reflector is used with a 100 watt lamp.

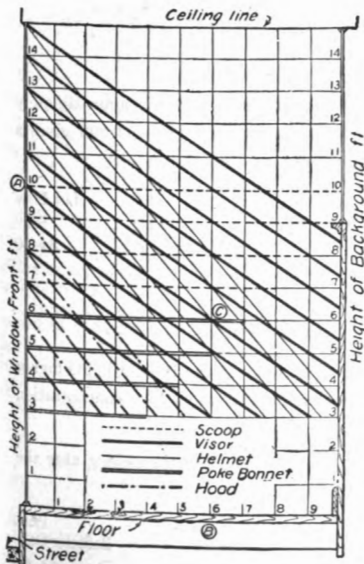
List No.	Dimensions, Inches		Size of Holder Inches	Size, Lamp Watts	Std. Pkg.	List Price Each
700	Diameter	Height	Inches	Watts	Pkg.	Each
	10	5½	2¼	100	18	\$2.26

Concentrating Reflectors

The concentrating reflectors should be used whenever a very intense light is wanted over a small area, such as over desks, counters, special machinery, etc.

The small reflector, No. 696, will take care of the 25, 40, and 60 watt sizes, while No. 710 was designed for 100 watt lamps.

List No.	Dimensions, Inches		Size of Holder Inches	Size, Lamp Watts	Std. Pkg.	List Price Each
696	Diameter	Height	Inches	Watts	Pkg.	Each
710	8	5	2¼	25, 40, and 60	24	\$1.88
	11½	6¾	2¼	100	6	3.76



SPACING AND SELECTION OF REFLECTORS FOR SHOW-WINDOW LIGHTING

The number of reflectors to use is optional with the merchant. No set rule can be established. It is influenced by a number of conditions, such as the brightness of neighboring windows, the intensity of the street illumination, kind of goods on display, color and nature of background in window, and largely the extent of the merchant's realization of the advertising and selling value of bright windows.

The closer the reflectors are spaced, the brighter the window becomes, and vice versa.

In average installations the spacing, or distance from center to center for these reflectors, is about as follows:

Scoop.....	60 watt Mazda lamp....	18 ins.
Visor.....	100 watt Mazda lamp....	24 ins.
Helmet.....	100 watt Mazda lamp....	36 ins.
Poke Bonnet.....	2-60 watt Mazda lamps....	36 ins.
Hood.....	60 watt Mazda lamp....	18 ins.

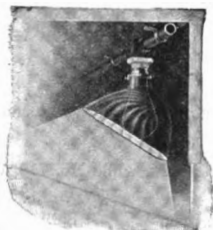
X-RAY STORE WINDOW SEARCHLIGHTS

The window display should be brightly illuminated, but lamps should not be placed where they are seen, as the delicate organs of the eye are affected by bright light sources and the seeing power of the eye is greatly lessened. It is somewhat like the blindness occasioned when looking into the sun. This is now a well recognized principle and cannot be too strongly emphasized. Reflectors should be designed so as to protect the eye of the person looking at the display in the window; all of the light should be reflected down on the display, and for economical results no light should be wasted on the ceiling of the window or sidewalk.

X-Ray reflectors are not only of correct shape but have the most powerful reflecting surface known, a pure silver—not quicksilver—mirror. Therefore, to produce the desired degree of brightness of illumination, less current is needed than with any other reflectors manufactured.

In the design of these reflectors sufficient room has been allowed for cleaning without removing lamps from reflectors, thus reducing the lamp breakage to a minimum.

The inside glass protection to the silver plating is easily cleaned by simply wiping (inside of reflector only) with a damp cloth. They need not be cleaned as frequently as other types, and should never be immersed in water.



Scoop No. 777
For Square Windows



Hood No. 730
For Shallow Windows

Scoop Reflector

The Scoop Reflector was designed for windows of medium size where the depth is approximately equal to the height. With this reflector the 60-watt lamp gives the best results. This reflector gives a downward light of 275 candle power and throws very little light out on to the sidewalk.

List No.	Width	Dimensions, Inches Depth	Height	Size of Holder Inches	Std. Pkg.	List Price Each
777	9	7½	6¾	2¼—"O"	15	\$4.50

Hood Reflector

This Hood Reflector is designed to light low, shallow windows as efficiently as the Helmet lights higher windows of the same type. The design of this Hood Reflector is such as to produce a high concentration in the window—cutting the light off sharply at the window plate.

The Hood closely follows correct window lighting principles. It is installed at the ceiling near the glass front, hides the lamp, and practically eliminates unpleasant glare.

List No.	Width	Dimensions, Inches Depth	Height	Size of Holder Inches	Price Reflector Only
730	9	9½	5¾	2¼—"O"	\$4.50

X-RAY STORE WINDOW SEARCHLIGHTS



Visor No. 780
For Windows Having Glass or Polished Backgrounds



Helmet No. 755
For High Windows

Visor Reflector

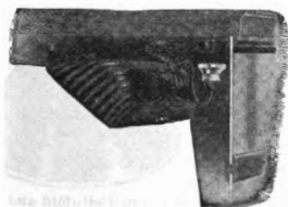
The Visor Reflector is for windows having glass or polished backgrounds, where back reflection must be avoided or where the lamps must be hidden from people in the store. Use 100-watt lamp with this reflector.

List No.	Dimensions, Inches			Size of Holder Inches	Std. Pkg.	List Price Each
	Width	Depth	Height			
780	9½	10½	9½	3¼—A	4	\$6.00

Helmet Reflector

The Helmet was designed for windows where the lamps are placed considerably above the space to be lighted. It is made large, first because it is designed to take the large 100-watt Tungsten lamps so as to keep the cost of installation and lamp renewals as low as possible for the merchant, and second, because a large reflector is absolutely necessary for efficient utilization of the light in the class of windows for which this reflector is designed. Although a large reflector, silver plated, is necessarily more expensive than small, cheap reflectors, the cost is justified many times over by the results.

List No.	Dimensions, Inches		Size of Holder Inches	Std. Pkg.	List Price Each
	Diam.	Height			
755	12	10	3¼—A	4	\$7.50



Poke Bonnet No. 750
For Low, Deep Windows



Midget No. 510
For Very Small Windows

Poke Bonnet Reflector

This is a sectional trough reflector with an adjustable holder which is easily attached to either the ceiling or transom bar. The lamps are held in this reflector by a nickel-plated twin socket. The largest lamp bulb which can be used in this reflector is a 60-watt Mazda lamp.

This reflector is especially adapted to the lighting of low, deep windows, where the reflectors cannot be placed more than 6 to 10 feet above the bottom of the window.

List No.	Size Inches	Std. Pkg.	List Price Complete
750	14 x 7 x 3¼	8	\$9.76

Midget Reflectors

It uses the 25-watt tubular Mazda lamp, and is the ideal reflector for lighting display cases, small store windows, wall cases, cornices, pictures, etc. Shade holder is supplied with this reflector.

List No.	Dimensions, Inches		Size of Holder Inches	Std. Pkg.	List Price with Holder Each
	Length	Height			
510	6½	1½	1½	36	\$1.88

UTILITY SHADES



Portable Shade with Silk Fringe

Portable Shade
with Scalloped Edge

Prong Attachment

Portable Shades

Furnished in cardboard, celluloid, linen and silk. Prices include holder in all cases, but not prong attachment.

List No.	Diam. Inches	Style	List Price per Doz.
8-R	7	Cardboard, green and white brass bound edge.	\$3.16
38*	7	Linen, assorted colors with silk fringe.	5.40
32*	8	Linen, assorted colors with silk fringe.	6.00
48*	7	Celluloid, assorted colors, scalloped edge.	4.88
98	7	Celluloid, green and white, scalloped edge.	7.88
98-R	7	Celluloid, green and white, brass bound edge.	9.00
102*	8	Silk, assorted colors, with bead fringe.	36.00

*Specify color desired. Red shipped unless otherwise ordered.

Prong Attachment

List No.	Style	List Price per Doz.
421379	To clasp bulb of Portable.	\$2.10

May be used with any shade in connection with reverse holder.

Flat Cone Celluloid and Cardboard
Plain EdgeDeep Cone Celluloid and Cardboard
Plain EdgeDeep Cone Celluloid and Cardboard
Brass Bound EdgeCelluloid Shades
Green and White

List No.	Diam. Ins.	Style	List Price per Doz.	List No.	Diam. Ins.	Style	List Price per Doz.
91	10	Flat Cone	\$11.64	95	8	Deep Cone	\$10.80
92	8	Half Cone	9.90	96	10	Deep Cone	15.00
93	10	Half Cone	12.00	98	7	Deep Cone Scalloped Edge	7.88
94	12	Half Cone	18.00	98-R	7	Deep Cone, Brass Bound Edge	9.00

Cardboard Shades

Cardboard, Green and White, Plain Edge

List No.	Diam. Inches	Style	List Price per Doz.
1	10	Flat Cone	\$3.16
2	8	Half Cone	2.56
3	10	Half Cone	2.70
4	12	Half Cone	3.38
5	8	Deep Cone	2.64
6	10	Deep Cone	3.00

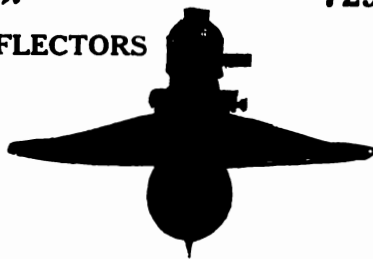
Cardboard, Green and White, Brass Bound Edge

List No.	Diam. Inches	Style	List Price per Doz.
1-R	10	Flat Cone	\$4.20
2-R	8	Half Cone	3.46
3-R	10	Half Cone	3.76
4-R	12	Half Cone	4.66
5-R	8	Deep Cone	3.46
6-R	10	Deep Cone	4.06
20-R	20	Billiard Shade	15.00

STANDARD TIN REFLECTORS



Flat



Shallow Cone

Flat Tin Reflectors

List No.	Description	Size Inches	Holder Inches	Finish		Std. Pkg. Dozen	List Price per Doz.
				Outside	Inside		
2501	Flat Tin.....	8	2 1/4	Green	Frosted Alum.	6	\$2.10
2502	Flat Tin.....	10	2 1/4	Green	Frosted Alum.	6	2.70
2504	Flat Tin.....	12	2 1/4	Green	Frosted Alum.	3	4.56
2507	Flat Tin.....	14	3 1/4	Green	Frosted Alum.	2	6.00
2509	Flat Tin.....	16	3 1/4	Green	Frosted Alum.	2	7.80
2511	Flat Tin.....	18	3 1/4	Green	Frosted Alum.	2	11.10
2513	Flat Tin.....	20	3 1/4	Green	Frosted Alum.	2	13.20
2515	Flat Tin.....	24	3 1/4	Green	Frosted Alum.	1	21.60
5208	Flat Tin.....	8	2 1/4	Green	White Enam.	6	2.10
5210	Flat Tin.....	10	2 1/4	Green	White Enam.	6	2.70
5212	Flat Tin.....	12	2 1/4	Green	White Enam.	3	4.56
5314	Flat Tin.....	14	3 1/4	Green	White Enam.	2	6.00
5316	Flat Tin.....	16	3 1/4	Green	White Enam.	2	7.80
5318	Flat Tin.....	18	3 1/4	Green	White Enam.	2	11.10
5320	Flat Tin.....	20	3 1/4	Green	White Enam.	2	13.20
5324	Flat Tin.....	24	3 1/4	Green	White Enam.	1	21.60

Shallow Cone Tin Reflector

2516	Shallow Cone Tin.....	8	6	Green	Frosted Alum.	6	\$2.16
2517	Shallow Cone Tin.....	10	6	Green	Frosted Alum.	6	3.00
2519	Shallow Cone Tin.....	12	3	Green	Frosted Alum.	3	4.80
2522	Shallow Cone Tin.....	14	2	Green	Frosted Alum.	2	6.42
2524	Shallow Cone Tin.....	16	2	Green	Frosted Alum.	2	7.98
2526	Shallow Cone Tin.....	18	2	Green	Frosted Alum.	2	11.40
6208	Shallow Cone Tin.....	8	6	Green	White Enam.	6	2.16
6210	Shallow Cone Tin.....	10	6	Green	White Enam.	6	3.00
6212	Shallow Cone Tin.....	12	3	Green	White Enam.	3	4.80
6314	Shallow Cone Tin.....	14	2	Green	White Enam.	2	6.42
6316	Shallow Cone Tin.....	16	2	Green	White Enam.	2	7.98
6318	Shallow Cone Tin.....	18	2	Green	White Enam.	2	11.40



Deep Cone

Deep Cone Tin Reflector

List No.	Description	Size Inches	Holder Inches	Finish		Std. Pkg. Dozen	List Price per Doz.
				Outside	Inside		
2527	Deep Cone Tin.....	8	2 1/4	Green	Frosted Alum.	6	\$2.64
2528	Deep Cone Tin.....	10	2 1/4	Green	Frosted Alum.	6	4.20
2530	Deep Cone Tin.....	12	2 1/4	Green	Frosted Alum.	3	6.00
2532	Deep Cone Tin.....	14	2 1/4	Green	Frosted Alum.	2	9.60
8208	Deep Cone Tin.....	8	2 1/4	Green	White Enam.	6	2.64
8210	Deep Cone Tin.....	10	2 1/4	Green	White Enam.	6	4.20
8212	Deep Cone Tin.....	12	2 1/4	Green	White Enam.	3	6.00
8214	Deep Cone Tin.....	14	2 1/4	Green	White Enam.	2	9.60

TIN REFLECTORS AND GLASS SHADES



Extra Deep Cone



No. 5231 and 5201

Extra Deep Cone Tin

List No.	Description	Size Inches	Holder Inches	Finish		Std. Pkg. Dozen	List Price per Doz.
				Outside	Inside		
2573	Extra Deep Cone Tin.....	7 x 6½	2¼	Green	Frosted Alum.	4	\$9.60
2574	Extra Deep Cone Tin.....	8 x 8	2¼	Green	Frosted Alum.	4	10.20
2575	Extra Deep Cone Tin.....	9 x 9	2¼	Green	Frosted Alum.	4	11.40
9827	Extra Deep Cone Tin.....	7 x 6½	2¼	Green	White Enam.	4	9.60
9828	Extra Deep Cone Tin.....	8 x 8	2¼	Green	White Enam.	4	10.20
9829	Extra Deep Cone Tin.....	9 x 9	2¼	Green	White Enam.	4	11.40

Flat Sided Glass Balls

For Advertising

List No.	Description	Diam.	Thick	Fitter	List Price Each
*5231	Flat Sided Balls.....	8 ins.	4 ins.	4 ins.	\$1.88
*5201	Flat Sided Balls.....	12 ins.	6 ins.	6 ins.	3.76

*Prices do not include lettering. Price lettering list \$0.40.

GLASS SHADES



Twisted Ball



Round Ball

Ball Globes
PLAIN OR TWIST TYPES

Size Globe	Size Holder in Inches	Dozens Pkd. to		*Cost of Crating Net per Crate	†List Prices per Dozen									
		Crate	Bbl.		List No.	Clear	List No.	C. R. I.	List No.	Ala-baster	List No.	Opal	List No.	Opales-cent
5 in.	13¼	10	2	\$1.25	421945	\$2.46	421986	\$2.64	421996	\$5.64	422006	\$2.64	422016	\$4.70
6 in.	13¼ and 4	8	2	1.25	421946	2.64	421987	2.82	421997	6.58	422007	2.82	422017	5.64
7 in.	13¼ and 4	5	1½	1.25	421947	3.38	421988	3.96	421998	8.26	422008	3.76	422018	7.14
8 in.	13¼, 4 and 5	3	1	1.25	421948	4.70	421989	5.46	421999	9.38	422009	4.70	422019	8.46
10 in.	14, 5, 6, 7 and 8	1½	¾	1.25	421949	9.38	421990	11.26	422000	15.00	422010	10.32	422020	15.00
12 in.	4, 5, 16, 7 and 8	1	¾	1.25	421950	10.32	421991	16.88	422001	16.88	422011	15.00	422021	16.88
14 in.	6, 17, 8 and 9	¾	¾	1.25	421951	22.50	421992	28.14	422002	30.96	422012	26.26	422022	33.76
16 in.	4, 6, 18 and 9	¾	¾	1.25	421952	37.50	421993	45.00	422003	52.50	422013	41.26	422023	56.26
18 in.	6, 18, 10 and 12	¾	¾	2.00	421984	67.60	421994	78.76	422004	112.50	422014	67.50	422024	112.50
20 in.	6, 8, 110 and 12	¾	¾	1.75	421985	112.50	421995	157.50	422005	225.00	422015	112.50	422025	225.00

NOTE: Above prices are for either plain or twist ball types.

*Above may be packed in bbls. for which extra charge of 50 cents net per barrel will be added.

†Size holder considered standard.

†Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

Lighting Fixtures and Accessories

GLASS SHADES



Reflectophane Reflector

Reflectophane Reflectors

The Reflectophane is a silvered glass reflector. The silver is blown into and between the inner and outer surface after the glass shade has been made and is sealed into this air-tight space, absolutely preventing deterioration of brilliancy or cracking of the silvered part of the reflecting surface.

It is suitable for window lighting, indirect lighting, or for a powerful concentrated light for commercial purposes.

The Reflectophane allows enough light to pass through its neck to illuminate window transparencies, glass or alabaster bowls where semi-indirect light can be accomplished by placing the Reflectophane inverted within the bowl.

Its highly polished inner surface can be easily cleaned by passing a dry cloth over it.

At a series of laboratory tests, the Reflectophane showed a downward reflection of 260 C. P.

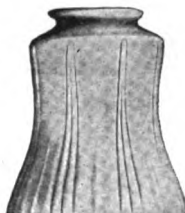
List No.		Size	Watts	*List Price per Doz.
421400	Reflectophane.....	9 ins.	25-60	\$24.00
421401	Reflectophane.....	10 ins.	100 or over	28.00



No. 501



No. 503



No. 509



No. 508

Fredro Glass Shades

Styles Nos. 501 and 503 are roughed outside with clear panels; these are also furnished in amber and green glass with roughed outside finish and smooth panels.

Nos. 508 and 509 shades are made of an opal Fredro glass which gives a beautiful soft white light.

List No.		Size	Size Holder	*List Price per Doz.
501	Crystal acid etched outside clear bands.....	4¾ x 4¼ ins.	2¼ ins.	\$3.86
506	Green acid etched outside clear bands.....	4¾ x 4¼ ins.	2¼ ins.	4.14
507	Amber acid etched outside clear bands.....	4¾ x 4¼ ins.	2¼ ins.	4.14
503	Crystal acid etched outside clear panel.....	4¾ x 4¼ ins.	2¼ ins.	3.22
504	Green acid etched outside clear panel.....	4¾ x 4¼ ins.	2¼ ins.	3.50
505	Amber acid etched outside clear panel.....	4¾ x 4¼ ins.	2¼ ins.	3.50
509	Opal Glass.....	4¾ x 4¼ ins.	2¼ ins.	3.50
508	Opal Glass.....	4¾ x 4¼ ins.	2¼ ins.	4.14

*Delivery F.O. B. importer's warehouse, New York City. For warehouse deliveries write nearest house.

ELECTRIC GLASS SHADES



Nos. 173, 288, 175



No. 6012



No. 6050



No. 6019

Electric Shades

List No.		Size	List Price per Doz.
173	Roughed inside or roughed outside.....	4 $\frac{3}{8}$ x 2 $\frac{1}{4}$ ins.	\$2.26
288	Roughed inside or roughed outside.....	4 $\frac{3}{4}$ x 2 $\frac{1}{4}$ ins.	2.70
175	Roughed inside or roughed outside.....	5 $\frac{1}{8}$ x 2 $\frac{1}{4}$ ins.	3.60
6012	Roughed inside or roughed outside.....	5 x 2 $\frac{1}{4}$ ins.	3.76
6050	Roughed inside or roughed outside.....	4 x 2 $\frac{1}{4}$ ins.	3.00
6019	Roughed inside or roughed outside.....	4 $\frac{1}{8}$ x 2 $\frac{1}{4}$ ins.	3.00



No. 159



No. 6072



No. 295



No. 6140

Electric Shades

List No.		Size	List Price per Doz.
159	Roughed inside or roughed outside.....		\$2.26
6072	Roughed inside or roughed outside.....	5 x 2 $\frac{1}{4}$ ins.	4.06
295	Roughed inside or roughed outside.....	4 x 2 $\frac{1}{4}$ ins.	4.50

Nebulite Tungsten Electrics

A Dense White Glass of Great Purity and High Reflecting Power

List No.		Watts	Size	List Price per Doz.
6140	Roughed inside or roughed outside.....	25	5 $\frac{1}{2}$ x 2 $\frac{1}{4}$ ins.	\$3.76
6159	Roughed inside or roughed outside.....	40	6 $\frac{1}{2}$ x 2 $\frac{1}{4}$ ins.	4.80
6160	Roughed inside or roughed outside.....	60	7 x 2 $\frac{1}{4}$ ins.	5.40
6161	Roughed inside or roughed outside.....	100	8 x 2 $\frac{1}{4}$ ins.	6.00
6162	Roughed inside or roughed outside.....	250	10 x 3 $\frac{1}{4}$ ins.	9.76

Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.
Lighting Fixtures and Accessories

OPAL PORCELAIN SHADES



Flat Opal



Flat Crimped Edge



Fluted Deep Cone

Porcelain Shades

Flat Opal Shades

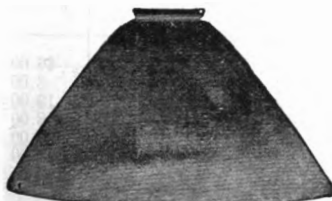
List No.	Diam. Inches	Holder Inches	List Price per Doz.	List No.	Diam. Inches	Holder Inches	List Price per Doz.
255.....	6	2 1/4	\$1.20	255.....	12	2 1/4	\$3.76
255.....	7	2 1/4	1.50	255.....	14	3 1/4	4.66
255.....	8	2 1/4	1.66	255.....	16	3 1/4	5.70
255.....	10	2 1/4	2.10	255.....	18	3 1/4	8.40

Flat Crimped Edge Opal Shades

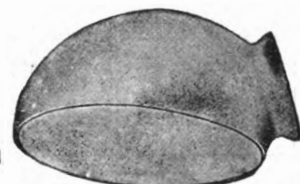
4251.....	6	2 1/4	\$1.20	4251.....	8	2 1/4	\$1.66
4251.....	7	2 1/4	1.50	4251.....	10	2 1/4	2.10

Fluted Deep Cone Opal Shades

4184.....	6	2 1/4	\$1.50	4184.....	8	2 1/4	\$1.80
4184.....	7	2 1/4	1.66	4184.....	10	3 1/4	4.96



Deep Cone Shade Opal or Imported Green Glass and Opal Lined



Parabola Green Glass, Porcelain Lined and Plain and Opal Plain Angle Shade



No. 421435 Imported Half Shade

Deep Cone Porcelain Shades

Deep Cone Opal Shades

List No.	Diam. Inches	Holder Inches	List Price per Doz.
258.....	7	2 1/4	\$3.46
258.....	10	2 1/4	3.90
258.....	10	3 1/4	3.90

Imported Deep Cone Green Glass Opal Lined Shades

List No.	Diam. Inches	Holder Inches	List Price per Doz.
421428.....	7	2 1/4	\$6.30
421429.....	10	2 1/4	10.80
421430.....	10	3 1/4	10.80

Parabola Porcelain Shades

Green Plated Plain Angle]

List No.	Diam. Inches	Height Inches	Holder Inches	List Price per Doz.
8516.....	4 1/4	6	2 1/4	\$5.26
8518.....	7	7	2 1/4	7.50

Opal Plain Angle Shades

List No.	Diam. Inches	Height Inches	Holder Inches	List Price per Doz.
8516.....	4 1/4	6	2 1/4	\$4.50
8518.....	7	7	2 1/4	5.26

Imported Half Shades

Green Glass Porcelain Lined

For 16 C. P. Lamps. 2 1/4 inch Holder

List No.		List Price per Doz.
421435	Green Glass Opal Lined fluted shade.....	\$6.00
423607	Green Glass Opal Lined plain shade.....	6.00
423608	Green Glass Opal Lined plain shade parabola.....	6.75

Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

SUDAN AND DRUID GLASS REFLECTORS

For Electric Lamps

Druid Glass
No. 3024No. 01213-8 Inch Sudan. $\frac{1}{4}$ Scale
Bowl TypeNo. 01216-7 Inch Sudan. $\frac{1}{4}$ Scale
Shallow Type

Druid Glass Stonehenge Design

Druid glass is a light density opal. It is pure white in color. Druid Glass Reflectors are intended principally for commercial lighting, but many uses will be found for them in the ornamental field, because of the simplicity of the Stonehenge design in which Druid Glass is furnished.

List No.	Mazda Lamp Watts	Dimensions—Inches			No. in Standard Pkg.	List Price per Doz.
		Diameter	Depth	Holder		
3024—6 in. Druid.....	25 or 40	6	4½	2¼O	12	\$6.00
3024—7 in. Druid.....	60	7	5	2¼O	12	8.00
3024—8 in. Druid.....	100	8	5½	2¼H	12	12.00
3024—10 in. Druid.....	150	10	7	3¼A	6	18.00
3024—12 in. Druid.....	250, 300	12	7½	3¼A	6	30.00
3024—14 in. Druid.....	*400 or 500	14	9	†	3	60.00

Sudan Glass, Panelex Design

Sudan glass is a medium density opal which is pure white in color when unlighted. Lighted it has a faint amber tint, which gives the reflectors a rich glowing appearance. The panelex design in which Sudan glass is furnished is absolutely new. It has been developed with the most careful regard to service conditions, such as the avoidance of dust accumulation, elimination of glare, and efficient distribution of light.

Bowl type reflectors are recommended as the most generally satisfactory equipment, since they cover the lamp filament so as to prevent the glare of the shallower reflectors.

BOWL TYPE

List No.	Mazda Lamp Watts	Diameter Inches	Depth Inches	Holder Inches	No. in Standard Pkg.	List Price per Doz.
01213—6 ins.....	25 or 40	6	4½	2¼O	12	\$6.00
01213—7 ins.....	60	7	5	2¼O	12	8.00
01213—8 ins.....	100	8	5½	2¼H	12	12.00
01213—11 ins.....	150	11	7¾	3¼A	6	24.00
01213—12 ins.....	250, 300	12	8¾	3¼A	6	30.00
01213—14 ins.....	*400 or 500	14	10	3¼†	3	60.00

SHALLOW TYPE

List No.	Mazda Lamp Watts	Diameter Inches	Depth Inches	Holder Inches	No. in Standard Pkg.	List Price per Doz.
01216—7 ins.....	25	7	3½	2¼O	12	\$6.00
01216—9 ins.....	40 or 60	9	4½	2¼O	12	8.00
01216—11 ins.....	100	11	5¼	2¼H	12	12.00
01216—15 ins.....	150 or 200	15	7¼	3¼A	6	38.40

* Use either the high efficiency Mazda or the old lower efficiency lamp.

†Furnished with a metal holder which fits over the standard socket for Mogul base lamps.

VELURIA GLASS REFLECTORS

For Mazda Lamps



No. 0462 Veluria 7 Inch. 1/5 Scale
Bowl Type



No. 01129 Veluria 9 Inch. 1/5 Scale
Shallow Type

Bowl and Shallow Types

Veluria Glass Reflectors provide a most handsome line of opal illuminating glassware. Unlighted Veluria glass is of a soft white color. Lighted, it possesses the "fire" which is so desirable in high-class fixture work.

Bowl Type

List No.	Mazda Lamp Watts	Diameter Inches	Depth Inches	Holder Inches	No. in Std. Quantity	List Price per Doz.
0462—5 ins.....	25	5	4½	2¼O	12	\$6.00
0462—6 ins.....	40	6	4½	2¼O	12	6.92
0462—7 ins.....	60	7	5	2¼O	12	9.20
0462—8 ins.....	100	8	5½	2¼H	12	13.80
01140—10 ins.....	150, 200	10	6½	3¼A	6	20.80
01140—11 ins.....	150, 200	11	6½	3¼A	6	27.60
01140—12 ins.....	250, 300	12	6½	3¼A	6	34.40
01140—14 ins.....	†400 or 500	14	8¾	3¼†	3	68.80

Shallow Type

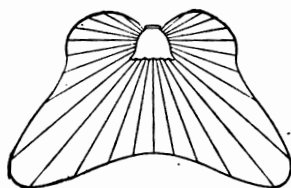
01129—7 ins.....	25	7	3	2¼O	12	\$6.92
01129—9 ins.....	40	9	3¾	2¼O	12	9.20
01129—11 ins.....	100	11	4¾	2¼H	12	13.80
01141—11 ins.....	150, 200	11	4¾	3¼A	12	13.80
01141—15 ins.....	250, 300	15	5½	3¼A	6	43.20

*Furnished with a metal holder which fits over the standard sockets for Mogul base lamps.

†Use either the new high efficiency Mazda or the old lower efficiency lamp.

‡Special holder required.

HOLOPHANE GLASS REFLECTORS

Extensive Type Xtraficiency
ReflectorCharacteristic Distribution Extensive
Type Reflector

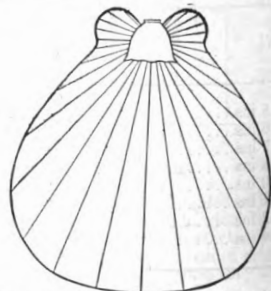
Extensive Type Xtraficiency Reflectors

These Reflectors are used for the lighting of small rooms with one light in the center, and for large rooms with low ceilings where the lights are placed in the centers of squares over the area to be lighted.

The Intensive Reflector shown below may be used to replace the Extensive Type with higher efficiency in the installation although the uniformity of lighting will not be as good.

List Prices and Data

†List No.	Mazda Lamp Watts	Diameter Inches	Height Inches	Holder Inches	No. in Standard Pkg.	Approx. Wgt. Unbroken Pkg.	List Price Each
XE-20.....	15 or 20	5 $\frac{7}{8}$	3 $\frac{7}{8}$	2 $\frac{1}{4}$ O	20	27	\$0.64
XE-25.....	25	6 $\frac{1}{2}$	4 $\frac{1}{8}$	2 $\frac{1}{4}$ O	20	32	.72
XE-40.....	40	7	4 $\frac{3}{4}$	2 $\frac{1}{4}$ O	10	23	.84
XE-60.....	60	7 $\frac{5}{8}$	5	2 $\frac{1}{4}$ O	10	30	.92
XE-100.....	100	8 $\frac{3}{4}$	5 $\frac{3}{4}$	2 $\frac{1}{4}$ H	10	37	1.20
XE-150.....	150	10	6 $\frac{1}{2}$	3 $\frac{1}{4}$ A	10	52	2.20
XE-250.....	250	11 $\frac{3}{4}$	7 $\frac{3}{4}$	3 $\frac{1}{4}$ A	6	48	3.28
XE-500.....	400 or 500	14 $\frac{1}{8}$	8 $\frac{3}{8}$	3 $\frac{1}{4}$	4	54	7.48

Intensive Type Xtraficiency
ReflectorCharacteristic Distribution Intensive
Type Reflector

Intensive Type Xtraficiency Reflectors

Each of the three types of Holophane Xtraficiency Reflectors has a distinct field of usefulness. The Intensive Type is designed primarily for lighting large rooms by means of distributed units placed in the form of squares.

List Prices and Data

†List No.	Mazda Lamp Watts	Diameter Inches	Height Inches	Holder Inches	No. in Standard Pkg.	Approx. Wgt. Unbroken Pkg.	List Price Each
XI-20.....	15 or 20	6	4	2 $\frac{1}{4}$ O	20	28	\$0.64
XI-25.....	25	6 $\frac{3}{4}$	4 $\frac{1}{8}$	2 $\frac{1}{4}$ O	20	36	.72
XI-40.....	40	7 $\frac{3}{8}$	4 $\frac{5}{8}$	2 $\frac{1}{4}$ O	10	23	.84
XI-60.....	60	7 $\frac{7}{8}$	5	2 $\frac{1}{4}$ O	10	29	.92
XI-100.....	100	8 $\frac{3}{4}$	5 $\frac{3}{4}$	2 $\frac{1}{4}$ H	10	35	1.20
XI-150.....	150	10 $\frac{5}{8}$	6 $\frac{3}{4}$	3 $\frac{1}{4}$ A	10	57	2.20
XI-250.....	250	11 $\frac{3}{4}$	7 $\frac{1}{4}$	3 $\frac{1}{4}$ A	6	47	3.28
XI-500.....	400 or 500	14 $\frac{3}{4}$	8 $\frac{1}{2}$	3 $\frac{1}{4}$ *	4	55	7.48

For velvet finish add 5% to above prices, the minimum in no case being less than 4 cents net per Reflector.

†High efficiency mazda lamps can be used with these Reflectors.

*Special holder required.

Lighting Fixtures and Accessories

BENJAMIN SPECIALTIES Flanges and Socket Rings



No. 3800



No. 3223



No. 3850



No. 10

STEEL FLANGES—TAPPED $\frac{1}{8}$ INCH

List No.	Description	Std. Pkg.	Wt. Lbs.	Schedule 4	
				List Price	Each
3800	Flange 2 $\frac{1}{4}$ ins. for Type 8 Clusters.....	10	1	\$0.06	
3200	Flange 3 ins. for Types 2, 3, 1, and 1K Clusters.....	10	1	.06	
3100	Flange 4 ins. for Types 3T, 1, and 7 Clusters.....	10	2	.06	

STEEL FLANGES—FOR OUTLET BOXES

List No.	Description	Std. Pkg.	Wt. Lbs.	Schedule 4	
				List Price	Each
3223	Flange for Types 8, 2, and 3, for 3 in. Outlet Box.....	10	2	\$0.18	
3224	Flange for Types 8, 2, and 3, for 4 in. Outlet Box.....	10	3	.18	
3123	Flange for Types 1, 7, and 3T, for 3 in. Outlet Box.....	10	3	.18	
3124	Flange for Types 1, 7, and 3T, for 4 in. Outlet Box.....	10	3	.18	

CAST IRON FLANGES—FOR W. P. FIXTURES—TAPPED $\frac{1}{8}$ INCH

List No.	Description	Std. Pkg.	Wt. Lbs.	Schedule 4	
				List Price	Each
3850	Flange 2 $\frac{1}{4}$ ins. for Type 8 Clusters.....	10	2	\$0.18	
3250	Flange 3 ins. for Types 2 and 3 Clusters.....	10	3	.18	
3150	Flange 4 ins. for Types 1, 7, and 3T Clusters.....	10	5	.18	
3175	Flange 4 ins. tapped $\frac{1}{4}$ in. for Types 1, 7, and 3T.....	10	6	.18	

PORCELAIN SOCKET RINGS

List No.	Description	Std. Pkg.	Wt. Lbs.	Schedule 4	
				List Price	Each
10	Porcelain Socket Ring for Benjamin Wireless Clusters and Plug Clusters only.....	50	2	\$0.06	

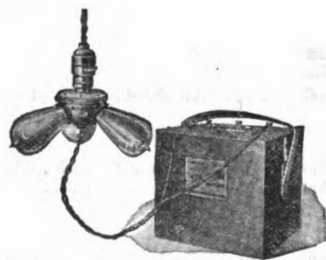
Steel Flanges 3800, 3200, and 3100 are regularly furnished free of charge with the cluster bodies indicated above. Where Nos. 3223, 3224, 3123, and 3124, used with outlet boxes, or the weatherproof cast iron flanges, Nos. 3850, 3250, 3150, and 3175 are specified in their stead, an additional charge of 12 cents list will be made. Where flanges only are ordered, the prices given above apply. All are galvanized, but may be ordered black enamel without change in price.



No. 92
2 Lt. Cluster



No. 94
4 Lt. Cluster



No. 93B
Battery Charging Plug

Plug Clusters

Plug Clusters are designed for increasing the number of outlets of a given single socket. Any combination of lamps or attachment plugs may be employed. They obviate the necessity of extra wiring, are therefore serviceable for attaching household electrical devices, such as portable lamps, flatirons, fans, etc. The series plug may be used to advantage for operating two 110-volt lamps in series on 220-volt circuits. Standard finish is polished brass.

List No.	Description	Std. Pkg.	Wt. Lbs.	Schedule 1	
				List Price	Each
92	2-Light Multiple Cluster.....	10	4	\$1.20	
92 $\frac{1}{2}$	2-Light Series Cluster.....	10	4	1.20	
93	3-Light Multiple Cluster.....	10	6	1.56	
94	4-Light Multiple Cluster.....	10	6	1.92	

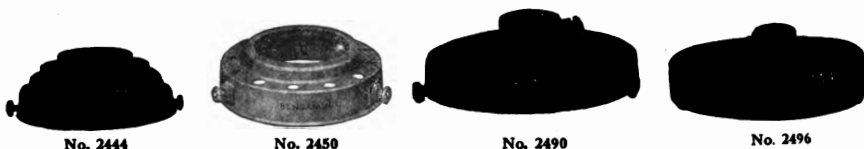
Battery Charging Plugs

The Battery Charging Plugs may be used with any medium screw base Edison socket. With 16 C. P. carbon lamps a battery may be charged at a maximum rate of $\frac{1}{2}$ ampere per lamp; with 32 C. P. carbon lamps, at a maximum rate of 1 ampere per lamp. Standard finish is polished brass.

List No.	Description	Std. Pkg.	Wt. Lbs.	Schedule 1	
				List Price	Each
92B	2-Light Battery Charging Plug.....	10	6	\$1.20	
93B	3-Light Battery Charging Plug.....	10	6	1.56	
94B	4-Light Battery Charging Plug.....	10	7	1.92	

BENJAMIN SPECIALTIES

Shade Holders and Fixture Accessories



List No.	Size Holder	Form	Description	Top Opening	Std. Pkg.	Wt. Lbs.	List Price
2440	2 1/4 ins.	"O"	For drop cord socket.....	2 1/4	100	3	\$0.18
2442	2 1/4 ins.	"H"	For drop cord socket.....	2 1/4	100	4	.30
2444	3 1/4 ins.	"A"	For drop cord socket.....	2 1/4	100	5	.36
2450	2 1/4 ins.	"O"	For drop cord socket.....	2 1/4	100	3	.18
2455	3 1/4 ins.	"A"	For drop cord socket.....	2 1/4	100	5	.36
2490	3 1/4 ins.		5/8 inch slip—for clusters.....		100	12	.42
2495	3 1/4 ins.		3/4 inch slip—for clusters.....		100	12	.42
2496	4 ins.		1 1/4 inch slip—for clusters.....		100	20	.60



No. 500



No. 100



No. 300

CEILING FIXTURE ACCESSORIES

Schedule 4

Sub-Bases—Adjustable				Std.	Wt.	List
List No.				Pkg.	Lbs.	Price
500	Adjustable Sub-base, complete.....			20	6	\$0.84
Sub-Bases—Plain						
100	Sub-base, complete, with rubber rings and screws.....			20	7	\$0.72
200	Sub-base, complete, with rubber rings and screws.....			20	7	.72
Sub-Bases—Ornamental						
300	Sub-base, with 3¼ inch Fitter.....			20	7	\$1.50
303	Sub-base, with 6½ inch Fitter.....			20	14	3.00

Prices do not include cluster.



No. 6B



No. 6D



No. 6C



No. 6C Receptacle, with Cover

OUTLET BOX RECEPTACLES—660-W., 600-V.

Schedule 3

6B	Receptacle, with bolts.....	100	16	\$0.24
6C	With bolts and lamp grip.....	100	16	.31
6D	With bolts and lamp grip.....	100	18	.28
36256	Steel plate, with 3 in. brush brass cover for No. 6C.....	100	20	.35
36258	Steel plate, with 4 in. brush brass cover for No. 6C.....	100	35	.42

Supporting screw holes are spaced 1 3/4 inches on centers.
Standard finish is brush brass.

BRYANT SHADE HOLDERS



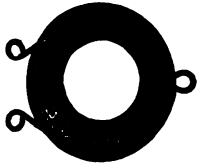
No. 501
Uno Screw Holder



No. 440



No. 443



No. 502
Uno Spring Holder



Showing position of
parts as holder is
being attached to socket



Showing position of
parts when holder
is attached
to socket

Bryant Shade Holders

The spring shade fastening of Uno and New Wrinkle Shade Holders provides an improved means of securing the shade in the holder and has the following advantages: The locking wire expands and contracts uniformly at every point. The locking wire touches the shade at every point. The locking wire is free to expand as the shade expands from the heat of the lamp, without in any way lessening the security of the fastening. The shade is held absolutely central in the holder. The holder will support the heaviest shades with absolute security. Shades can be attached and removed in one tenth of the time required for holders with three screws.

UNO SHADE HOLDERS

Schedule "D"

A one-piece holder which threads directly on to Bryant-Perkins brass shell sockets and receptacles. Quickest and easiest to put on and stays put. The threading of the bead on the socket and receptacle shells does not prevent the use of other makes of shade holders.

List No.	Description	Size Inches	Std. Pkg.	per 100 Finished	List Price per 100 Unfinished
501	Screw holder.....	2 1/4	500	\$5.00	\$5.00
532	Solid.....	2 1/4	500	6.34	5.34
502	Spring holder.....	2 1/4	250	8.36	7.35
533	Solid.....	2 1/4	250	8.70	7.68
503	Form "H" screw holder.....	2 1/4	250	9.03	8.50
504	Form "H" spring holder.....	2 1/4	100	8.89	8.48
505	Screw holder.....	3 1/4	250	12.00	10.66
534	Solid.....	3 1/4	100	9.64	8.60
506	Spring holder.....	3 1/4	100	14.25	13.13
535	Solid.....	3 1/4	100	14.54	13.40
511	With screws.....	4	100	12.49	11.44
536	Solid.....	4	100	12.76	11.72

The above list prices cover brush brass, polished brass or rich gilt. Special finishes, except gold, silver and sand blast, add \$2.10 extra per hundred list. Brush brass shipped unless otherwise ordered.

New Wrinkle Shade Holders

Schedule "H"

New Wrinkle Shade Holder is attached to the socket in a manner which is extremely simple and can be accomplished in a minimum time and yet with greater rigidity than is provided in many types of holders now on the market.

List No.	Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
440	2 1/4 inch	50	200	20	\$25.92
441	Form H	25	100	15	34.56
442	3 1/4 inch	25	100	15	43.20

New Wrinkle Emergency Shade Holder

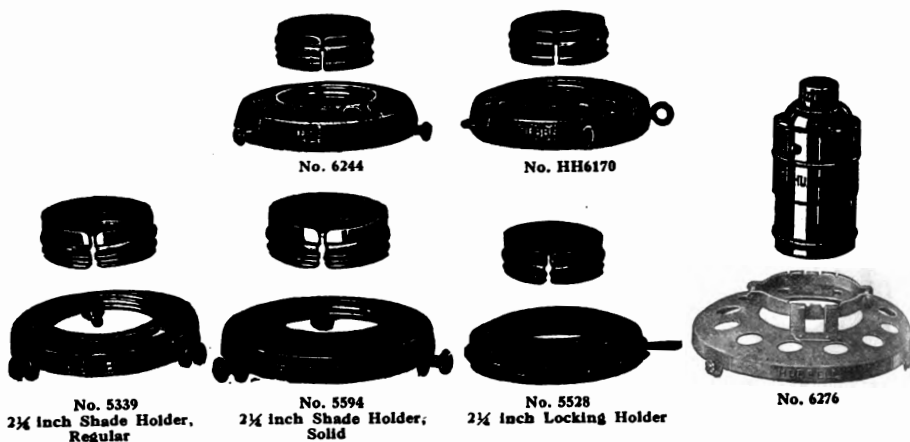
Schedule "H"

The New Wrinkle Emergency Shade Holder has the same method of securing the shade in the holder as described above. It is attached to the socket by means of a screw shell which, introduced between the screw shell and the porcelain wall of the lamp socket, engages with the screw shell of the lamp socket. The screw shell of the shade holder is thoroughly insulated from the holder itself.

It has always been impossible to make a satisfactory shade holder for use in connection with weather-proof and other porcelain sockets and receptacles, as not only do the porcelains vary in thickness but also they are frequently much away from a true circle. It has been mechanically impossible to make a practical holder that would fit porcelains of minimum and maximum thickness and all the various shapes. The New Wrinkle Emergency Shade Holder solves the problem.

443	2 1/4 inch	25	100	..	\$28.80
444	Form H	10	50	..	36.00
445	3 1/4 inch	10	50	..	43.20

HUBBELL SHADE HOLDERS



Standard Shade Holders

Sizes 2 1/4, 3 1/4 and 4 Inch

Schedule "D"

List No.	Size Inches	Description	Finish	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price per 100
5339 ^A	2 1/4	As illustrated above.	Specify fin.	50	1000	65	\$8.75
5339 ^A	2 1/4	As illustrated above.	Unfinished	50	1000	65	7.28
5594 ^A	2 1/4	Solid, as illustrated above.	Specify fin.	50	1000	70	9.24
5594 ^A	2 1/4	Solid, as illustrated above.	Unfinished	50	1000	70	7.77
5340 ^A	3 1/4	As shown in illus. No. 5339.	Specify fin.	25	250	27	15.00
5340 ^A	3 1/4	As shown in illus. No. 5339.	Unfinished	25	250	27	13.32
5596 ^A	3 1/4	Solid, as shown in illus. No. 5594.	Specify fin.	25	250	30	15.42
5596 ^A	3 1/4	Solid, as shown in illus. No. 5594.	Unfinished	25	250	30	13.74
5595 ^A	4	As shown in illus. No. 5339.	Specify fin.	25	100	20	17.49
5595 ^A	4	As shown in illus. No. 5339.	Unfinished	25	100	20	16.02
5597 ^A	4	Solid, as shown in illus. No. 5594.	Specify fin.	25	100	20	17.85
5597 ^A	4	Solid, as shown in illus. No. 5594.	Unfinished	25	100	20	16.38
6244	2 1/4	Shade Holder, three screws.		50	1000	65	9.45
6244	2 1/4	Shade Holder, three screws.	Unfinished	50	1000	65	7.98
6170	2 1/4	Shade Holder, locking spring.		50	250	20	11.10
6170	2 1/4	Shade Holder, locking spring.	Unfinished	50	250	20	9.84

Locking Spring Shade Holder

Schedule "D"

5528 ^A	2 1/4	As illustrated above.	Specify fin.	50	250	17	\$10.44
5528 ^A	2 1/4	As illustrated above.	Unfinished	50	250	17	9.18

Screw Locking Spring Shade Holder

Schedule "D"

5835 ^A	2 1/4	As shown in illus. No. 5528, with extra screw.	Specify fin.	50	250	17	\$13.80
5835 ^A	2 1/4	As shown in illus. No. 5528, with extra screw.	Unfinished	50	250	17	12.60

Shade Holder for Mogul Sockets

List No.	Size Inches	Description	Std. Pkg.	List Price per 100
6276	4	Finished, as illustrated above.	100	\$26.25

Polished brass, old brass, brush brass and rich gilt are standard finishes.

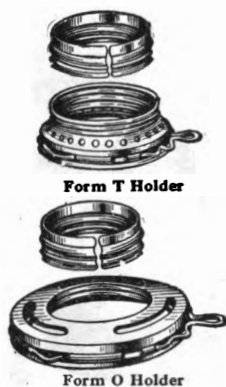
All other finishes in 2 1/4 inch and 3 1/4 inch holders excepting gold, silver and sand blast, add to list per 100, \$2.80.

All other finishes on 4 inch holders, excepting gold, silver and sand blast, add to list per 100, \$5.60.

Goods shipped brush brass unless otherwise specified.

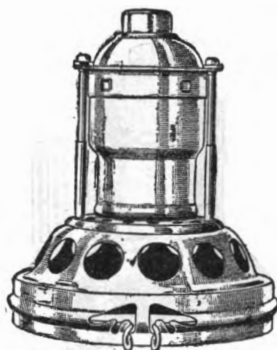
*National Electrical Code Standard.

GLASS REFLECTOR SHADE HOLDERS



Form T Holder

Form O Holder



Form A Holder (New Type)



Form H Holder

Holophane Holders for Electric Sockets

List Prices and Data

List No.	Designation	Finish	Diameter	Standard Quantity	List Price Each
421953	Form O Holder	Polished or brush brass	2 1/4 ins.	30	\$0.12
421954	Form A Holder	Polished or brush brass	3 1/4 ins.	12	.40
421955	Form H Holder	Polished or brush brass	2 1/4 ins.	30	.16
421956	Form T Holder	Polished or brush brass	1 1/2 ins.	50	.08

NOTE: Form T Holder for 1 1/2 inch neck reflector is an exclusive design, and is furnished only with Holophane glassware.

Special Finishes: The following additional net charges are made for special finishes on Form H and O holders: Oxidized copper or black, 8 cents each, net; when ordered in lots of 500 or more, one kind not assorted, 5 cents each, net. All other finishes, 13 cents each, net; when ordered in lots of 500 or more, one kind not assorted, 8 cents each, net.



P & S 119



P & S 84



**Victor Shade Holder
Schedule "XA"**

P & S Shade Holders For Porcelain Sockets and Receptacles

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price per 100
119	Shade holder, 2 1/4 inch polished brass	24	288	24 lbs.	\$12.24
1190	Shade holder 3 1/4 inch polished brass No extra charge for brush brass. For all other finishes, add \$5.04 per hundred to the list.	24	144	24 lbs.	23.40

For Sign Receptacles

Schedule "XA"

84	Shade holder, 3 1/4 inch polished brass Brush brass supplied at the same price. Add \$5.04 per hundred to list for all other finishes. To be used with Nos. 61577, 61578, 61877, 61988, 102703 and 102704.	12	144	24 lbs.	\$18.00
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Victor Shade Holders

					List Price per Gross
422036	2 1/4 inch Polished Brass, Old Brass and Black	144	24 lbs.		\$8.76
422037	2 1/4 inch Jap. Bronze, or Oxd. Copper	144	24 lbs.		10.12
422038	3 1/4 inch Polished Brass, Old Brass and Black	144	25 lbs.		16.20
422039	3 1/4 inch Jap. Bronze, or Oxd. Copper	144	25 lbs.		18.54
422040	4 inch Polished Brass, Old Brass and Black	144	26 lbs.		22.96
422041	4 inch Jap. Bronze, or Oxd. Copper	144	26 lbs.		26.20

THE DIM-A-LITE



No. 23



No. 31



No. 24

Dim-A-Lites and Dimming Sockets

A small attachment for dimming or turning down a single incandescent lamp.

Can be used with either carbon or Mazda lamps up to 40 watts.

Five changes of light can be obtained, viz.: Full, half, dim, night light and out.

Saves current, from 30% to 80%, depending upon degree of turn down; U. S. Government test.

Approved by Underwriters. Guaranteed five years.

Fits any fixture or chandelier socket and takes any ordinary electric lamp.

Suitable for any current, either direct or alternating.

The pull chain may be made as long as desired.

The resistance wire and contact bars are imbedded in a solid fireproof composition called Di-el-ite, which prevents the wire from corroding.

STYLES OF DIM-A-LITES

No. 23. Pull chain, portable, or interchangeable type. Furnished on all orders unless other types are specified.

No. 24. Portable Shade-holder Type. Operated either by turning shade or pulling cord. Slight turn of shade gives any degree of light desired. Equipped with 2¼ inch shade holder. Preferred when the light is within easy reach.

DIMMING SOCKETS

No. 27. Turnshade Socket Dim-a-lite. Combination Dim-a-lite, fixture socket and shade holder complete. Light is regulated by turning shade. Designed to be permanently fastened to fixture stem.

No. 31. Standard Chain Pull Dimming Socket. Five degrees of light. Standard construction throughout. Combines standard chain pull socket, Dim-a-lite and husk, or shade holder. Attached permanently to fixture stem by thread and set screw. Equipped with highest grade dumbbell unit brass chain. Guaranteed five years.

List No.	Style	*Std. Pkg.	List Price Each
23	Pull Chain	100	\$1.50
24	Shade Holder	50	1.88
27	Socket Dim-a-lite	50	2.26
31	Dimming Socket	50	2.26

Brush brass finish, 110 volts, furnished unless otherwise specified. Add 38 cents list for special finishes and 15 cents list for 220 volts.

Special voltages to order and quotations made on foreign types of Dim-a-lites upon request.

*A standard package can be made up of only one style or List No.

"NEWGARD" RECEPTACLES AND GUARDS



Type A
Pendant Type



Type B
Bracket Type



Type C
Flange Type



Wire Guard



Portable
Lamp Guard

Combined Receptacle and Waterproof Globe

This receptacle is made entirely of non-absorbing and non-corrosive material, and will last indefinitely in any climate.

Style A. Pendant Type

The pendant type hangs suspended by its conducting wires. Unless otherwise specified 8-inch wires are provided.

List No.		Watts	Quantity per case	Wt. Lbs. per case	*List Price per doz.
4337	Ed. base pendant type.....	40 or 60	12	22	\$10.50
4337X	Ed. base pendant type.....	100	6	20	21.00

Style B. Bracket Type

The bracket type cover is threaded to screw on regular 1/2 inch iron gas pipe or conduit.

List No.		Watts	Quantity per case	Wt. Lbs. per case	*List Price per doz.
4347	Ed. base, bracket type.....	40 or 60	12	28	\$14.00
4347X	Ed. base, bracket type.....	100	6	24	28.00

Style C. Flange Type

The flange type cover is flanged and can be screwed to wall, 3 1/4 Rd. outlet box, ceiling or other support.

List No.		Watts	Quantity per case	Wt. Lbs. per case	*List Price per doz.
4349	Ed. base, flange type.....	40 or 60	12	28	\$14.00
4349X	Ed. base, flange type.....	100	6	24	28.00

Separate Parts for Receptacles

For 40 Watt Size

List No.		*List Price
19043	Caps..... Each	\$0.56
19041	Clear Globes..... Doz.	2.70
19044	B Iron Fittings..... Doz.	2.70
19045	C Iron Fittings..... Doz.	2.70
	Rubber Gaskets..... Gro.	4.00
19042	Genuine Colored Globes..... Doz.	14.40

For 60 to 100 Watts

List No.		*List Price
19043X	Caps..... Each	\$1.12
19041X	Clear Globes..... Doz.	5.40
19044X	B Iron Fittings..... Doz.	2.70
19045X	C Iron Fittings..... Doz.	2.70
	Rubber Gaskets..... Gro.	8.00
19042X	Genuine Colored Globes..... Doz.	30.00

"Newgard" Wire Guard

Fits tightly over globe and is secured at top.

List No.		*List Price per Gross
4351	Wire guard for 40 watt size.....	\$30.00
4351X	Wire guard for 60 to 100 watt size.....	75.00

Waterproof Lamp Guard

For Style B Receptacles

This is a watertight, vaporproof, portable guard, strongly made with Bessemer steel rods and stamped metal rings, copper-plated. Fits 40 watt size.

	*List Price
Waterproof portable lamp guard only.....	Each \$5.00
Waterproof portable lamp guard complete with type B receptacle.....	6.50

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

HUBBELL LAMP GUARDS

Every joint of the Hubbell lamp guards is electrically welded through and through. No solder or tie wires, spring catches, clamps or other devices are used. This method of welding insures strength and durability. They are made entirely of heavy steel wire.



No. 5691
For Standard Sockets



No. 5485
For Standard Sockets

For Standard Sockets

Schedule "E"

List No.	Size	Carton Quantity	Std. Pkg. Gross	Pkg. Wt. Lbs.	List Price per Dos
5691 [▲]	For 15 and 25 watt Tungsten lamps,.....	12	1	42	\$3.28
5692 [▲]	For 40 and 60 watt Tungsten lamps, short base.....	12	1	52	3.98

For Weatherproof Sockets

Schedule "E"

5693 [▲]	For 15 and 25 watt Tungsten lamps, short base.....	12	1	42	\$3.28
5694 [▲]	For 40 and 60 watt Tungsten lamps, short base.....	12	1	52	3.98

For Standard Sockets

Schedule "E"

5485 [▲]	For 15 and 25 watt Tungsten lamps.....	12	1	45	\$4.42
5487 [▲]	For 40 and 60 watt Tungsten lamps, short base.....	12	1	50	4.74



No. 5573
With Closed Bottom



No. 5766
With Half Reflector

For Standard Sockets

Schedule "E"

List No.	Size	Carton Quantity	Std. Pkg. Gross	Pkg. Wt. Lbs.	List Price per Dos
5573 [▲]	For 15 and 25 watt Tungsten lamps.....	12	1	58	\$4.42
5578 [▲]	For 40 and 60 watt Tungsten lamps, short base.....	12	1	80	4.74
5766 [▲]	For 15 and 25 watt Tungsten lamps, short base, half reflector attached.....	12	1	65	6.62

[▲]National Electrical Code Standard.

HUBBELL LAMP GUARDS



No. 5534
Open and Closed Bottom



No. 5634
Tubular Lamp Guard

For Use with Hubbell Reflector

Open Bottom Guards

Schedule "E"

List No.	Size	Carton Quantity	Std. Pkg. Gross	Pkg. Wt. Lbs.	List Price per Doz.
5534 ^A	For 15 and 25 watt Tungsten lamps.....	12	1	45	\$4.42
5536 ^A	For 40 and 60 watt Tungsten lamps, short base.....	12	1	52	4.74

Open bottom guards can be used with either flat or cone type tin reflectors.

Closed Bottom Guards

Schedule "E"

5632 ^A	For 15 and 25 watt Tungsten lamps.....	12	1	50	\$4.42
5633 ^A	For 40 and 60 watt Tungsten lamps, short base.....	12	1	70	4.74

Closed bottom guards can be used with flat tin reflectors only. The above prices do not include reflectors.

Tubular Lamp Guard

Schedule "E"

5634 ^A	25 watt tubular lamp guard.....	12	5 doz.	20	\$3.78
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No. 5685
For Standard Sockets



No. 5730
For Weatherproof Sockets



No. 5764
With Half Reflector

Locking Guards

For Standard Sockets

Schedule "E"

List No.	Size	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price per Doz.
5685 ^A	For 15 and 25 watt Tungsten.....	12	1 gross	53	\$6.62
5635 ^A	For 40 and 60 watt Tungsten, short base.....	12	1 gross	85	7.00

For Weatherproof Sockets

Schedule "E"

5730 ^A	For 15 and 25 watt Tungsten.....	12	1 gross	53	\$6.62
5731 ^A	For 40 and 60 watt Tungsten, short base.....	12	1 gross	85	7.00

For Weatherproof Socket No. 60666

5810 ^A	For 15 and 25 watt Tungsten lamps.....	12	1 gross	53	\$6.62
5818 ^A	For 40 and 60 watt Tungsten lamps.....	12	1 gross	83	7.00

For Long Base Tungsten Lamp

Schedule "E"

5762 ^A	For 60 and 100 watt Tungsten lamp for Standard socket.....	12	6 doz.	65	\$10.08
5820 ^A	For 60 and 100 watt Tungsten lamp for weatherproof socket.....	12	6 doz.	65	10.08

FOR STANDARD SOCKETS With Half Reflector

Schedule "E"

5764 ^A	For 15 and 25 watt Tungsten.....	12	1 gross	63	\$8.82
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FOR WEATHERPROOF SOCKETS With Half Reflector

Schedule "E"

5765 ^A	For 15 and 25 watt Tungsten.....	12	1 gross	63	\$8.82
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^ANational Electrical Code Standard.

MATTHEWS LAMP SPECIALTIES



For Regular Socket



For G. E. Split Socket



For Porcelain Socket

Matthews Holdfast Lamp Guards

The rigid construction of the Matthews Holdfast Lamp Guard makes it a desirable protective device for incandescent lamp bulbs. The guard clamps directly on the socket, removing all possibility of strain on the bulb. In addition, a patented spring spiral cushion shock absorber in the center of the guard takes up any jar to which the lamp may be subjected. A patented trap-lock is used to close the bottom opening and lock in the lamp. Will fit all locking sockets. Guaranteed for ten years.

Guards for Protecting 6, 8, 10, and 16 C. P. Carbon and 15, 25 and 40 Watt Mazda Lamps

List No.	Size of Wire B.W.G.	List Prices					Net Additions for delivery in
		Less than 1 doz. per doz.	1 doz., less than 6 doz. per doz.	6 doz., less than 12 doz. per doz.	1 gross, less than 5 gross per gross	5 gross or more per gross	
*117.....	17	\$4.20	\$3.60	\$3.30	\$36.00	\$32.40	Pacific Coast \$0.07
*114.....	14	4.70	4.10	3.80	42.00	38.40	.08
*112.....	12	5.70	5.10	4.80	54.00	50.40	.11

Guards for Protecting 32 C. P. Carbon and 40 and 60 Watt Mazda Lamps

*317.....	17	\$4.70	\$4.10	\$3.80	\$42.00	\$38.40	\$0.08
*314.....	14	5.20	4.60	4.30	48.00	44.40	.09

Guard for Protecting 50 C. P. Carbon 100 Watt Mazda Lamps and 200 Watt Pear Shaped Lamps

*514.....	14	\$5.70	\$5.10	\$4.80	\$54.00	\$50.40	\$0.11
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Guard for Protecting 150 Watt Straight Side and 300 Watt Pear Shaped Lamps

*714.....	14	\$12.00	\$10.80	\$9.90	\$106.80	\$97.20	\$0.14
*814.....	14	12.50	11.30	10.50	112.80	103.20	0.15

All guards will be furnished with a trap to prevent the unauthorized removal of lamps.

List Prices for Extra Trap-locks for Renewal Purposes

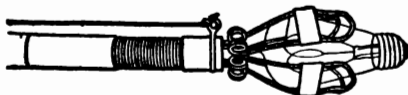
	16	per doz.	per gross	
.....	\$0.40	\$0.40	\$4.00	\$3.60 \$3.20 \$0.00

* The letter "B" should be added after the trade number if guards for brass sockets are desired, and the letters "WP" if wanted for weatherproof sockets.

The above prices are for points east of Pacific Coast. For prices for Pacific Coast Points, add the amounts under this heading to the net prices per dozen of the different guards enumerated above.

Prices are the same for brass or weatherproof socket guards. Collars for brass sockets 1 1/4 inches diameter; for weatherproof socket guards 1 1/2 inches diameter.

Freight not to exceed 50 cents per 100 pounds, allowed on five gross or more in single shipments F. O. B. Rockford, Ill.



Matthews Easy Lamp Changers

List No.	Description	List Price Each		
		Less than 6	6 to 11	12 or more
1	For 2 and 4 C. P. Sign Lamps and lamps up to 5 watts	\$5.00	\$4.70	\$4.20
2	For 6, 8, 10 and 16 C. P. Lamps and lamps from 5 watts to 60 watts.....	5.00	4.70	4.20
3	For 32 to 50 C. P. Carbon Lamps and 100 to 150 watt Mazda Lamps.....	6.00	5.70	5.20

The above prices are for points east of Pacific Coast. For prices for Pacific Coast Points, add the following amounts to net prices of Lamp Changers: Pacific Coast Points, 12c.

No poles are furnished.

Lighting Fixtures and Accessories

LAMP GUARDS



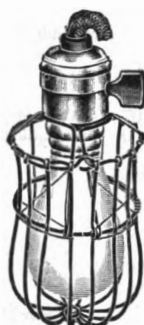
Loxon Guard



Loxon Reflector Guard



Protector "O"
Lamp Guard



Protector "H"
Lamp Guard



Protector "A"
Lamp Guard

"Loxon" Lamp Guard

Protects against loss by breakage, by fire caused by the breakage of lamps or by lamps coming in contact with inflammable material.

List No.		List Price per doz.
1425	For 16 candle power lamp with standard socket.....	\$6.00
1426	For 32 candle power lamp with standard socket.....	6.30
1427	For 16 candle power lamp with W. P. socket.....	6.00
1428	For 32 candle power lamp with W. P. socket.....	6.30

NOTE: 1 key with every dozen guards. Extra keys, 10 cents each, net, 80 cents per dozen.

"Loxon" Reflector Lamp Guards

Can be used among machinery parts where reflected light is needed. A substantial combination guard and reflector.

List No.		List Price per doz.
1442	For 8 candle power lamp, standard base socket.....	\$7.20
1443	For 16 candle power lamp, standard base socket.....	7.80
1444	For 16 candle power lamp, weatherproof socket.....	7.80

Protector "O" Lamp Guard

List No.		List Price per doz.
1429	For 16 candle power lamp, standard socket.....	\$3.00
1430	For 32 candle power lamp, standard socket.....	3.50
1432	For 16 candle power weatherproof socket.....	3.00
1434	For 32 candle power weatherproof socket.....	3.50

Protector "H" Lamp Guard

List No.		List Price per doz.
1431	For 16 candle power lamp, standard socket.....	\$3.00
1433	For 32 candle power lamp, standard socket.....	3.50
2532	For 16 candle power lamp, weatherproof socket.....	3.00
2533	For 32 candle power lamp, weatherproof socket.....	3.50

Protector "A" Lamp Guard

List No.		List Price per doz.
1441	For 16 candle power lamp only.....	\$2.00

MORSE LAMP GUARDS

New "Never-Break" Guards

Are made of steel wire, neat and attractive, with silver luster finish.



No. 107

List No.	Light Size Lamp	List per doz.	List No.	Heavy Size Lamp	List per doz.
107	16 candle power.....	\$3.00	111	16 candle power.....	\$4.50
109	32 candle power.....	3.76	113	32 candle power.....	6.00

Standard Self Locking Guards

With Cushion

For Brass Sockets

For Weatherproof Sockets

List No.	Light Size Lamp	List per doz.	List No.	Heavy Size Lamp	List per doz.
C	16 candle power.....	\$3.00	G	16 candle power.....	\$3.00
D	32 candle power.....	3.38	H	32 candle power.....	3.38



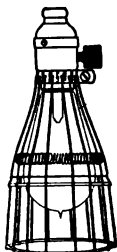
Style C

Open Bottom Guards

With Cushion Ring

For Brass Sockets

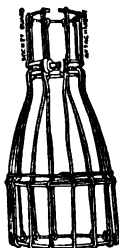
List No.	Light Size Lamp	List per doz.	List No.	Heavy Size Lamp	List per doz.
161	16 candle power.....	\$3.76	163	16 candle power.....	\$5.26
162	32 candle power.....	4.50	164	32 candle power.....	6.76



No. 161

For Weatherproof Sockets

165	16 candle power.....	\$3.76	167	16 candle power.....	\$5.26
166	32 candle power.....	4.50	168	32 candle power.....	6.76



No. 5

Weatherproof Socket Guard

List No.	Light Size Lamp	List per doz.	List No.	Heavy Size Lamp	List per doz.
5	16 candle power.....	\$3.00	7	16 candle power.....	\$4.50
6	32 candle power.....	3.76	8	32 candle power.....	6.00

Combination Reflector and Guard

For Brass Sockets

List No.	Light Size Lamp	List per doz.	List No.	Heavy Size Lamp	List per doz.
13	16 candle power.....	\$5.26	15	16 candle power.....	\$6.76
14	32 candle power.....	6.76	16	32 candle power.....	9.00



No. 13

For Weatherproof Sockets

17	16 candle power.....	\$5.26	19	16 candle power.....	\$6.76
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MORSE LAMP GUARDS

"Never Break"

"NO STEAL" GUARDS

This guard supplies a long felt want. Holds fast to socket and prevents lamp from being stolen.



No. 240

For Brass Sockets

List No.	Size Lamp	List per doz.
240	16 C.P., light.....	\$3.76
241	32 C.P., light.....	4.50
242	16 C.P., heavy.....	5.26
243	32 C.P., heavy.....	6.76

For Weatherproof Sockets

List No.	Size Lamp	List per doz.
244	16 C.P., light.....	\$3.76
245	32 C.P., light.....	4.50
246	16 C.P., heavy.....	5.26
247	32 C.P., heavy.....	6.76



No. 146

For Brass Sockets

List No.	Size Lamp	List per doz.
146	16 candle power.....	\$3.76
147	32 candle power.....	4.50

For Weatherproof Sockets

List No.	Size Lamp	List per doz.
148	16 candle power.....	\$3.76
149	32 candle power.....	4.50



No. 346

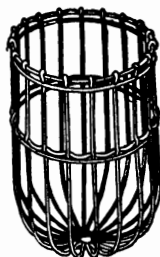
"Peerless" Lock Guard

For Brass Sockets

List No.	Size Lamp	List per doz.
346	16 candle power.....	\$7.50
347	32 candle power.....	9.00

For Weatherproof Sockets

List No.	Size Lamp	List per doz.
348	16 candle power.....	\$7.50
349	32 candle power.....	9.00



No. 140

Two Ring Guard

Is made of steel wire, silver luster finish, and used with 3 1/4 and 4 inch holders.

List No.	Light Size Lamp	List per doz.	List No.	Heavy Size Lamp	List per doz.
140	16 candle power.....	\$2.26	142	16 candle power.....	\$3.76
141	32 candle power.....	3.00	143	32 candle power.....	5.26

Tubular Lamp Guard



No. 99

List No.	Size	List Price per doz.
99	6 1/2 x 2 ins.....	\$9.00
99A	7 x 2 1/2 ins.....	11.26

"Never Break" Bung Hole Guard

Is fastened to socket by three clips and flexible wire bands.



No. 100

List No.	Size	List Price per doz.
100	6 x 1 1/2 ins.....	\$9.00

MORSE LAMP GUARDS

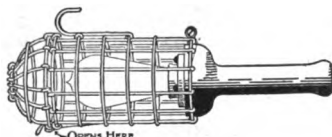
"Never Break"

HEAVY CEILING LAMP GUARDS

Steel wire silver luster finish, wire part detachable from base holder.



List No.	Diam.	Depth	List per doz.	List No.	Diam.	Depth	List per doz.
50	4 ins.	7 ins.	\$13.50	55	12 ins.	10 ins.	\$38.26
52	4½ ins.	8 ins.	18.00	57	14 ins.	10 ins.	45.00
51	8 ins.	8 ins.	27.00	58	16 ins.	11 ins.	54.00
53	10 ins.	9 ins.	31.50	59	18 ins.	12 ins.	63.00



No. 44

Portable Hand Guards

Strongest Made

List No.	List per doz.
44	\$36.00

For 16 or 32 candle power lamp.....

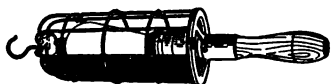


No. 46

Eureka

List No.	List per doz.
46	\$22.50

For 16 candle power lamp.....



No. 47

Auto Eureka

With Reflector

List No.	List per doz.
47	\$27.00

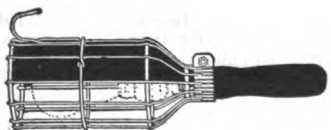
For 16 candle power lamp.....



No. 70

Heavy Portable Guard

List No.	List per doz.
70	\$18.00
72	22.50

For 16 candle power lamp.....
For 32 candle power lamp.....

No. 74

Combination

Portable with Reflector

List No.	List per doz.
74	\$24.00

For 16 candle power lamp.....



No. 76

Light Portable

List No.	List per doz.
76	\$13.50
78	18.00

For 16 candle power lamp.....
For 32 candle power lamp.....

No. 80

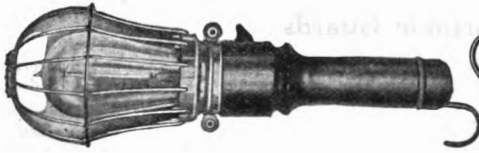
Tubular Portable

With Reflector

List No.	List per doz.
80	\$24.00

Tubular Portable with reflector.....

LAMP GUARDS



No. 2000 Cable Rack Portable



3001 Vaporproof Guard

Cable Rack Portable Lamp Guard

A very handsome portable with black enamel handle. The cage portion of this portable is half guard and half reflector so as to direct the reflected light where it is needed. The handle is equipped with a hook. This portable is designed principally for use around telephone switchboards. Furnished with key or keyless socket securely embedded in handle giving a firm and rigid base. Takes a 60 watt 110 volt Mazda lamp. Cage and reflector portion heavy tinned finish.

List No.		*List Price Each
2000	Key Cable Rack Portable Lamp Guard.....	\$2.50
2001	Keyless Cable Rack Portable Lamp Guard.....	2.40

No. 3001 Safety Vaporproof Portable Guard

This guard is just what its name describes, and is designed to meet the requirements of the garage or wherever gases or inflammable materials may be used. A heavy steel frame, strong handle, handy grip hook, and vaporproof receptacle make this the best vaporproof guard on the market. Takes a 25 watt standard Mazda lamp. Heavy tinned finish.

3001	Safety Vaporproof Portable Guard.....	\$4.50
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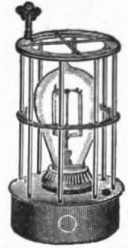
No. 4000



No. 1439 Style C



No. 1437 Style B



No. 1440 Style D

No. 4000 Dreadnaught Portable Lamp Guard

A very strong portable guard made of Bessemer steel built to withstand hard usage and can be recommended to give unusual service. Has a porcelain keyless socket fitted with spring contact firmly embedded in handle. Takes a 60 watt lamp. Metal part copper plated finish. Made only in one size and finish.

List No.		*List Price Each
4000	Dreadnaught Portable Lamp Guard.....	\$2.50

Style C Wall Guard and Outlet Box Cover Combined

A device for which there is a demand in every theater, warehouse or outside platform, wherever a stationary outlet box socket is in use. Very strongly constructed of Bessemer steel wire ribs, stamped rings and plate or cover which will fit either a 3 or 4 inch outlet box and will take standard outlet box receptacles. The plate or box cover forms the lower part of the guard itself forming a combined cover and guard. It reduces the contractors stock as only one device takes the place of different size covers and guards. Heavy tinned finish. Diameter $3\frac{1}{2}$ inches, depth $5\frac{1}{4}$ inches.

1439	Style C Wall Guard Outlet Box Cover Combined.....	\$1.00
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Style B Wall Guard

For use in theaters, docks, warehouses and outdoor work where a stationary socket is used. Very strongly constructed of Bessemer steel wire ribs and stamped rings. Has a removable base ring which is attached to the wall. Key hole slots in base ring make them easy to attach and detach. Copper plated finish. Diameter $3\frac{1}{2}$ inches, depth $6\frac{3}{4}$ inches.

1437	Style B Wall Guard.....	\$1.40
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No. 1440-D Wall Guard

This device is the same as above excepting that it is fitted with a trap or cover which is equipped with a key locking arrangement, thus preventing theft of lamps as well as breakage. Heavy tinned finish. Diameter $3\frac{1}{2}$ inches, depth $5\frac{1}{4}$ inches.

1440-D	Wall Guard.....	\$1.40
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*Delivery F. O. B. Factory, Valparaiso, Ind. For warehouse delivery write nearest house.

PORTABLE LAMP GUARDS

Crescent Portable Guards



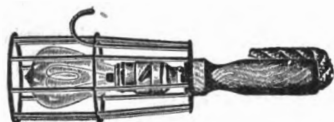
Crescent Portable

Are especially adapted for use where a portable will receive hard usage. Strong, light and convenient. Socket not included.

List No.		List Price Each
4645	No. 2 16 C.P. only.....	\$2.00
4676	No. 1 32 C.P. lamp.....	2.20

Monitor Portable Lamp Guards

A substantial open-bottom portable guard.

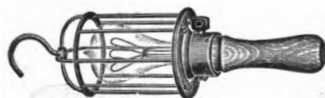


Monitor Portable

List No.		List Price Each
1453	For 16 C.P. lamps.....	\$1.20
1454	For 32 C.P. lamps.....	1.30

Bulldog Portable Lamp Guards

Are copper-plated on Bessemer steel. Standard key socket securely imbedded in handle, giving the lamp a firm, rigid base. Will take any size cord.



Bulldog Portable

List No.		List Price Each
4675	Complete with key socket imbedded in handle.....	\$2.50
2590	Complete with keyless socket imbedded in handle.....	2.50

Loxon Portable Lamp Guards

Are made with ebonized handle and Loxon guard attached. Furnished both in plain wire guard and with half guard reflector. Key Socket Included.



Loxon Portable

List No.		List Price Each
1447	For 16 C.P. lamps, without reflector.....	\$1.50
1448	For 16 C.P. lamps, with reflector.....	1.70

Standard Portable Lamp Guards

A substantial guard for heavy service made with Bessemer steel rods and stamped metal rings, copper-plated, with mica weatherproof socket, firmly imbedded in handle.

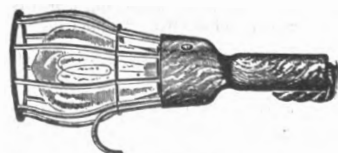


Standard Portable

List No.		List Price Each
4672	For 16 C.P. lamps.....	\$2.50
4673	For 32 C.P. lamps.....	2.70

National Portable Lamp Guards

Are of heavy construction with open bottom, made of steel heavily tinned, with mica weatherproof socket, firmly imbedded in handle.



National Portable

List No.		List Price Each
1451	For 16 C.P. lamps.....	\$2.00
1452	For 32 C.P. lamps.....	2.20

NETS AND GUARDS



No. 330

Round Globe Nets

List No.	Diam. Lamp	List per doz.
330	4 ins.	\$3.76
332	5 ins.	3.76
334	6 ins.	4.50
336	8 ins.	5.26

Round Globe Guards

List No.	Diam. Lamp	List per doz.
150	4 ins.	\$8.26
152	5 ins.	9.76
154	6 ins.	11.26
156	8 ins.	12.76

Inner Globe Nets



No. 320

List No.		List per doz.	List No.		List per doz.
320	Coarse	\$3.76	322	Fine	\$5.64

Morse Street Lamp Guards

Made of Galvanized Steel Wire

Lamp can be renewed without detaching guard by opening bottom of cover.



No. 121

List No.	Size	List per doz.	List No.	Size	List per doz.
121	13½ ins. 11 ins.	\$45.00	125	17 ins. 11 ins.	\$63.00
123	15 ins. 11 ins.	54.00			

Outer Globe Nets

Coarse

List No.	Size	List per doz.
310	12 ins.	\$6.00
314	14 ins.	7.50

Fine

List No.	Size	List per doz.
312	12 ins.	\$12.00
316	14 ins.	15.00



No. 310

Cone Shade Guards

Silver Luster Finish

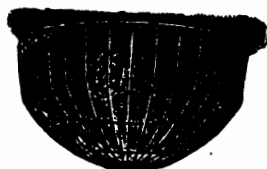
List No.	Size	List per doz.	List No.	Size	List per doz.
91	7 ins. x 2 ins.	\$2.64	96	12 ins. x 3½ ins.	\$7.50
93	8 ins. x 2½ ins.	3.00	97	15 ins. x 4 ins.	13.50
95	10 ins. x 3 ins.	4.50	98	18 ins. x 5 ins.	22.50



No. 91

Webster Cluster Guard

With Hinge, etc., Screw Eye Bolts or Clamps



No. 182

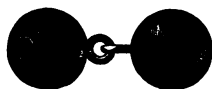
List No.	Light Diam.	List per doz.	List No.	Heavy Diam.	List per doz.
182	12 ins.	\$21.00	183	12 ins.	\$31.50
184	14 ins.	24.00	185	14 ins.	36.00
186	16 ins.	27.00	187	16 ins.	40.50
188	18 ins.	30.00	189	18 ins.	45.00
190	20 ins.	33.00	191	20 ins.	49.50
192	22 ins.	39.00	193	22 ins.	58.50
194	24 ins.	45.00	195	24 ins.	67.50

Lighting Fixtures and Accessories

CORD ADJUSTERS



No. 4635



No. 6778



No. 2608

List
No.

Ball Adjuster

List Price	
Each	per 100
\$0.02	\$1.00
.05	2.50

- 1403 Black Enamel, for $\frac{1}{8}$ inch cord.....
- 4635 Black Enamel, for $\frac{1}{8}$ inch cord or reinforced.....

List
No.

Two Ball Adjuster

List Price	
Each	per 100
\$0.11	\$7.00

- 6778 For $\frac{1}{8}$ inch cord (wood).....

List
No.

Dumb Bell Adjuster

List Price	
Each	per 100
\$0.04	\$3.50
.02	2.00

- 5044 Black Enamel, for $\frac{1}{8}$ inch cord (wood).....
- 2608 Shellac Finish (wood), $\frac{1}{8}$ inch cord.....

List
No.

Peanut Adjuster

List Price	
Each	per 100
\$0.04	\$2.70
.02½	1.10

- 4634 Jet, for $\frac{1}{8}$ inch cord.....
- 1405 Jet, for $\frac{1}{8}$ inch cord.....



No. 5559



No. 5403



Adjuster

List
No.

Q. & S. Cord Adjuster

List Price	
Each	per 100
\$0.01½	\$1.00

- 5559 Red fibre, for $\frac{1}{8}$ inch cord.....

List
No.

Stewart Cord Adjuster

List Price	
Each	per 1000
\$0.02	\$15.00
.06	45.00

- 5403 For Lamp Cord.....
- For Show Window Cord.....

Hagstrom Electric Cord Adjuster

It is finished in polished or brush brass, oxidized copper or nickel plate.

List
No.List Price
Each

- 423879 Cord adjuster with plug, lamp socket and 6 feet of New Code Number 18 green silk cord.. \$3.00

Lighting Fixtures and Accessories

STEAM TIGHT AND MARINE FIXTURES



No. 404



No. 434



No. 405

Conduit Fixtures

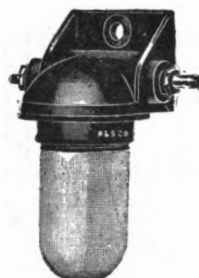
List No.	Iron Junction Box Description	*List Price Each
404	Heavy brass, guarded, watertight, right angle fixture on 4 inch Iron Junction Box	\$5.44
	Brass Junction Box	
304	Heavy brass, guarded, watertight, right angle fixture on 4 inch Brass Junction Box.	\$6.00
	Iron Junction Box, with Key Switch	
434	Heavy brass, right angle fixture, with key on 4 inch Iron Box.	\$7.28
	Iron Junction Box	
405	Mounted on Iron Junction Box.	\$3.60
	Brass Junction Box	
305	Mounted on Brass Junction Box.	\$4.16



No. 431



No. 415



No. 396

Conduit Fixtures

List No.	Iron Junction Box with Key Switch Description	*List Price Each
431	With switch on Iron Junction Box.	\$5.44
	Brass Junction Box with Key Socket	
331	With switch on Brass Junction Box.	\$6.00

Moulding Fixture

	Steam and Watertight	
415	Fitted for moulding block.	\$2.72

Tinned Fixture

	Steam and Watertight	
396	Fume-proof cast iron for lead cable.	\$5.12

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MACALLEN INSULATING JOINTS

NEW ARMORED TYPE Combination Joints

The Macallen Company have produced a new form of insulating joint which is the result of much research and experience. They have studied the weak points of every insulating joint ever made, and are satisfied that this new joint overcomes every objection from a mechanical or electrical point of view.

This joint is the most compact, has the greatest mechanical strength and the highest insulating qualities of any insulating joint ever produced.

The armored portion of this joint, being octagonal in shape, makes it extremely easy to install. The metal portions are all steel, the octagonal portion being made of seamless drawn steel tubing, and the nipples turned from steel rod.

These joints are regularly inspected and labeled under the supervision of the Underwriters' Laboratories, Inc., under the direction of the National Board of Fire Underwriters.



No. 7501
For Combination
Fixtures



No. 7521
With Male and
Female Thread



No. 7601
With Iron Hickey



No. 7621
With Brass Hickey



No. 7631
For Brass Tubing

JOINTS FOR COMBINATION FIXTURES

List No.	Size	*List Price	List No.	Size	*List Price
7501.....	$\frac{3}{8}$ x $\frac{1}{8}$	\$0.36	7509.....	$\frac{3}{4}$ x $\frac{1}{2}$	\$1.25
7502.....	$\frac{3}{8}$ x $\frac{1}{4}$	.36	7510.....	$\frac{3}{4}$ x $\frac{3}{4}$	1.25
7503.....	$\frac{3}{8}$ x $\frac{5}{8}$	.36	7511.....	1 x $\frac{1}{2}$	1.75
7504.....	$\frac{1}{2}$ x $\frac{1}{8}$	.50	7512.....	1 x $\frac{3}{4}$	1.75
7505.....	$\frac{1}{2}$ x $\frac{1}{4}$	.50	7513.....	1 x 1	1.75
7506.....	$\frac{1}{2}$ x $\frac{3}{8}$	.50	7514.....	$1\frac{1}{2}$ x $1\frac{1}{4}$	3.75
7507.....	$\frac{1}{2}$ x $\frac{1}{2}$	.50	7515.....	$1\frac{1}{2}$ x $1\frac{1}{2}$	6.00
7508.....	$\frac{3}{4}$ x $\frac{3}{8}$	1.25	7516.....	2 x 2	9.00

COMBINATION JOINTS, MALE AND FEMALE

List No.	Size	*List Price	List No.	Size	*List Price
7521.....	$\frac{3}{8}$ F x $\frac{1}{8}$ M	\$0.36	7528.....	$\frac{3}{4}$ F x $\frac{3}{8}$ M	\$1.45
7522.....	$\frac{3}{8}$ F x $\frac{1}{4}$ M	.36	7529.....	$\frac{3}{4}$ F x $\frac{1}{2}$ M	1.45
7523.....	$\frac{3}{8}$ F x $\frac{3}{8}$ M	.36	7530.....	$\frac{3}{4}$ F x $\frac{5}{8}$ M	1.45
7524.....	$\frac{1}{2}$ F x $\frac{1}{8}$ M	.50	7531.....	1 F x $\frac{1}{2}$ M	2.00
7525.....	$\frac{1}{2}$ F x $\frac{1}{4}$ M	.50	7532.....	1 F x $\frac{3}{4}$ M	2.00
7526.....	$\frac{1}{2}$ F x $\frac{3}{8}$ M	.50	7533.....	1 F x 1 M	2.00
7527.....	$\frac{1}{2}$ F x $\frac{1}{2}$ M	.50			

With male end same size as or larger than female end, same price.

ELECTROLIER OR SEPARABLE JOINTS

List No.	Size	*List Price	List No.	Size	*List Price
7601.....	$\frac{3}{8}$ x $\frac{1}{8}$	\$0.40	7607.....	$\frac{1}{2}$ x $\frac{1}{2}$	\$0.575
7602.....	$\frac{3}{8}$ x $\frac{1}{4}$	.40	7608.....	$\frac{1}{2}$ x $\frac{3}{8}$	1.60
7603.....	$\frac{3}{8}$ x $\frac{3}{8}$	.40	7609.....	$\frac{1}{2}$ x $\frac{1}{2}$	1.60
7604.....	$\frac{1}{2}$ x $\frac{1}{8}$	.55	7610.....	$\frac{1}{2}$ x $\frac{3}{4}$	1.60
7605.....	$\frac{1}{2}$ x $\frac{1}{4}$	.55	7611.....	1 x $\frac{3}{4}$	2.25
7606.....	$\frac{1}{2}$ x $\frac{3}{8}$	.55	7612.....	1 x 1	2.25

ELECTROLIER OR SEPARABLE JOINTS

With Brass Hickeys

List No.	Size	*List Price	List No.	Size	*List Price
7621.....	$\frac{3}{8}$ x $\frac{1}{8}$	\$0.475	7625.....	$\frac{1}{2}$ x $\frac{1}{4}$	\$0.675
7622.....	$\frac{3}{8}$ x $\frac{1}{4}$	.475	7626.....	$\frac{1}{2}$ x $\frac{3}{8}$	.675
7623.....	$\frac{3}{8}$ x $\frac{3}{8}$	.475	7627.....	$\frac{1}{2}$ x $\frac{1}{2}$	.725
7624.....	$\frac{1}{2}$ x $\frac{1}{8}$	.675			

ELECTROLIER OR SEPARABLE JOINTS

With Hickeys Tapped Brass Tube Sizes

List No.	Size	*List Price	List No.	Size	*List Price
7631.....	$\frac{3}{8}$ iron x $\frac{3}{8}$ brass	\$0.40	7635.....	$\frac{1}{2}$ iron x $\frac{3}{8}$ brass	\$0.55
7632.....	$\frac{3}{8}$ iron x $\frac{1}{4}$ brass	.40	7636.....	$\frac{1}{2}$ iron x $\frac{1}{4}$ brass	.55
7633.....	$\frac{3}{8}$ iron x $\frac{1}{2}$ brass	.40	7637.....	$\frac{1}{2}$ iron x $\frac{1}{2}$ brass	.55
7634.....	$\frac{3}{8}$ iron x $\frac{3}{8}$ brass	.40	7638.....	$\frac{1}{2}$ iron x $\frac{3}{8}$ brass	.55

Brass tubing sizes given above are outside measurements, and are tapped to Macallen's standard sizes.

*Delivery F. O. B. Factory, Boston, Mass. For warehouse deliveries, write nearest house.
Lighting Fixtures and Accessories

MACALLEN INSULATING JOINTS

NEW ARMORED TYPE

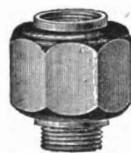
Blank Joints



With Hickey



Plain Joint



Male and Female
Thread

ELECTROLIER OR SEPARABLE JOINTS

With Malleable Iron Male Thread Hickeys

List No.	Size	*List Price
7681.....	$\frac{3}{8}$ x $\frac{1}{8}$	\$0.40
7682.....	$\frac{3}{8}$ x $\frac{1}{4}$	.40
7683.....	$\frac{3}{8}$ x $\frac{3}{8}$	.40
7684.....	$\frac{1}{2}$ x $\frac{1}{8}$	.55
7685.....	$\frac{1}{2}$ x $\frac{1}{4}$	.55
7686.....	$\frac{1}{2}$ x $\frac{3}{8}$	.55

With Brass Male Thread Hickeys

List No.	Size	*List Price
7691.....	$\frac{3}{8}$ x $\frac{1}{8}$	\$0.475
7692.....	$\frac{3}{8}$ x $\frac{1}{4}$	.475
7693.....	$\frac{3}{8}$ x $\frac{3}{8}$	.525
7694.....	$\frac{1}{2}$ x $\frac{1}{8}$	.625
7695.....	$\frac{1}{2}$ x $\frac{1}{4}$	.625
7696.....	$\frac{1}{2}$ x $\frac{3}{8}$	.675

Insulating Joints Used for Above

List No.	Size	*List Price
7703.....	$\frac{3}{8}$ x $\frac{3}{8}$	\$0.36

For Nos. 7681-2-3-7691-2-3

List No.	Size	*List Price
7706.....	$\frac{1}{2}$ x $\frac{3}{8}$	\$0.50

For Nos. 7684-5-6-7694-5-6

Malleable Iron Hickeys For Above

List No.	Size	*List Price
1535.....	$\frac{1}{8}$ F x $\frac{3}{8}$ M	\$0.05
1536.....	$\frac{1}{4}$ F x $\frac{3}{8}$ M	.05
1539.....	$\frac{3}{8}$ F x $\frac{3}{8}$ M	.06

Brass Hickeys For Above

List No.	Size	*List Price
1534.....	$\frac{1}{8}$ F x $\frac{3}{8}$ M	\$0.125
1508.....	$\frac{1}{4}$ F x $\frac{3}{8}$ M	.125
1510.....	$\frac{3}{8}$ F x $\frac{3}{8}$ M	.175

The above hickeys are tapped on male end $\frac{3}{8}$ inch standard iron pipe size, and are interchangeable on all insulating joints listed above.

BLANK JOINTS FOR EXTERNALLY WIRED FIXTURES

List No.	Size	*List Price
7701.....	$\frac{3}{8}$ x $\frac{1}{8}$	\$0.36
7702.....	$\frac{3}{8}$ x $\frac{1}{4}$	.36
7703.....	$\frac{3}{8}$ x $\frac{3}{8}$	.36
7704.....	$\frac{1}{2}$ x $\frac{1}{8}$	.50
7705.....	$\frac{1}{2}$ x $\frac{1}{4}$	.50
7706.....	$\frac{1}{2}$ x $\frac{3}{8}$	.50
7707.....	$\frac{1}{2}$ x $\frac{1}{2}$	.50
7708.....	$\frac{3}{4}$ x $\frac{3}{8}$	1.25

List No.	Size	*List Price
7709.....	$\frac{3}{4}$ x $\frac{1}{2}$	\$1.25
7710.....	$\frac{3}{4}$ x $\frac{3}{4}$	1.25
7711.....	1 x $\frac{1}{2}$	1.75
7712.....	1 x $\frac{3}{4}$	1.75
7713.....	1 x 1	1.75
7714.....	1 $\frac{1}{4}$ x 1 $\frac{1}{4}$	3.75
7715.....	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	6.00
7716.....	2 x 2	9.00

BLANK JOINTS, MALE AND FEMALE

List No.	Size	*List Price
7721.....	$\frac{3}{8}$ F x $\frac{1}{8}$ M	\$0.36
7722.....	$\frac{3}{8}$ F x $\frac{1}{4}$ M	.36
7723.....	$\frac{3}{8}$ F x $\frac{3}{8}$ M	.36
7724.....	$\frac{1}{2}$ F x $\frac{1}{8}$ M	.50
7725.....	$\frac{1}{2}$ F x $\frac{1}{4}$ M	.50
7726.....	$\frac{1}{2}$ F x $\frac{3}{8}$ M	.50
7727.....	$\frac{1}{2}$ F x $\frac{1}{2}$ M	.50

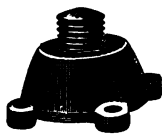
List No.	Size	*List Price
7728.....	$\frac{3}{4}$ F x $\frac{3}{8}$ M	\$1.45
7729.....	$\frac{3}{4}$ F x $\frac{1}{2}$ M	1.45
7730.....	$\frac{3}{4}$ F x $\frac{3}{4}$ M	1.45
7731.....	1 F x $\frac{1}{2}$ M	2.00
7732.....	1 F x $\frac{3}{4}$ M	2.00
7733.....	1 F x 1 M	2.00

List No.	Size	*List Price
7734.....	$\frac{3}{8}$ M x $\frac{1}{8}$ F	\$0.36
7735.....	$\frac{3}{8}$ M x $\frac{1}{4}$ F	.36
423601.....	$\frac{3}{8}$ M x $\frac{3}{8}$ F	.36

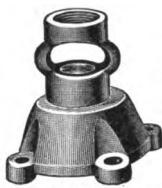
List No.	Size	*List Price
7736.....	$\frac{1}{2}$ M x $\frac{1}{8}$ F	\$0.50
7737.....	$\frac{1}{2}$ M x $\frac{1}{4}$ F	.50
7738.....	$\frac{1}{2}$ M x $\frac{3}{8}$ F	.50

*Delivery F. O. B. Factory, Boston, Mass. For warehouse deliveries, write nearest house.

MACALLEN INSULATING JOINTS



Stud



Stud with Hickey



Hickey

Insulated Fixture Studs
Malleable Iron

List No.	Size	*List Price Each
1335	$\frac{1}{8}$	\$0.375
1339	$\frac{1}{4}$	.375
1340	$\frac{3}{8}$	.50

Furnished to order in composition brass.

Insulated Fixture Studs With Hickeys
Malleable Iron

List No.	Size	*List Price Each
1329	$\frac{1}{8}$	\$0.45
1330	$\frac{1}{4}$	.45
1334	$\frac{3}{8}$	.45

These studs are secured to the box with four screws and are designed to fit the "Bossert" and other standard outlet boxes.

Hickeys

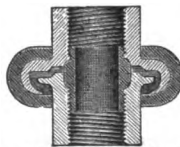
Malleable Iron

List No.	Size	List Price Each	List No.	Size	List Price Each
1460	$\frac{1}{8} \times \frac{1}{8}$	\$0.05	1463	$\frac{1}{4} \times \frac{3}{8}$	\$0.075
1451	$\frac{1}{4} \times \frac{1}{8}$	.05	1456	$\frac{1}{4} \times \frac{1}{4}$	.075
1452	$\frac{1}{4} \times \frac{1}{4}$	.05	1597	$\frac{1}{4} \times \frac{3}{8}$	.175
1453	$\frac{1}{4} \times \frac{1}{8}$	.06	1464	$\frac{1}{4} \times \frac{1}{4}$	.175
1454	$\frac{3}{8} \times \frac{1}{4}$	.06	1457	$\frac{1}{4} \times \frac{3}{4}$	.175
1455	$\frac{3}{8} \times \frac{3}{8}$	.06	1465	$1 \times \frac{3}{4}$	.25
1461	$\frac{1}{2} \times \frac{1}{4}$	.075	1458	1×1	.25
1462	$\frac{1}{2} \times \frac{1}{4}$	.075			

The above hickeys will not fit insulating joints the nipples of which are tapped with special straight threads.



Joints for Gas Mains and Interior Conduits



Sectional View of Joint for Conduits

Insulating Joints for Gas Service Mains and Interior Conduits

They are insulated on the interior surface to prevent moisture lodging around the mica insulation where they are used on gas service mains.

Composition Brass

List No.	Size	*List Price Each
1624	$\frac{3}{4} \times \frac{3}{4}$	\$1.90
1625	1×1	3.20
1626	$1\frac{1}{4} \times 1\frac{1}{4}$	5.50
1627	$1\frac{1}{2} \times 1\frac{1}{2}$	9.25
1628	2×2	15.25
1629	$2\frac{1}{2} \times 2\frac{1}{2}$	30.50
1630	3×3	45.50

Malleable Iron

List No.	Size	*List Price Each
1634	$\frac{3}{4} \times \frac{3}{4}$	\$1.40
1635	1×1	1.95
1636	$1\frac{1}{4} \times 1\frac{1}{4}$	4.00
1637	$1\frac{1}{2} \times 1\frac{1}{2}$	6.25
1638	2×2	9.25
1639	$2\frac{1}{2} \times 2\frac{1}{2}$	20.50
1640	3×3	30.50

Blank Joints for Insulating Metal Rods

Tapped Machine Sizes

These joints should not be used where the voltage exceeds 500.

Composition Brass

List No.	Size	Thread	*List Price Each
1643	$\frac{1}{2} \times \frac{1}{2}$	13 U.S.S.	\$0.70
1644	$\frac{5}{8} \times \frac{5}{8}$	11 U.S.S.	.95
1645	$\frac{3}{4} \times \frac{3}{4}$	10 U.S.S.	1.25
1646	$\frac{1}{2} \times \frac{1}{2}$	9 U.S.S.	1.60
1647	1×1	8 U.S.S.	2.40

Malleable Iron

List No.	Size	Thread	*List Price Each
1653	$\frac{1}{2} \times \frac{1}{2}$	13 U.S.S.	\$0.50
1654	$\frac{5}{8} \times \frac{5}{8}$	11 U.S.S.	.60
1655	$\frac{3}{4} \times \frac{3}{4}$	10 U.S.S.	.80
1656	$\frac{1}{2} \times \frac{1}{2}$	9 U.S.S.	1.10
1657	1×1	8 U.S.S.	1.50

Larger or smaller sizes or tapped to 16th sizes to order. Whitworth and other special threads to order.

*Delivery, F. O. B. Factory, Boston, Mass. For warehouse deliveries write nearest house.

MACALLEN INSULATING JOINTS

Malleable Iron



Insulated Hook



Insulated Eye

Insulated Hooks and Eyes

FOR SUSPENDING ELECTRIC FANS, ETC.

Insulated Hooks

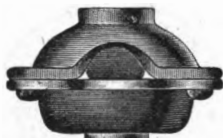
List No.	Size	*List Price Each
1391.....	$\frac{3}{8}$	\$0.50
1392.....	$\frac{1}{2}$	.65
1393.....	$\frac{3}{4}$	1.35

Insulated Eyes

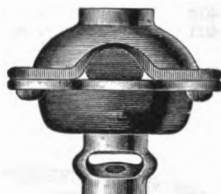
List No.	Size	*List Price Each
1395.....	$\frac{3}{8}$	\$0.50
1396.....	$\frac{1}{2}$	.65
1397.....	$\frac{3}{4}$	1.35



Double Separable
Electrolier Joint



Separable Electrolier Joint



Combined Electrolier
Joint with Hickey

Double Separable Electrolier Joints

These joints are designed to use with straight electric fixtures in places where fixtures cannot be turned.

List No.	Size	*List Price Each
1341.....	$\frac{3}{8} \times \frac{1}{8}$	\$0.65
1342.....	$\frac{3}{8} \times \frac{1}{4}$	.65
1343.....	$\frac{3}{8} \times \frac{1}{2}$	.65
1344.....	$\frac{1}{2} \times \frac{1}{8}$	.70
1345.....	$\frac{1}{2} \times \frac{1}{4}$	.70
1346.....	$\frac{1}{2} \times \frac{3}{8}$	.70
1347.....	$\frac{1}{2} \times \frac{1}{2}$	.80

Separable Electrolier Tripod Joints

For conduits, with passage for wires through insulation.

List No.	Size	*List Price Each
1351.....	$\frac{3}{8} \times \frac{1}{8}$	\$0.60
1352.....	$\frac{3}{8} \times \frac{1}{4}$	.60
1353.....	$\frac{3}{8} \times \frac{1}{2}$	.65
1354.....	$\frac{1}{2} \times \frac{1}{8}$	.65
1355.....	$\frac{1}{2} \times \frac{1}{4}$	.65
1356.....	$\frac{1}{2} \times \frac{3}{8}$	.70
1357.....	$\frac{1}{2} \times \frac{1}{2}$	.75
1359.....	$\frac{3}{4} \times \frac{1}{2}$	.90

Combined Electrolier Tripod and Hickey Separable Joints

With double outlets for wires and no passage through insulation.

List No.	Size	*List Price Each
1361.....	$\frac{3}{8} \times \frac{1}{8}$	\$0.65
1362.....	$\frac{3}{8} \times \frac{1}{4}$	.65
1363.....	$\frac{3}{8} \times \frac{3}{8}$	.65
1364.....	$\frac{1}{2} \times \frac{3}{8}$	.70

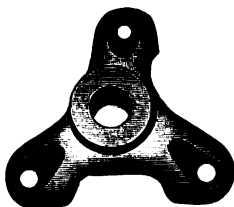
List No.	Size	*List Price Each
1365.....	$\frac{1}{2} \times \frac{1}{4}$	\$0.70
1366.....	$\frac{1}{2} \times \frac{3}{8}$	.70
1367.....	$\frac{1}{2} \times \frac{1}{2}$	.80

*Delivery F. O. B. Factory, Boston, Mass. For warehouse deliveries, write nearest house.

LIGHTING FIXTURE ACCESSORIES



Iron Dupod



Iron Crowfoot



Insulated Crowfoot

IRON DUPODS

List No.		Tapped	Diam.	*List Price per 100
597	Iron Dupod.....	$\frac{1}{8}$	....	\$5.00
598	Iron Dupod.....	$\frac{1}{4}$	....	5.00
599	Iron Dupod.....	$\frac{1}{2}$	....	5.00

IRON CROWFOOT

List No.		Tapped	Diam.	*List Price per 100
591	Iron Crowfoot.....	$\frac{1}{8}$	$2\frac{1}{4}$	\$3.74
592	Iron Crowfoot.....	$\frac{1}{4}$	$2\frac{1}{4}$	3.74
593	Iron Crowfoot.....	$\frac{3}{8}$	$2\frac{1}{4}$	3.74

INSULATED CROWFOOT
Malleable Iron Only

List No.	Size	*List Price Each	List No.	Size	*List Price Each
1401	$\frac{1}{8}$ in.	\$0.80	1404	$\frac{1}{2}$ in.	\$1.06
1402	$\frac{1}{4}$ in.	.80	1405	$\frac{3}{4}$ in.	2.20
1403	$\frac{3}{8}$ in.	.80			



Iron Tripod



Fixture Block



Robert's Fixture Block

IRON TRIPOD

List No.		Tapped	Diam.	List Price per 100
685	Iron Tripod.....	$\frac{1}{8}$	$2\frac{3}{4}$	\$5.94
686	Iron Tripod.....	$\frac{1}{4}$	$2\frac{3}{4}$	5.94
687	Iron Tripod.....	$\frac{3}{8}$	$2\frac{3}{4}$	5.94

PLAIN SOFT WOOD FIXTURE BLOCKS

List No.	Size	Thick	List Price per 100	List No.	Size	Thick	List Price per 100
421056	3 ins.	$\frac{1}{2}$ or $\frac{1}{8}$ in.	\$6.00	421059	$4\frac{1}{2}$ ins.	$\frac{1}{2}$ or $\frac{1}{8}$ in.	\$9.00
421057	$3\frac{1}{2}$ ins.	$\frac{1}{2}$ or $\frac{1}{8}$ in.	7.00	421060	5 ins.	$\frac{1}{2}$ or $\frac{1}{8}$ in.	10.50
421058	4 ins.	$\frac{1}{2}$ or $\frac{1}{8}$ in.	8.00	421061	$5\frac{1}{2}$ ins.	$\frac{1}{2}$ or $\frac{1}{8}$ in.	12.50

ROBERT'S FIXTURE BLOCKS

This block fits four sizes of Canopies—3, $3\frac{1}{2}$, 4 and $4\frac{1}{2}$ inches in diameter.

List No.		*List Price per 100
421062	Plain Unfinished Block.....	\$14.00
421063	Polished Oak Block.....	16.00

*Delivery F. O. B. Factory, Boston, Mass. †Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries, write nearest house

Lighting Fixtures and Accessories

CEILING AND PORCH BANDS



No. 1068



No. 638



No. 133

Ceiling and Porch Bands

For 3¼, 4 and 5 Inch Glass

NO. 1068
Used with Receptacle 7 x 2½
For 3¼ Inch Glass

List No.		*List Price Each
1068	Brush brass.....	\$0.54
1068C	Black.....	.54
1068B	Oxidized copper.....	.60
1068A	Unfinished.....	.48

NO. 1068E—4
For 4 Inch Glass

1068E	Brush brass.....	\$0.60
1068F	Black.....	.60
1068G	Oxidized copper.....	.66
1068D	Unfinished.....	.54

NO. 1048—3¼
Made of Sheet Copper for Outdoor Work
For 3¼ Inch Glass

1048	Polished copper.....	\$0.72
1048C	Black.....	.72
1048B	Oxidized copper.....	.84
1048A	Unfinished.....	.60

NO. 1048E—4
Made of Sheet Copper for Outdoor Work
For 4 Inch Glass

List No.		*List Price Each
1048E	Polished copper.....	\$0.78
1048F	Black.....	.78
1048G	Oxidized copper.....	.90
1048D	Unfinished.....	.66

NO. 133
With Securing Saddle and Nipple 7 x 2½
For 3¼ Inch Glass

133	Brush brass.....	\$0.54
133C	Black.....	.54
133B	Oxidized copper.....	.60
133A	Unfinished.....	.48

NO. 133E—4
For 4 Inch Glass

133E	Brush brass.....	\$0.60
133F	Black.....	.60
133G	Oxidized copper.....	.66
133D	Unfinished.....	.54

NO. 638

Heavy Spun Brass

Used with Receptacle 8 x 2½ Inches
For 5 Inch Glass

638	Brush brass.....	\$0.96	638B	Oxidized copper.....	\$1.02
638C	Black.....	.96	638A	Unfinished.....	.90



No. 8013



No. 637



No. 3011

Ceiling and Porch Bands

NO. 8013
Used with Receptacle 9¼ x 3
For 6 Inch Glass

List No.		*List Price Each
8013	Brush brass.....	\$1.20
8013C	Black.....	1.20
8013B	Oxidized copper.....	1.50
8013A	Unfinished.....	1.08

NO. 637
Used with Receptacle 6 x 2½
For 2¼ Inch Glass

List No.		*List Price Each
637	Brush brass.....	\$0.36
637C	Black.....	.36
637B	Oxidized copper.....	.42
637A	Unfinished.....	.30

NO. 3011
Used with Separable Sign Receptacle 7 x 3
For 2¼ Inch Glass

3011	Brush brass.....	\$1.14	3011B	Oxidized copper.....	\$1.32
3011C	Black.....	1.14	3011A	Unfinished.....	.90

Furnished without holes. Can be screwed to ceiling or wall. Will fit a 3 or 4 inch outlet box. This ceiling light is furnished with a separable sign receptacle and is used without an insulating joint.

NOTE: Brush brass finish always furnished unless otherwise specified.

*Delivery F. O. B. Factory, Decatur, Ill. For warehouse deliveries, write nearest house.

FARIES CEILING FIXTURES



No. 635



No. 1003

Ceiling and Porch Bands

No. 635
With Four Screw Holes
Used with Receptacle $6\frac{1}{4} \times 2$
For $3\frac{3}{4}$ Inch Glass

List No.		*List Price Each
635	Brush brass.....	\$0.30
635C	Black.....	.30
635B	Oxidized copper.....	.36
635A	Unfinished.....	.24

No. 636
With Four Screw Holes
 $6\frac{1}{4} \times 2$. For 4 Inch Glass

636	Brush brass.....	\$0.35
636C	Black.....	.35
636B	Oxidized copper.....	.42
636A	Unfinished.....	.29

No. 636D
With Four Screw Holes
 $6\frac{1}{4} \times 2$
Made of Sheet Copper for Outdoor Work
For 4 Inch Glass

List No.		*List Price Each
636E	Polished copper.....	\$0.41
636F	Black.....	.41
636G	Oxidized copper.....	.47
636D	Unfinished.....	.35

No. 1003
Used with Receptacle $5 \times 1\frac{1}{2}$
For $3\frac{3}{4}$ Inch Glass

1003	Brush brass.....	\$0.30
1003C	Black.....	.30
1003B	Oxidized copper.....	.36
1003A	Unfinished.....	.24

No. 635D
With Four Screw Holes
 $6\frac{1}{4} \times 2$

Made of Sheet Copper for Outdoor Work
For $3\frac{3}{4}$ Inch Glass

635E	Polished Copper.....	\$0.36
635F	Black.....	.36
635G	Oxidized Copper.....	\$0.42
635D	Unfinished.....	.30



No. 2383



No. 2385



No. 2587

Canopies

List No.		*List Price Each
2383	Canopy $4\frac{1}{2} \times 3$ in., with ring.....	Finish Brush brass \$0.27
2383B	Canopy $4\frac{1}{2} \times 3$ in., with ring.....	Ox. copper .33
2385	Canopy $4\frac{1}{2} \times 4$ in., with ring.....	Brush brass .30
2385B	Canopy $4\frac{1}{2} \times 4$ in., with ring.....	Ox. copper .36
2587	Round Canopy $6\frac{1}{2} \times 4$ in., with ring.....	Ox. copper .72
2587B	Round Canopy $6\frac{1}{2} \times 4$ in., with ring.....	Brush brass .84
		Ox. copper .84

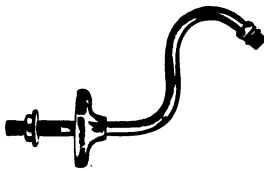
NOTE: Do not fail to specify size of slip ring desired.

Brush brass finish always shipped unless otherwise specified.

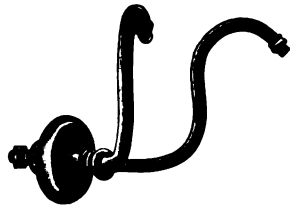
*Delivery F. O. B. Factory, Decatur, Ill. For warehouse deliveries, write nearest house.

Lighting Fixtures and Accessories

FARIES WALL BRACKETS AND TUBES



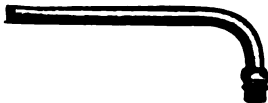
No. 158



No. 1695

Switchboard Brackets

List No.		Finish	Std. Pkg.	*List Price Each
158	Switchboard Bracket, extends 5 in.	Brush brass	12	\$0.54
158	Switchboard Bracket, extends 5 in.	Ox. copper	12	.72
158	Switchboard Bracket, extends 5 in.	Pol. copper	12	.72
1695	Switchboard Bracket, extends 6 in., Spread 5 1/4 in.	Brush brass	12	1.32
1695	Switchboard Bracket, extends 6 in., Spread 5 1/4 in.	Ox. copper	12	1.68
1695	Switchboard Bracket, extends 6 in., Spread 5 1/4 in.	Pol. copper	12	1.68



No. 2239



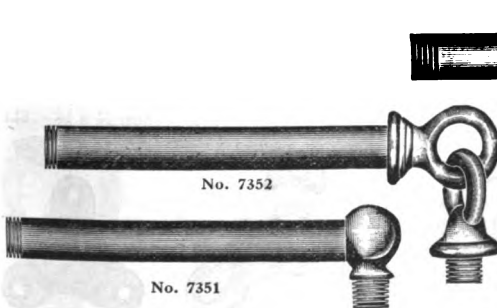
No. 71



No. 80

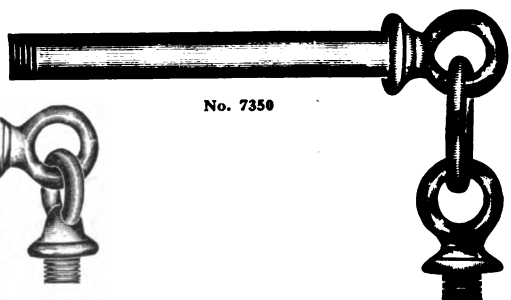
Electric Bracket Tubes

List No.		Size	Std. Pkg.	*List Price Each—		
				Brush Brass	Ox. Copper	
2239	Electric Bracket Tubes	5 in.	24	\$0.15	\$0.18	
71	Electric Bracket Tubes	6 in.	24	.18	.22	
71	Electric Bracket Tubes	8 in.	24	.22	.26	
71	Electric Bracket Tubes	10 in.	24	.24	.28	
80	Electric Bracket Tubes	6 in.	24	.18	.22	
80	Electric Bracket Tubes	8 in.	24	.22	.26	
80	Electric Bracket Tubes	10 in.	24	.24	.28	



No. 7352

No. 7351



No. 7350

Electric Bracket Tubes

Fan Arms

List No.		Length	Size Tube	Std. Pkg.	*List Price Each—		
					Brush Brass	Ox. Copper	
7350	Fan Arm	7 1/2 in.	1/4 iron	24	\$0.60	\$0.72	
7351	Fan Arm	7 1/2 in.	1/4 iron	24	.42	.54	
7352	Fan Arm	7 1/2 in.	1/4 iron	24	.48	.60	

NOTE: These tubes are always shipped in brush brass finish and the smallest size listed unless otherwise ordered.

*Delivery F. O. B. Factory, Decatur, Ill. For warehouse deliveries write nearest house.

FARIES CEILING AND WALL FIXTURES



No. 2725 Female—No. 797 Male

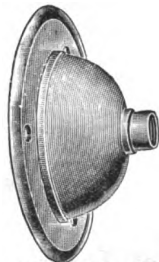


No. 2912

Wall Plates

List No.		Tapped	Size Ins.	List Price Each		
				Brush Brass	Ox. Copper	
*2725	Female, deep wall plate or ceiling light.	$\frac{1}{8}$ in.	$3\frac{5}{8} \times 3\frac{3}{4}$	\$0.42		\$0.48
*797	Male, deep wall plate or ceiling light.	$\frac{1}{8}$ in.	$3\frac{5}{8} \times 3\frac{3}{4}$	.42		.48
2912	Female, wall plate.	$\frac{1}{8}$ in.	$4\frac{1}{4} \times 1\frac{1}{2}$	.24		.30

*For electric pendant or bracket over gas outlet without insulating joint.

No. 2731 Female
No. 2732 MaleNo. 1684 Female
No. 2913 Male

No. 95



No. 45

Bracket Plates

List No.		Size Ins.	List Price Each		
			Brush Brass	Ox. Copper	
2731	Female, Bracket Plates, tapped $\frac{1}{8}$ iron.	$3\frac{1}{2} \times 1\frac{1}{2}$	\$0.20		\$0.22
2732	Male, Bracket Plates, tapped $\frac{1}{8}$ iron.	$3\frac{1}{2} \times 1\frac{1}{2}$	.20		.22
1684	Female, Bracket Plates, tapped $\frac{1}{8}$ iron.	$3\frac{1}{2} \times 1\frac{1}{2}$	.18		.21
2913	Male, Bracket Plates, tapped $\frac{1}{8}$ iron.	$3\frac{1}{2} \times 1\frac{1}{2}$	.18		.21
†95	Female, Bracket Plates, tapped $\frac{1}{8}$ iron.	$3\frac{1}{2} \times 1\frac{1}{2}$	.05		.05
45	Female, Bracket Plates, tapped $\frac{1}{8}$ iron.	$2\frac{1}{4} \times 1$	.09		.10

† $1\frac{1}{4}$ inch male or female.

No. 7420



No. 1549



No. 1004



No. 48

Iron Crowfeet, Tripods and Fixture Studs

List No.		Tapped	List Price Each	
			Each	
7420	Fixture Stud, $1\frac{1}{2}$ in. square.	$\frac{1}{8}$ iron	\$0.04	
1549	Tripod, diameter $2\frac{1}{4}$ in.	$\frac{1}{8}$ iron	.04	
1549A	Tripod, diameter $2\frac{1}{4}$ in.	$\frac{1}{4}$ iron	.04	
1004	Crowfoot, diameter $2\frac{3}{4}$ in.	$\frac{1}{4}$ iron	.04	
48	Crowfoot, diameter 3 in.	$\frac{1}{4}$ iron	.04	
48A	Crowfoot, diameter 3 in.	$\frac{1}{4}$ iron	.04	
48B	Crowfoot, diameter 3 in.	$\frac{1}{8}$ iron	.04	

†Delivery F. O. B. Factory, Decatur, Ill. For warehouse deliveries write nearest house.

CONNECTORS, BUSHINGS AND BRASS NIPPLES



No. 844



No. 843



No. 842



No. 1000

Bushings

List No.		*List Price Each
844	$\frac{1}{4}$ x $\frac{1}{8}$ iron	\$0.05
843	$\frac{3}{8}$ x $\frac{1}{4}$ iron	.06
842	$\frac{3}{8}$ x $\frac{1}{8}$ iron	.07
1000	$\frac{1}{2}$ x $\frac{3}{8}$ iron	.10



No. 139



No. 124



No. 853



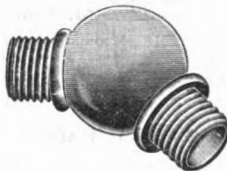
No. 887

Brass Nozzles

List No.		*List Price Each	List No.		*List Price Each
139	$\frac{1}{8}$ iron	\$0.11	853	$\frac{1}{8}$ iron to burner	\$0.07
124	$\frac{1}{8}$ iron	.11	887	$\frac{1}{8}$ iron to burner	.07
124A	$\frac{1}{8}$ iron	.11			



No. 1756



No. 2911



No. 161



No. 143

Connectors and Bushings

List No.		*List Price Each
1756	45° angle, for clusters and ceiling fans.	\$0.12
1756	45° angle, for clusters and ceiling fans.	.15
2911	$\frac{1}{8}$ iron to burner.	.16
161	$\frac{1}{8}$ iron to burner.	.03
143	$\frac{1}{8}$ x $\frac{1}{8}$ iron.	.03



No. 123



No. 2579



No. 798



No. 799



No. 990

Nozzles and Nipples

List No.		*List Price Each
123	$\frac{3}{8}$ iron to burner	\$0.14
2579	End nozzle, tapped $\frac{1}{8}$ and $\frac{1}{4}$ iron, female, seats $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 in. casing.	.19
798	$\frac{3}{8}$ iron male, $\frac{3}{8}$ iron female.	.16
799	$\frac{3}{8}$ x $\frac{3}{8}$ iron.	.12
990	$\frac{1}{4}$ iron to burner.	.06

Brushed and lacquered 50% extra.

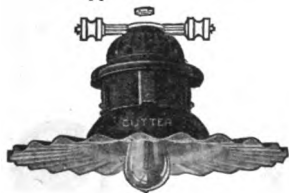
NOTE: Goods on this page are always shipped unfinished unless otherwise specified, except No. 1756.

*Delivery F. O. B. Factory, Decatur, Ill. For warehouse deliveries write nearest house.

CUTTER RADIAL STREETHOOD BODIES

For Street Lighting

A Radial Streethood Body consists of a ventilated iron canopy threaded for $\frac{3}{4}$ inch pipe or adapter or for $1\frac{1}{4}$ inch pipe; a porcelain housing with attachments for either multiple or series sockets and a porcelain enameled radial reflector with or without diffusing glassware. The porcelain housing is made for use with either inner-wired or outer-wired fixtures and is covered with a weatherproof glaze of an attractive color. Wires leading to the socket may be tied securely in the rim of the porcelain thus eliminating the necessity of a crossarm.† Where list prices include sockets, Cutter lamp grip multiple sockets or Regent film sockets* will be supplied.



18 Inch Radial Bowl Streethood Body,
Showing use of Simple Crossarm
and Locknut for $\frac{1}{2}$ Inch Gooseneck
Suspension



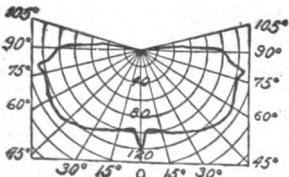
20 Inch Radial Bowl Streethood Body,
with Extension



20 Inch Flat Radial Streethood Body



20 Inch Flat Radial Streethood Body,
with Extension



Distribution Curve for 100 C. P. Lamp
and 18 Inch Radial Bowl Reflector

Delivery F. O. B. Factory, South Bend, Ind.
Street Lighting Appliances

18 INCH RADIAL BOWL STREETHOOD BODIES

For 60, 80 and 100 C. P. series and 300-watt or Smaller Multiple
Type C Mazda Lamps

List No. for $\frac{3}{4}$ in. Pipe	List No. for $1\frac{1}{4}$ in. Pipe	Description	Std. Pkg.	Ship. Wt. Lbs.	List Price Each
20001	20002	Medium screw socket.....	20	13 $\frac{3}{4}$	\$6.84
20003	20004	Mogul screw socket.....	20	14	7.20
20005	20006	*Regent film socket.....	20	14 $\frac{1}{2}$	8.40
20007	20008	Without socket.....	20	12 $\frac{3}{4}$	6.24

20 INCH RADIAL BOWL STREETHOOD BODIES

For 60, 80 and 100 C. P. Series and 300-Watt or Smaller Multiple
Type C Mazda Lamps

20009	20010	Medium screw socket.....	20	14 $\frac{1}{4}$	\$7.44
20011	20012	Mogul screw socket.....	20	15 $\frac{1}{4}$	7.80
2 1013	20014	*Regent film socket.....	20	15 $\frac{3}{4}$	9.00
20015	20016	Without socket.....	20	14	6.84

20 INCH RADIAL BOWL STREETHOOD BODIES

WITH EXTENSION

For 250, 400 and 600 C. P. Series and 400-watt or Larger
Multiple Type C Mazda Lamps

20017	20018	Medium screw socket.....	20	15 $\frac{3}{4}$	\$8.04
20019	20020	Mogul screw socket.....	20	16 $\frac{1}{4}$	8.40
20021	20022	*Regent film socket.....	20	16 $\frac{3}{4}$	9.60
20023	20024	Without socket.....	20	15	7.44

24 INCH RADIAL BOWL STREETHOOD BODIES

WITH ACORN DIFFUSER

For 250, 400 and 600 C. P. Series and 400, 500, 750 and 1000-watt
Multiple Type C Mazda Lamps

20025	20026	Medium screw socket.....	20	26 $\frac{3}{4}$	\$13.44
20027	20028	Mogul screw socket.....	20	27 $\frac{1}{4}$	13.80
20029	20030	*Regent film socket.....	20	27 $\frac{3}{4}$	15.00
20031	20032	Without socket.....	20	26	12.84

† If Acorn Diffuser is not wanted, deduct \$4.50 list.

20 INCH FLAT RADIAL STREETHOOD BODIES

For Old Style Series and Small Multiple Lamps

20033	20034	Medium screw socket.....	20	12 $\frac{3}{4}$	\$5.94
20035	20036	Mogul screw socket.....	20	12 $\frac{1}{2}$	6.30
20037	20038	*Regent film socket.....	20	12 $\frac{3}{4}$	7.50
20039	20040	Without socket.....	20	11 $\frac{3}{4}$	5.34

20 INCH FLAT RADIAL STREETHOOD BODIES

WITH EXTENSION

For 60, 80 and 100 C. P. Type C Street Series Lamps

20041	20042	Medium screw socket.....	20	13 $\frac{3}{4}$	\$7.14
20043	20044	Mogul screw socket.....	20	13 $\frac{1}{2}$	8.70
20045	20046	*Regent film socket.....	20	13 $\frac{3}{4}$	8.70
20047	20048	Without socket.....	20	12 $\frac{3}{4}$	6.54

† Simple crossarm No. 20752 with $\frac{3}{4}$ inch locknut may be attached to canopy for $\frac{3}{4}$ inch gooseneck suspension. Add 36 cents to list price.

* Standard film socket will be furnished in place of Regent when so ordered.

For warehouse deliveries write nearest house.

CUTTER STREETHOOD BODIES

For Street Lighting

A Refractor or Diffuser Streethood Body consists of a ventilated iron canopy threaded for $\frac{3}{4}$ inch pipe or adapter or for $1\frac{1}{4}$ inch pipe; a porcelain housing with attachments for either multiple or series sockets, a porcelain enameled reflector and a prismatic glass refractor or opal diffuser. The porcelain housing is made for use with either inner-wired or outer-wired fixtures and is covered with a weatherproof glaze of an attractive color. Wires leading to the socket may be tied securely in the rim of the porcelain housing, thus eliminating the necessity of a crossarm.† Where list prices include sockets, Cutter lamp grip multiple sockets or Regent film sockets* will be supplied.



**18 Inch Radial Bowl Streethood Body
with Large Refractor**

18 INCH RADIAL BOWL BODIES WITH REFRACTOR For 250, 400 and 600 C. P. Type C Series Mazda Lamps

List No. for $\frac{3}{4}$ in. Pipe	List No. for $1\frac{1}{4}$ in. Pipe	Description	Std. Pkg.	Ship. Wt., Lbs. Each	List Price Each
20049	20050	Medium screw socket.....	20	21 $\frac{1}{4}$	\$16.74
20051	20052	Mogul screw socket.....	20	21 $\frac{3}{4}$	17.10
20053	20054	*Regent film socket.....	20	22	18.30
20055	20056	Without socket.....	20	21	16.14

18 INCH RADIAL BOWL BODIES WITH OPAL DIFFUSER

For 250, 400 and 600 C. P. Type C Series Mazda Lamps

20057	20058	Medium screw socket.....	20	17 $\frac{1}{4}$	\$8.94
20059	20060	Mogul screw socket.....	20	17 $\frac{3}{4}$	9.30
20061	20062	*Regent film socket.....	20	18	10.50
20063	20064	Without socket.....	20	17	8.34

12 INCH EXTENDED DOME BODIES WITH REFRACTOR

For 60, 80 and 100 C. P. Type C Series Mazda Lamps

20065	20066	Medium screw socket.....	20	14 $\frac{1}{4}$	\$10.44
20067	20068	Mogul screw socket.....	20	15	10.80
20069	20070	*Regent film socket.....	20	15 $\frac{1}{4}$	12.00
20071	20072	Without socket.....	20	13 $\frac{3}{4}$	9.84

12 INCH EXTENDED DOME BODIES WITH OPAL DIFFUSER

For 60, 80 and 100 C. P. Type C Series Mazda Lamps

20073	20074	Medium screw socket.....	20	12 $\frac{3}{4}$	\$7.14
20075	20076	Mogul screw socket.....	20	13	7.50
20077	20078	*Regent film socket.....	20	13 $\frac{1}{4}$	8.70
20079	20080	Without socket.....	20	11 $\frac{3}{4}$	6.54

15 INCH EXTENDED DOME BODIES WITH REFRACTOR

For 250, 400 and 600 C. P. Type C Series Mazda Lamps

20081	20082	Medium screw socket.....	20	19 $\frac{3}{4}$	\$16.14
20083	20084	Mogul screw socket.....	20	20	16.50
20085	20086	*Regent film socket.....	20	20 $\frac{1}{4}$	17.70
20087	20088	Without socket.....	20	18 $\frac{3}{4}$	15.54

15 INCH EXTENDED DOME BODIES WITH OPAL DIFFUSER

For 250, 400 and 600 C. P. Type C Series Mazda Lamps

20089	20090	Medium screw socket.....	20	15 $\frac{1}{4}$	\$8.34
20091	20092	Mogul screw socket.....	20	16	8.70
20093	20094	*Regent film socket.....	20	16 $\frac{1}{4}$	9.90
20095	20096	Without socket.....	20	14 $\frac{3}{4}$	7.74

PARTS FOR STREETHOOD BODIES

20097	20098	Canopy only.....	20	1 $\frac{1}{4}$	\$0.42
20099		Canopy only for insulating joint on Style B bracket.....	20	1 $\frac{1}{4}$	.42
20750		Porcelain housing.....	20	6 $\frac{1}{2}$	2.52
20751		Simple crossarm.....	20	1 $\frac{1}{2}$	.30
20752		Same, with $\frac{3}{4}$ inch locknut for gooseneck suspension.....	20	1 $\frac{1}{4}$	.36

†Simple crossarm No. 20752 with $\frac{3}{4}$ inch locknut may be attached to canopy for $\frac{3}{4}$ inch gooseneck suspension. Add 36 cents to list price.

*Standard film socket will be furnished in place of Regent when so ordered.

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.



**18 Inch Radial Bowl Streethood Body
with Large Opal Diffuser**



**12 Inch Extended Dome Streethood
Body with Small Refractor**

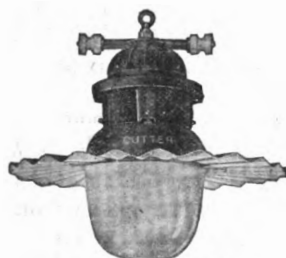


**15 Inch Extended Dome Streethood
Body with Large Opal Diffuser**



**Distribution Curve for 250 C.P. Lamp
and 18 Inch Radial Bowl Reflector
with Large Refractor**

CUTTER CENTER SUSPENSION STREETHOODS

Style D with 18 Inch
Radial Bowl ReflectorStyle D with 20 Inch
Radial Bowl Reflector
with ExtensionStyle DX with 18 Inch
Radial Bowl Reflector
and RefractorStyle EX with 12 Inch
Extended Dome Reflector
and Small Refractor
Street Lighting Appliances

STYLE D—LOOP SUSPENSION

A simple form of suspension fixture consisting of a streethood body without crossarm, a $\frac{3}{4}$ x $\frac{1}{4}$ inch adapter and a malleable iron arc ring.

With 18 Inch Radial Bowl Reflector
Medium Screw Socket. Mogul Screw Socket. *Regent Film Socket

List No.	List Price Each	List No.	List Price Each	List No.	Approx Wt. Lbs. Each	List Price Each
21531	\$7.14	21532	\$7.50	21533	15	\$8.70
With 18 Inch Radial Bowl and Large Refractor						
21534	17.04	21535	17.40	21536	23	18.60
With 18 Inch Radial Bowl and Large Opal Diffuser						
21537	9.24	21538	9.60	21539	19	10.80
With 20 Inch Radial Bowl Reflector						
21540	7.74	21541	8.10	21542	16½	9.30
With 20 Inch Radial Bowl with Extension						
21543	8.34	21544	8.70	21545	17½	9.90
With 24 Inch Radial Bowl Reflector						
21546	9.24	21547	9.60	21548	19½	10.80
With 24 Inch Radial Bowl and Acorn Diffuser						
21549	13.74	21550	14.10	21552	28½	15.30
With 20 Inch Flat Radial Wave Reflector						
21553	6.24	21554	6.60	21555	13½	7.80
With 20 Inch Flat Radial Wave Reflector with Extension						
21556	7.44	21557	7.80	21558	14½	9.00
With 12 Inch Extended Dome and Small Refractor						
21559	10.74	21560	11.10	21561	16	12.30
With 15 Inch Extended Dome and Large Refractor						
21565	16.44	21566	16.80	21567	21	18.00
Standard package 20 of one style or List No.						

Similar to Style D, with simple crossarm No. 20751, which fits between the canopy and the $\frac{3}{4}$ inch adapter. In ordering, use same List No. as for Style D, but with prefix "DX." Add 30 cents to list prices and 1½ pounds to shipping weights.

STYLE E—INSULATED LOOP SUSPENSION

Consists of Style D with a Cutter High Voltage Insulator between the arc ring and adapter.

With 18 Inch Radial Bowl Reflector						
21571	\$8.22	21572	\$8.68	21573	17½	\$9.78
With 18 Inch Radial Bowl and Large Refractor						
21574	18.12	21575	18.48	21576	25½	19.68
With 18 Inch Radial Bowl and Opal Diffuser						
21577	10.32	21578	10.68	21579	21½	11.88
With 20 Inch Radial Bowl Reflector						
21580	8.82	21581	9.18	21582	18½	10.38
With 20 Inch Radial Bowl with Extension						
21583	9.42	21584	9.78	21587	19½	10.98
With 24 Inch Radial Bowl Reflector						
21588	10.32	21589	10.68	21590	21½	11.88
With 24 Inch Radial Bowl and Acorn Diffuser						
21591	14.82	21592	15.18	21593	30½	16.38
With 20 Inch Flat Radial Wave Reflector						
21594	7.32	21595	7.68	21596	16½	8.88
With 20 Inch Flat Radial Wave Reflector with Extension						
21597	8.52	21598	8.88	21599	17½	10.08
With 12 Inch Extended Dome and Small Refractor						
21604	11.82	21605	12.18	21606	18½	13.38
With 15 Inch Extended Dome and Large Refractor						
21610	17.52	21611	17.88	21612	23½	19.08
Standard package 20 of one style or Mfr. No.						

Consists of Style E with simple crossarm No. 20751. In ordering, use List Nos. for Style E fixtures with prefix "EX." Add 30 cents to list prices and 1½ pounds to shipping weights.

SUSPENSION PARTS

List No.	Description	Wt. Lbs. Each	List Price Each
20751	Simple crossarm	1½	\$0.30
20753	$\frac{3}{4}$ x $\frac{1}{4}$ inch adapter	½	.12
20754	Arc ring with $\frac{1}{4}$ inch stud	½	.12
20755	H. V. insulator with $\frac{1}{4}$ inch studs	2½	1.08

*Standard film socket furnished in place of Regent when so ordered.
Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER INVERTED CONE STREETHOOD BODIES

For Street Lighting

Inverted Cone Streethood Bodies are made in two sizes with 18 and 22 inch hoods, respectively. The same reflector is used with both. The reflector shape, which resembles the frustrum of an inverted cone, is designed to throw the reflected rays out at a distance where they are needed to help the direct rays of the lamp. The hood overlaps the reflector so that most of the light passing above the horizontal is redirected into useful planes. Distribution curves show that the 18 inch size gives splendid results with 60, 80 and 100 candle power series lamps and small multiple lamps. The 22 inch size gives higher efficiency with the same lamps and is always recommended for 100 and 250 candle power series lamps.

An inverted cone body consists of a hood top, reflector, hood fork with $\frac{3}{4}$ inch rigid male nipple and with or without socket, according to list.

The hoods and reflectors are made of special deep drawing steel and finished in either high-grade weather-resisting baked paint enamel or porcelain enamel.

The hood fork has a flange near the top which fits directly beneath the upper portion of the hood. The $\frac{3}{4}$ inch nipple is made a rigid part of the flange, projecting above it for connection to the crossarm of outer-wired brackets or to the hood flange which is screwed on the outer end of inner-wired brackets.

CUTTER INVERTED CONE STREETHOOD BODIES

With 18 Inch Hood—Paint Enamel Finish

List No.	Description	Std. Pkg.	Weight, Lbs. Each	List Price Each
21682	Medium screw socket	20	5 $\frac{1}{2}$	\$2.28
21683	Mogul Screw Socket	20	5 $\frac{1}{2}$	2.64
21684	*Regent Film Socket	20	6	3.84
21685	Without socket	20	4 $\frac{3}{4}$	1.68

With 18 Inch Hood—Porcelain Enamel Finish

21686	Medium screw socket	20	6 $\frac{3}{4}$	\$4.08
21687	Mogul Screw Socket	20	7	4.44
21688	*Regent Film Socket	20	7 $\frac{1}{4}$	5.64
21689	Without socket	20	6 $\frac{1}{2}$	3.48

With 22 Inch Hood—Paint Enamel Finish

21690	Medium screw socket	20	7 $\frac{3}{4}$	\$3.00
21691	Mogul Screw Socket	20	8	3.36
21692	*Regent Film Socket	20	8 $\frac{1}{4}$	4.56
21693	Without socket	20	7	2.40

With 22 Inch Hood—Porcelain Enamel Finish

21694	Medium screw socket	20	9 $\frac{3}{4}$	\$5.04
21695	Mogul Screw Socket	20	10	5.40
21696	*Regent Film Socket	20	10 $\frac{1}{4}$	6.60
21697	Without socket	20	9	4.44

EXTRA PARTS AND SPECIAL FINISHES

21698	18 in. hood, paint enameled	20	2 $\frac{5}{8}$	\$0.72
21699	18 in. hood, porcelain enameled	20	3	1.80
21705	18 in. hood, galvanized and painted	20	2 $\frac{5}{8}$	1.20
21706	18 in. hood, copper	20	3	3.60
21707	22 in. hood, paint enameled	20	4 $\frac{3}{4}$	1.44
21708	22 in. hood, porcelain enameled	20	6 $\frac{1}{4}$	2.76
21709	22 in. hood, galvanized and painted	20	4 $\frac{3}{4}$	1.98
21710	Reflector, paint enameled	20	2 $\frac{1}{4}$	.72
21711	Reflector, porcelain enameled	20	2 $\frac{1}{4}$	1.44
21712	Reflector, nickeled copper	20	2 $\frac{3}{4}$	4.20
21713	Hood fork, $\frac{3}{4}$ in. rigid nipple	20	$\frac{1}{4}$	.24

*See description of Regent Film Socket. Standard Film Sockets will be furnished when so ordered.

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.



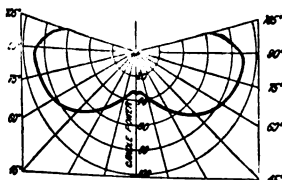
18 Inch Inverted Cone Streethood Body



22 Inch Inverted Cone Streethood Body



22 Inch Hood, Reflector and Regent Film Socket with Hood Fork and $\frac{3}{4}$ Inch Rigid Nipple

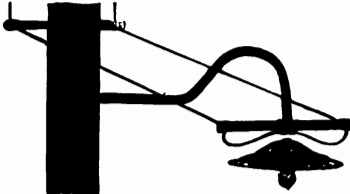


Distribution Curve for 80 C. P. Lamp and 18 Inch Inverted Cone Streethood Body

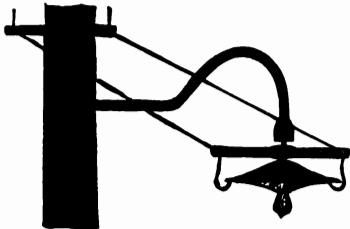
CUTTER INCANDESCENT BRACKETS

For Streethood Bodies

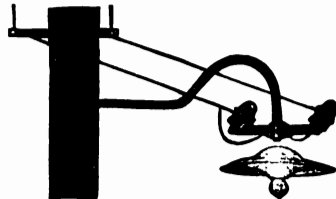
Brackets listed on this page are designed for use with Inverted Cone Streethood Bodies shown on preceding page. Prices include crossarms which are threaded underneath for $\frac{3}{4}$ inch nipple. Hood forks furnished with sockets for 18 and 22 inch Inverted Cone Streethood Bodies have rigid $\frac{3}{4}$ inch nipples. The flanged portion of the hood fork fits the lower surface of the hood top, clamping it securely to the crossarm. Prices do not include hoods, reflectors or sockets. Order Inverted Cone Streethood Bodies separately as listed on preceding page.



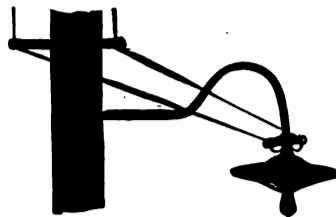
Standard Bracket



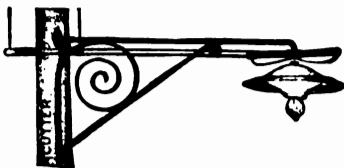
High Voltage Bracket



Iron Arm Bracket



Urban Bracket



Boulevard Bracket

Delivery F. O. B. Factory, South Bend, Ind.
 Street Lighting Appliances

STANDARD BRACKETS

Has a 3 foot gooseneck of $\frac{1}{2}$ inch pipe, pole plate and enameled wood crossarm with metal bound ends (to prevent splitting) and with wireable waste nut fastened to the arm. The brace arm shown on the back of the pole is used to guide the line wires to the crossarm. This method of wiring holds the fixture steady in stormy weather.

List No.	Description	Std. Pkg.	Wt. Lbs. Each	List Price
21923	With brace arm.....	20	10	\$2.10
21924	Without brace arm.....	20	7	1.44

RAILWAY BRACKETS

Similar to the Standard Bracket, with a clamp for iron pipe in place of the pole plate. Prices below do not include brace arm.

21925	For 2½ in. (bore) pipe.....	20	8	\$1.02
21926	For 3 in. (bore) pipe.....	20	9	1.74
21927	For 4 in. (bore) pipe.....	20	10	1.98
21928	For 5 in. (bore) pipe.....	20	11	2.22

HIGH VOLTAGE BRACKETS

Consists of the Standard Bracket with a Cutter High Voltage Insulator between the gooseneck and crossarm. This prevents grounds and leakage of current on high potential circuits. Prices below do not include streethood bodies.

21929	With brace arm.....	20	12½	\$3.18
21930	Without brace arm.....	20	9½	2.52

IRON ARM BRACKETS

Similar to the Standard Bracket, with an iron crossarm supporting glass insulators. Prices do not include streethood bodies.

21931	With brace arm.....	20	13	\$2.46
21932	Without brace arm.....	20	10	1.80

EASTERN BRACKETS

Consists of the Iron Arm Bracket with a Cutter High Voltage Insulator between the gooseneck and iron crossarm. Prices do not include streethood bodies.

21933	With brace arm.....	20	16	\$3.54
21934	Without brace arm.....	20	13	2.88

URBAN BRACKETS

The spreader on the end of the gooseneck has a fiber insulator to separate it from the streethood proper, thus reducing the risk of leakage on circuits up to 600 volts. Furnished with 3 foot gooseneck of $\frac{1}{2}$ inch pipe. Prices do not include streethood bodies.

21935	With brace arm.....	20	11	\$2.70
21936	Without brace arm.....	20	8	2.04

BOULEVARD BRACKETS

Furnished with pole plate, crossarm, and 5 foot gooseneck of $\frac{1}{2}$ inch pipe ornamented with wrought iron scrolls. Prices do not include streethood bodies.

21937	With brace arm.....	20	17	\$3.66
21938	Without brace arm.....	20	14	3.00

AVENUE BRACKETS

Same as the Boulevard Bracket, with a Cutter High Voltage Insulating Joint between the gooseneck and crossarm. Prices do not include streethood bodies.

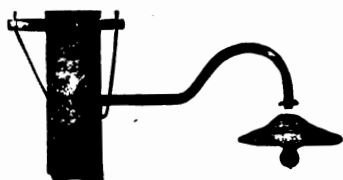
21939	With brace arm.....	20	20	\$4.74
21940	Without brace arm.....	20	17	4.08

For warehouse deliveries write nearest house.

CUTTER INCANDESCENT BRACKETS

For Streethood Bodies

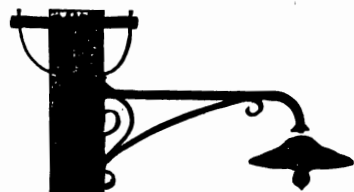
Brackets listed on this page are designed for inner-wired fixtures using Inverted Cone Streethood Bodies described and listed on a preceding page. The outer end of the gooseneck is fitted with a hood flange tapped for the $\frac{3}{4}$ inch hood fork nipple. Prices of brackets do not include hoods, reflectors, sockets or hood forks.



Inner-Wired Bracket



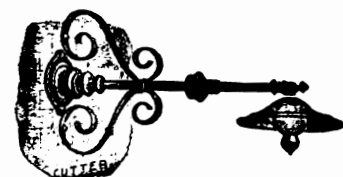
Majestic Junior Bracket



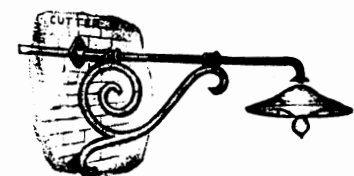
Spartan Junior Bracket



Wall Bracket



Corinthian Bracket



Entrance Bracket

INNER-WIRED BRACKETS

Consists of a 3 foot gooseneck of $\frac{1}{2}$ inch pipe, $\frac{1}{2}$ inch by $\frac{3}{4}$ inch hood flange, and grooved pole plate.

List No.	Description	Std. Pkg.	Wt., Lbs. Each	List Price Each
21941	With brace arm.....	20	8 $\frac{1}{2}$	\$1.80
21942	Without brace arm.....	20	5 $\frac{1}{2}$	1.14

MAJESTIC JUNIOR BRACKETS

A highly artistic fixture built on the same lines as Majestic Bracket (Trade No. 21525), but smaller, having a reach of 3 feet from pole to lamp and with the arm made of $\frac{1}{2}$ inch pipe. Designed for either inner or outer wiring.*

21943	With hood flange.....	20	15 $\frac{1}{4}$	\$3.30
21944*	Without hood flange.....	20	15	3.12

SPARTAN JUNIOR BRACKETS

A single bend bracket of $\frac{1}{2}$ inch pipe which holds the lamp 3 feet from the pole. Designed for either inner or outer wiring.*

21945	With hood flange.....	20	13 $\frac{1}{4}$	\$2.94
21946*	Without hood flange.....	20	12	2.76

WALL BRACKETS

Has a 4 foot gooseneck of $\frac{1}{2}$ inch pipe so the pipe can extend 1 foot inside the flange and hold the lamp 3 feet from the wall. Furnished with wall flange and $\frac{1}{2}$ inch by $\frac{3}{4}$ inch hood flange.

21947	20	6 $\frac{1}{4}$	\$1.32
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CORINTHIAN BRACKETS

A 3 foot bracket of $\frac{3}{4}$ inch pipe with heavy wall plate and wrought iron trimmings. The headpiece is threaded for $\frac{3}{4}$ inch nipple and has a flange to fit the top of the streethood body.

21948	20	19 $\frac{1}{2}$	\$4.02
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ENTRANCE BRACKETS

Has a 4 foot gooseneck of $\frac{3}{4}$ inch pipe and a wall flange with set screw, which allows the pipe to extend 1 foot inside the flange and 3 feet outside. Furnished with cast iron scroll and hood flange to fit streethood bodies. This bracket may be used with all Cutter Streethood Bodies having fittings for $\frac{3}{4}$ inch pipe. Furnished with hood flange or plain threaded end for Radial Streethood Bodies with $\frac{3}{4}$ inch canopies.

21949	With hood flange.....	20	25	\$4.44
21950	Without hood flange.....	20	23 $\frac{1}{2}$	4.26

CAST SCROLL BRACKETS

Similar to the Entrance Bracket, but with a 3 foot gooseneck of $\frac{3}{4}$ inch pipe (Style B, Trade No. 21442) and with a grooved wall plate to replace the wall flange and inside pipe. This allows the wires to be brought out of the building at any desired point and guided along the wall to the place where the fixture is located. Furnished with hood flange for Inverted Cone Streethood Bodies or with plain threaded end for $\frac{3}{4}$ inch streethood canopies.

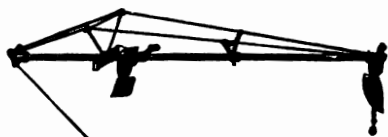
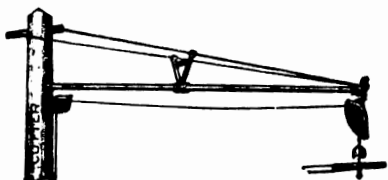
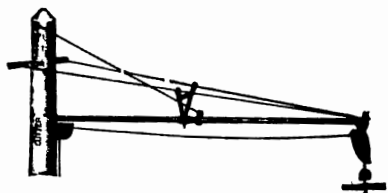
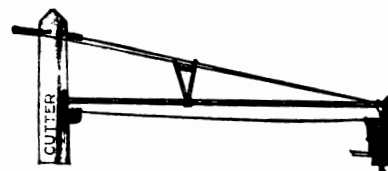
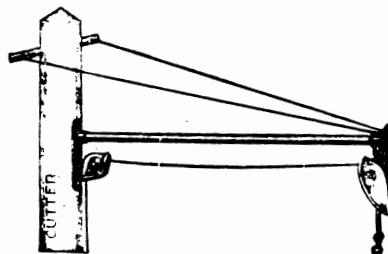
21987	With hood flange.....	20	24	\$4.14
21988	Without hood flange.....	20	22 $\frac{1}{2}$	3.96

*Majestic and Spartan Junior Brackets will be furnished with grooved pole plates unless otherwise specified. For outer-wired fixtures, order Standard Crossarm No. 21496 or Iron Crossarm No. 21497 in place of hood flange. For outer-wired brackets on series circuits, order $\frac{1}{2}$ inch Hood Insulator No. 21494 to separate gooseneck from crossarm.

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER MAST ARMS

Standard Package Quantity, 15 of One Style or Mfr. No.

Wind-braced Mast Arm
with Clamp KnobJunior Mast Arm
with Triple Insulation ArmLong Junior Mast Arm
with Triple Insulation ArmLong Junior Mast Arm
with Cutout Pulley

Cadet Mast Arm

Delivery F. O. B. Factory, South Bend, Ind.
Street Lighting Appliances

WIND-BRACED MAST ARMS

The only side mast arms having braces to prevent the arm from rocking on the pole. They have two strain rods run over a wrought iron truss at the pole and through the eyes of a stiffening triangle.

The base of the wrought iron truss has an extension brace which is bolted to the pole, while a similar brace (clamped to the piping) is bolted to the other side of the pole. These braces anchor the pipe firmly, and keep the fixture from swaying sideways in the wind.

The mast arm proper can be partly assembled on the ground. The pole plate has a weatherproof pulley fastened to it, and the lamp-supporting pulley at the outer end makes this mast arm unusually complete.

With Clamp Knob Only

With Triple Insulation Arm

Over- hang Feet	List No.	Wt., Lbs. Each	Price Each	List No.	Wt., Lbs. Each	Price Each
8.....	20586	79	\$17.76	20594.....	83	\$19.38
10.....	20587	86	18.96	20595.....	90	20.38
12.....	20588	93	21.30	20596.....	97	22.32
14.....	20589	103	22.50	20597.....	106	24.18
15.....	20590	113	23.10	20598.....	116	24.72
16.....	20591	123	23.70	20599.....	126	25.32
18.....	20592	133	24.90	20600.....	136	26.32
20.....	20593	143	26.10	20601.....	146	27.72

Standard Package Quantity, 15 of One Style or Mfr. No.

JUNIOR MAST ARMS

Designed to meet the demand for low priced, yet complete and well braced mast arms. They have pole plates with weatherproof pulleys fitted direct to them and mast arm pulleys for lowering the lamps. Shipped complete with strain rods, strain arm, pipe and pulleys.

6.....	20618	48	\$9.24	20623.....	51	\$10.86
8.....	20619	57	10.20	20624.....	60	11.82
10.....	20620	60	11.16	20625.....	63	12.78
12.....	20621	67	12.12	20626.....	70	13.74
14.....	20622	72	13.02	20627.....	75	14.64

Standard Package Quantity, 15 of One Style or Mfr. No.

LONG JUNIOR MAST ARMS

Similar to the Junior, but with double-braced strain arm. An extra support for the center of the pipe is furnished on 14 foot and longer arms.

Furnished with cutout pulley in place of lamp-supporting pulley with clamp knob, for \$9.02 list additional.

6.....	20628	52	\$10.20	20637.....	55	\$11.52
8.....	20629	61	11.16	20638.....	64	12.78
10.....	20630	64	12.06	20639.....	67	13.68
12.....	20631	70	13.02	20640.....	73	14.64
14.....	20632	79	14.50	20641.....	83	16.08
15.....	20633	85	14.94	20642.....	89	16.56
16.....	20634	90	15.42	20643.....	93	17.04
18.....	20635	94	16.56	20644.....	98	18.18
20.....	20636	100	17.76	20645.....	104	19.38

Standard Package Quantity, 15 of One Style or Mfr. No.

CADET MAST ARMS

Similar to Junior mast arms, but without the stiffening triangle.

4.....	20698	35	\$7.08	20701.....	39	\$8.70
6.....	20699	40	8.04	20702.....	44	9.66
8.....	20700	49	9.00	20703.....	53	10.62

Standard Package Quantity, 15 of One Style or Mfr. No.

For warehouse deliveries write nearest house.

CUTTER MAZDAARCS



Style AA Mazdaarc

These fixtures consist of ventilated copper casings with lamp grip sockets and supporting spindles adjustable vertically with respect to the reflector or globe. These features make them adapted for use with all types and sizes of lamps, including the Type C Mazda lamps.

The casings are finished in black enamel or mottled copper and the steel reflectors in porcelain enamel.

Combinations may be made for any requirement in store, factory or street lighting. Each fixture gives the appearance of an arc lamp, and furnishes a soft light at the efficiency of the Mazda lamp.

For series street lighting systems, reactance sockets may be used, the coils being mounted inside the casings and connected in parallel with the sockets, no regulating apparatus being required.

STYLE AA

Designed especially for store lighting. Has an insulated ring for suspending from the ceiling and an Acorn diffuser. If 9 x 13 inch clear ball globe with a hole in the bottom is desired, deduct 60 cents list.

Black Enamel Finish

List No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
21034A	Medium screw socket.....	10	18	\$10.44
21035A	Mogul Screw Socket.....	10	19	10.80
21036A	*Regent Film Socket.....	10	20	12.00
21037A	Without socket.....	10	17	9.84

Mottled Copper Finish

21038A	Medium screw socket.....	10	18	\$11.34
21039A	Mogul Screw Socket.....	10	19	11.70
21040A	*Regent Film Socket.....	10	20	12.90
21041A	Without socket.....	10	17	10.74

STYLE CA

Similar to Style A, with 20 inch porcelain enamel reflector and Acorn diffuser. 9 x 13 inch diffusing ball with a hole in the bottom will be furnished when ordered.

Black Enamel Finish

21050A	Medium screw socket.....	10	21	\$12.84
21051A	Mogul Screw Socket.....	10	22	13.20
21052A	*Regent Film Socket.....	10	23	14.40
21053A	Without socket.....	10	20	12.24

Mottled Copper Finish

21054A	Medium screw socket.....	10	21	\$13.74
21055A	Mogul Screw Socket.....	10	22	14.10
21056A	*Regent Film Socket.....	10	23	15.30
21057A	Without socket.....	10	20	13.14

STYLE DA

Style DA Mazdaarcs are for replacing arc lamps in street lighting. Consist of Style CA Mazdaarc with inner-wired iron crossarm, high voltage insulator and lamp-supporting pulley. Shipped complete, as shown, without Mazda lamp.

If lamp-supporting pulley is not wanted, deduct \$1.74 from list. For mast arm pulley for 1¼ or 1½ inch (bore) pipe, add 24 cents to prices listed below.

Black Enamel Finish

21058A	Medium screw socket.....	10	36	\$15.84
21059A	Mogul Screw Socket.....	10	37	16.20
21060A	*Regent Film Socket.....	10	38	17.40
21061A	Without socket.....	10	35	15.24

If mottled copper casing is wanted, add 90 cents to list.

*Standard film socket shown on other page furnished in place of

Regent when so ordered.

Style DA Mazdaarc

Delivery F. O. B. Factory, South Bend, Ind.

For warehouse deliveries write nearest house.

CUTTER SOL-LUX PENDANTS For Type C Lamps



**Sol-lux Junior Pendant with
18 Inch Reflector and
Large Refractor**



**Sol-lux Junior Pendant with
18 Inch Reflector and
Diffusing Globe**



**Sol-lux Senior Pen-
dant with Diffusing
Globe**

Cutter Sol-lux pendants are made in two styles and are designated Junior and Senior, respectively. The Junior pendant has a hinged holder for diffusing globe or refractor and is furnished with or without 18 inch concentric reflector. The Senior pendant has a large holder for pear-shaped diffusing globe and is furnished with or without 24 inch concentric reflector. Except as regards size of holder, the Junior and Senior pendants are the same. Compensators may be used with either style. The upper part of the casing is made of cast iron and has ornamental ribs which provide ample ventilation for Type C lamps. Wires leading to the socket terminals enter the fixture through porcelain bushings. Above these is an insulated suspension ring. The lower part of the casing is made of 20 gauge copper. All cast iron parts are coated with a weather-resisting black paint enamel. Copper parts have an attractive gun metal finish and the reflectors are porcelain enameled steel.

Prices below do not include lamps.

SOL-LUX PENDANTS WITHOUT COMPENSATORS

Junior Pendant with Opal Ball				Regent Film Socket			
Mogul Screw Socket							
List No.	Wt., Lbs. Each	Price Each		List No.	Std. Pkg.	Wt., Lbs. Each	Price Each
22001.....	40	\$14.40		22002.....	10	41	\$15.60
Junior Pendant with 18 Inch Reflector and Opal Ball							
22003.....	46	16.80		22004.....	10	47	18.00
Junior Pendant with Reflector and Large Refractor							
22005.....	52	27.30		22006.....	10	53	26.50
Junior Pendant with Reflector and Opal Diffuser							
22007.....	49	16.20		22008.....	10	50	17.40
Senior Pendant with Diffusing Globe							
22009.....	43	18.90		22010.....	10	44	20.10
Senior Pendant with 24 Inch Reflector and Diffusing Globe							
22011.....	53	22.50		22012.....	10	54	23.70
Senior Pendant with Reflector and Clear Globe							
22013.....	53	21.90		22014.....	10	54	23.10

SOL-LUX PENDANTS WITH COMPENSATORS AND MOGUL SOCKETS

For 400 C. P. 15 Amp. Lamp				Junior Pendant with Opal Ball For 600 C. P. 20 Amp. Lamp				For 1000 C. P. 20 Amp. Lamp			
List No.	Wt., Lbs. Ea.	Price Ea.		List No.	Wt., Lbs. Ea.	Price Ea.		List No.	Std. Pkg.	Wt., Lbs. Ea.	Price Each
22019.....	42	\$24.00		22020.....	46	\$25.50		22021.....	10	49	\$27.90
Junior Pendant with 18 Inch Reflector and Opal Ball											
22022.....	48	26.40		22023.....	52	27.90		22024.....	10	55	30.30
Junior Pendant with Reflector and Refractor											
22025.....	54	37.20		22026.....	58	38.70		22027.....	10	61	41.10
Junior Pendant with Reflector and Opal Diffuser											
22028.....	51	27.60		22029.....	55	29.10		22030.....	10	58	32.10
Senior Pendant with Pear-shaped Opal Globe											
22031.....	45	28.50		22032.....	49	30.00		22033.....	10	52	32.40
Senior Pendant with 24 Inch Reflector											
22034.....	55	32.10		22035.....	59	33.60		22036.....	10	62	36.00
Senior Pendant with Reflector and Clear Globe											
22037.....	55	27.90		22038.....	59	29.40		22039.....	10	62	31.80

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.
Street Lighting Appliances

CUTTER REGENT FILM SOCKETS

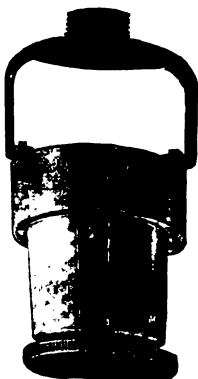
For Street Series Systems



Regent Receptacle and
Mogul Base Socket with
Film Holder



Showing Ease with which
Films are Removed



Regent Film Socket
No. 21467 Complete

The film socket is the vital part of the regulating mechanism of a series lighting system, and it must constantly perform its function reliably and accurately. When one lamp in a circuit burns out, the dielectric film must puncture, allowing the circuit to reestablish itself instantly. Otherwise, the remaining lamps in the circuit will cease to burn. The constant current transformer regulates the voltage to compensate for burned-out lamps, but as each lamp burns out there is a momentary rise of potential across the terminals of that lamp. If the dielectric strength of the film be too great, the rise of voltage may not be sufficient to puncture the film at all, or until such time as will permit ill effects to be produced along the line and in auxiliary apparatus. On the other hand, if the film is weak, it may break down before the useful life of the lamp is secured. The film socket is the safety valve and much depends upon its reliability.

The film cutout used in the Regent Film Socket punctures uniformly and accurately at rated voltage. It is enclosed in the socket and protected against climatic conditions. It cannot creep or fall out as a result of the vibration of the fixture and lamp in service.

The film holder is so designed that it is impossible to use any substitute in place of the regular film. Wood splinters, paper, etc., cannot be used. Films are easily renewed.

On account of wind action and changing climatic conditions, the spring clips commonly used to support the socket and lamp deteriorate and allow the lamp to fall out. There are no spring clips used in the Regent Socket.

The two screw shells and the center post form a combination that grips the lamp base and holds it securely in position, greatly reducing lamp breakage during inclement weather.

The Regent Film Socket is only $3\frac{1}{2}$ inches over all, and due to the fact that all contacts and live parts are covered by the porcelain, the socket can be mounted in a very small space. The distance between supporting screws and nearest live terminal is $1\frac{1}{2}$ inches. There are no live metal parts exposed back of the socket. Corrosion and danger of short circuits are eliminated.

Porcelain housings furnished with streethood bodies listed without socket are supplied with screws and nuts for supporting Regent Film Socket No. 21466. This socket is listed also with hood fork and $\frac{3}{4}$ inch rigid male nipple for making combination fixtures of the inverted cone type, and with other fittings for mounting in old style fixtures previously installed. Three films furnished free with each socket.

List No.	Description	Std. Pkg.	Ship. Wt., Lbs. Each	List Price Each
21466	Receptacle, Mogul Base Socket and film holder.	50	$1\frac{1}{2}$	\$2.16
21467	Same, with $\frac{3}{4}$ in. hood fork, rigid male nipple.	50	$1\frac{1}{2}$	2.40
21468	Same, with $\frac{3}{4}$ in. hood fork, female thread.	50	$1\frac{1}{2}$	2.40
21469	Same, with $\frac{3}{8}$ in. hood fork, female thread.	50	$1\frac{1}{2}$	2.40
21481	Same, with $\frac{3}{8}$ in. low flange, female thread.	50	$1\frac{1}{2}$	2.40
21482	Lamp socket only, with film holder.	50	$\frac{3}{4}$	.48
21483	Package of 50 silk films.	500 films		.90

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER STREETHOOD SOCKETS

For Street Series and Multiple Lamps



Standard Film Receptacle
and Mogul Base Socket

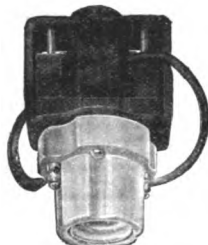
STANDARD FILM SOCKETS

Have a porcelain receptacle with wire terminals and spring clips to hold the projecting fingers of the socket part. These fingers hold the dielectric film. The receptacle fits in the porcelain housing of Cutter Radial Streethood Bodies. Screws and nuts for holding the receptacle in place are included with the streethood bodies and with the hood forks furnished with Inverted Cone Streethood Bodies.

List No.	Description	Std. Pkg.	Wt., Lbs. Each	Price Each
21462	Receptacle and socket, Mogul Screw Base	50	1 1/4	\$2.16
21434	Receptacle only	100	1/2	.96
20480	Socket part only, Mogul Screw Base	75	3/4	1.20
20481	Socket part only, medium screw base	100	1/2	.60
21451	Package of 15 films	500	films . . . . .	.18

REACTANCE SOCKETS

Consist of Cutter Mogul Screw Base Streethood Socket with special hood fork supporting a reactance coil connected in shunt with the lamp. These sockets are for use on series lighting systems, and when a lamp fails, the reactance coil compensates for the voltage drop through the lamp, thus maintaining constant current without the use of a regulator. In ordering, state voltage and amperes of circuit and voltage and candle power rating of lamp. Designed only for use with Cutter Inverted Cone Streethood Bodies.



Reactance Socket

List No. 3.5 or 4 Amps. 60 Cycles	List No. 6.6 Amps. 60 Cycles	Candle Power Lamp	Std. Pkg.	Wt., Lbs. Each	List Price Each
20487	20491	32	25	4	\$6.36
20488	20492	40	25	5	6.60
20489	20493	60	25	6	6.78
20490	20494	80	25	7	7.20

LAMP GRIP MULTIPLE SOCKETS

Cutter Lamp Grip Sockets are designed to meet the severe conditions found in outside service. The intense heat of the Type C lamps subjects the socket to greatly varying temperatures, ranging from several hundred degrees Fahrenheit when the lamp is burning, to below zero when the lamp is out.

These changes in temperature, taking place while the socket shells are under tension, will quickly depreciate their spring qualities and cause them to split, unless they are made sufficiently strong and some provision provided to meet these conditions.

The Cutter Lamp Grip Sockets are equipped with two vertical springs which engage the threads of the lamp collar, reinforce the socket shells and relieve the tension. These vertical springs grip the lamp base and prevent the lamp from working loose when subjected to vibration and the contraction and expansion caused by the variations in temperature.

These springs also create an increase of positive contact between the lamp terminal and the socket.

The terminals are easily accessible and very generously designed.

The use of these sockets will greatly reduce lamp breakage and outages.



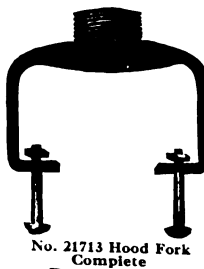
Medium Screw Base
Lamp Grip Socket

List No.	Description	Std. Pkg.	Wt., Lbs. Each	List Price Each
21400	Medium screw base	200	1/4	\$0.60
21402	Mogul screw base	150	1 1/4	.96

HOOD FORKS AND FLANGES

With screws and nuts for fastening sockets in Cutter Inverted Cone Streethood Bodies.

21713	Hood fork with 3/4 in. rigid male nipple	100	3/8	\$0.24
21484	Hood fork with 3/4 in. female thread	100	1/2	.24
21485	Hood fork with 3/8 in. female thread	100	1/2	.24
21486	Low flange with 3/8 in. female thread	100	1/4	.24

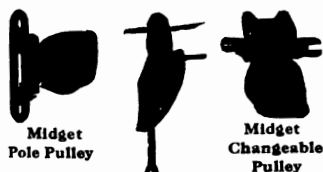


No. 21713 Hood Fork
Complete

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.
Street Lighting Appliances

CUTTER CENTER SUSPENSION STREETHOODS

With Inverted Cone Streethood Bodies



Consists of a Cutter Inverted Cone Streethood Body supported by a Petite Lamp-supporting Pulley. A Midget Pole Pulley guides the hoisting rope to the bottom of the pole. The Midget Changeable Pulley may be used either as a pole pulley or clamped to cable near the pole. Order pulleys and Inverted Cone Streethood Bodies separately.

List No.	Description	Std. Pkg.	Wgt. Lbs.	List Price Each
20413	Petite Pulley with crossarm.....	50	6½	\$1.80
20414	Midget Pole Pulley.....	100	2¼	.72
20415	Midget Changeable Pulley.....	100	2¼	.84

LOOPED HOODS

Consists of an Inverted Cone Streethood Body with looped crossarm.

With 18 Inch Hood, Paint Enameled

List No.	List Price Each	List No.	List Price Each	List No.	Approx. Wt. Lbs.	List Price Each
21951.....	\$2.88	21952.....	\$3.24	21953.....	9	\$4.44

With 18 Inch Hood, Porcelain Enameled

21954.....	\$4.68	21955.....	\$5.04	21956.....	10¼	\$6.24
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With 22 Inch Hood, Paint Enameled

21957.....	\$3.60	21958.....	\$3.96	21959.....	11¼	\$5.16
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With 22 Inch Hood, Porcelain Enameled

21960.....	\$5.64	21961.....	\$6.00	21962.....	13¼	\$7.20
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Standard package quantity, 20 of one style or Mfr. No.

Cable Grip Suspension Streethoods

A center span fixture with a crossarm, insulator and cable clamp supporting Inverted Cone Streethood Bodies.

With 18 Inch Hood, Paint Enameled

21963.....	\$4.80	21964.....	\$5.16	21965.....	14¼	\$6.36
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With 18 Inch Hood, Porcelain Enameled

21966.....	\$6.00	21967.....	\$6.96	21968.....	15¼	\$8.16
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With 22 Inch Hood, Paint Enameled

21969.....	\$5.52	21970.....	\$5.88	21971.....	17	\$7.08
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With 22 Inch Hood, Porcelain Enameled

21972.....	\$7.56	21973.....	\$7.92	21974.....	19	\$9.12
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Standard package quantity, 20 of one style or Mfr. No.

ALWAYS LEVEL STREETHOODS

The two wires leading from the brace arm to the hood make up one side of the suspension, while cords passing over covered pulleys form the other side. Adjusting clamps at the end of each cord are independently drawn up taut and locked together. These parts, together with the Center Hoods listed below, constitute Always Level Streethoods.

EXTRA PARTS FOR ALWAYS LEVEL STREETHOODS

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
20389	Iron pulley arm.....	75	6	\$1.68
20400	Iron brace arm.....	75	6	1.44
20401	Adjusting clamp.....	200	¾	.36

CENTER HOODS

The center part only of the Cutter Always Level Streethood described above. It consists of a spreader tip crossarm and an Inverted Cone Streethood Body.

With 18 Inch Hood, Paint Enameled

List No.	List Price Each	List No.	List Price Each	List No.	Approx. Wt. Lbs.	List Price Each
21975.....	\$3.36	21976.....	\$3.72	21977.....	11¼	\$4.92

With 18 Inch Hood, Porcelain Enameled

21978.....	\$5.16	21979.....	\$5.52	21980.....	13	\$6.72
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With 22 Inch Hood, Paint Enameled

21981.....	\$4.08	21982.....	\$4.44	21983.....	14	\$5.64
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With 22 Inch Hood, Porcelain Enameled

21984.....	\$6.12	21985.....	\$6.48	21986.....	17	\$7.68
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Standard package quantity, 20 of one style or Mfr. No.

*Standard Film Sockets furnished in place of Regent when so ordered.

†Extra parts ordered to make complete fixtures, take same discounts as complete fixtures.

Cable Grip Suspension Streethood



Center Hood used with Always Level Streethoods

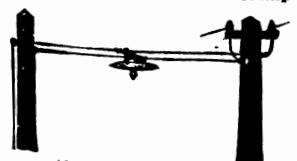


Iron Pulley Arm for Always Level Streethood



Iron Brace Arm for Always Level Streethood

Adjusting Clamp

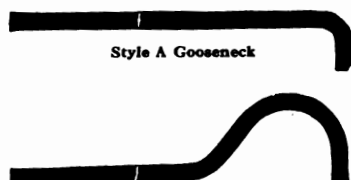


Always Level Streethood Assembled Complete

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER BRACKETS

Piece Parts



List No.	List No.	Length Feet	Size of Pipe Inches	Std. Pkg.	Wt. Lbs. Each	List Price Each
21362	21365	3	1/2	200	2 1/4	\$0.60
21363	21366	4	1/2	150	3 1/4	.78
21364	21367	5	1/2	125	4 3/4	.96
21439	21442	3	3/4	150	3 3/4	.90
21440	21443	4	3/4	125	4 1/4	1.08
21441	21444	5	3/4	100	5 1/4	1.38

CURVED POLE PLATES

List No.	Description	Std. Pkg.	Wt. Lbs. Each	List Price Each
20512	For 1/2 inch pipe	500	1	\$0.24
21487	Grooved, for 1/2 inch pipe	400	1 1/4	.36
21438	Grooved, for 3/4 inch pipe	400	2 1/4	.48



WALL FLANGES

21488	Threaded for 1/2 inch pipe	500	1	.24
21489	To slip over 1/2 inch pipe	500	1	.36
21490	Threaded for 3/4 inch pipe	400	2	.36
21491	To slip over 3/4 inch pipe	400	2	.48

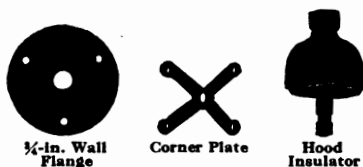
CORNER PLATES

21492	For 1/2 inch pipe	300	2 1/4	.84
21493	For 3/4 inch pipe	200	2 1/4	.84

HOOD INSULATORS

With pipe cap above, 1/2 inch stud below. Used on high voltage and Eastern brackets.

21494	With 1/2 inch pipe cap	100	3	1.08
21495	With 3/4 inch pipe cap	100	3	1.08



STANDARD CROSSARMS

An enameled wood crossarm with metal bound ends (to prevent splitting) and with the fittings bolted to the arm. This arm is used on the Cutter Standard and high voltage brackets.

21496	With 1/2 inch pipe fitting (female thread) above and 3/4 inch wireable waste nut below	200	2	.60
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Standard Crossarm

STANDARD BRACE ARMS

An enameled and metal bound wood arm for guiding the wires to streethoods.

20507	With curved pole plate	200	3	.66
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Standard Brace Arm

IRON CROSSARMS

Used on the Cutter iron arm and Eastern brackets. Tapped in the top for 1/2 inch pipe. Has a wireway underneath threaded for 3/4 inch nipple.

21497	With glass insulators	150	5	.96
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Angle Change Brace Arm

ANGLE CHANGE BRACE ARMS

Made of cast iron with curved pole plate and fixed pins. May be used on front or back of pole.

21498	With glass insulators	150	6	.96
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Iron Crossarm

SHUNT BOXES

Pole Type, with Brace Arm

Has a reactance coil mounted in a weatherproof case insulated from the pole plate. The coil is for connecting in parallel with the Mogul multiple socket in the streethood and is designed to maintain constant current in a circuit without a regulator. Prices below are for 60 cycle coils. Prices for 25 cycle coils will be furnished on application.

List No.	List No.	C. P. Lamp	Std. Pkg.	Wt. Lbs. Each	List Price Each
3.5 or 4	0.6				
Amps.	Amps.				
20495	20501	32	15	10	\$5.78
20496	20502	40	15	11	6.96
20497	20503	60	15	12	7.14
20498	20504	80	15	13	7.44
20499	20505	100	15	14	7.80
20500	20506	200	15	16	11.28



Shunt Box

Street Lighting Appliances

An assortment of Cutter streethood and bracket parts amounting to \$180.00 or over constitutes a standard package.

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER STREET FIXTURES

Pulleys and Clamp Knobs

LAMP-SUPPORTING PULLEYS

Holds the lamp when raised and releases it when about to be lowered. Has a long swivel clamp to fit any size suspension wire or cable and a malleable iron clamp knob to hold the lamp. On raising the lamp, this knob is engaged by ridges on the sides of the pulley and takes all the strain off the rope. Another pull at the rope guides the knob out so that the lamp can be readily lowered. The action is entirely automatic. You pull the rope till it reaches a dead stop, and the pulley does the rest. There are no extra catches or fingers to bend out of shape or bind on the casing or to get clogged with sleet. It is the only weatherproof safety pulley that works every time. The clamp knob clamps any size rope up to $\frac{1}{2}$ inch.



Lamp-Supporting
Pulley with
Clamp Knob



Clamp
Knob

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
20782	With clamp knob only.....	50	9	\$1.74
20783	With high voltage insulator.....	50	12	2.82
20784	With triple insulation arm.....	50	13	3.36
20785	With Jupiter cross-arm.....	50	16	3.90

For galvanizing, add 50 per cent. to list price.

MAST ARM PULLEYS

A modification of the lamp-supporting pulley, having an extra strong single piece clamp, which fits the iron pipe of a mast arm and which also forms the headpiece, so that the strain rods can be run direct to it.

For $1\frac{1}{4}$ inch (Bore) Pipe

20786	With clamp knob only.....	50	10	\$1.98
20787	With high voltage insulator.....	50	13	3.06
20788	With triple insulation arm.....	50	14	3.60
20789	With Jupiter cross-arm.....	50	17	4.14

For $1\frac{1}{2}$ inch (Bore) Pipe

20790	With clamp knob only.....	50	10	\$1.98
20791	With high voltage insulator.....	50	13	3.06
20792	With triple insulation arm.....	50	14	3.60
20793	With Jupiter cross-arm.....	50	17	4.14

For galvanizing, add 50 per cent. to list price.

INNER-ROPE PULLEYS

A lamp-supporting pulley with a hooded end clamp for use with mast arms in which the rope runs through the pipe.

For $1\frac{1}{4}$ inch (Bore) Pipe

20794	With clamp knob only.....	50	14	\$2.16
20795	With high voltage insulator.....	50	17	3.24
20796	With triple insulation arm.....	50	18	3.78
20797	With Jupiter cross-arm.....	50	21	4.32

For $1\frac{1}{2}$ inch (Bore) Pipe

20798	With clamp knob only.....	50	14	\$2.16
20799	With high voltage insulator.....	50	17	3.24
20800	With triple insulation arm.....	50	18	3.78
20801	With Jupiter cross-arm.....	50	21	4.32

For galvanizing, add 50 per cent. to list price.

CLAMP KNOBS

20802	With hook only.....	100	1 $\frac{1}{2}$	\$0.36
20803	With high voltage insulator.....	100	4 $\frac{1}{2}$	1.44
20804	With triple insulation arm.....	100	6	1.98
20805	With Jupiter cross-arm.....	100	9	2.52

For galvanizing, add 50 per cent. to list price.

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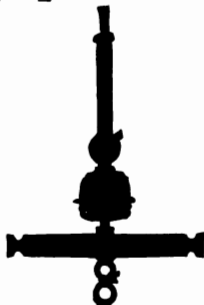
Mast Arm
Pulley



Clamp Knob
with High Voltage
Insulator



Inner-Rope
Pulley



Clamp Knob with
Triple Insulation Arm

*Delivery F. O. B. Factory, South Bend, Ind.

CUTTER STREET FIXTURES

Miscellaneous Pulleys



Outrigger Pulley



Ceiling Pulley

OUTRIGGER PULLEYS

A form of the lamp-supporting pulley, with a clamp to fit the pipe. Furnished with clamp knob.

List No.	Description	Std. Pkg.	Wt. Lbs.	*List Price Each
20806	For $\frac{3}{4}$ in. (bore) pipe.....	50	9	\$1.74
20807	For 1 in. (bore) pipe.....	50	9	1.80
20808	For $1\frac{1}{4}$ in. (bore) pipe.....	50	10	1.92
20809	For $1\frac{1}{2}$ in. (bore) pipe.....	50	10	1.98

CEILING PULLEYS

A form of the lamp-supporting pulley, with a plate for use on bridges or under beams in shops or yards.

20810	With clamp knob only.....	50	9	\$1.98
20811	With triple insulation arm.....	50	13	3.60
20812	With Jupiter crossarm.....	50	16	4.14

SWIVEL POLE PULLEYS

A weatherproof pole pulley, swiveled so that it can swing sideways and keep in line with the hoisting rope. Has a strong malleable iron pole plate.

20813	100	4 $\frac{1}{4}$	\$0.90
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JUMBO POLE PULLEYS

Similar to the above, but larger, to take $\frac{3}{4}$ inch rope.

20814	75	5 $\frac{1}{2}$	\$1.32
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DUPLEX POLE PULLEYS

Consists of a pair of swivel pole pulleys fastened to a simple malleable iron pole plate.

20815	50	8	\$1.80
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INTERCHANGEABLE PULLEYS

A weatherproof pulley with a universal clamp made of malleable iron, which will grip any standard size of suspension wire or cable. By taking out the two bolts the clamp can be opened out so as to form a wall plate, which fits the curved surface of a pole and which is easily fastened in place by lag screws. When so used, it makes a swiveled pole pulley similar in action to the Cutter Swivel Pole Pulley.

20816	100	4 $\frac{1}{4}$	\$0.90
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JUMBO CHANGEABLE PULLEYS

Similar to the interchangeable pulley, but larger, to take $\frac{3}{4}$ inch rope.

20817	75	5 $\frac{1}{2}$	\$1.32
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SLEEVE PULLEYS

A weatherproof pulley with a sleeve clamp to grip iron pipe.

20818	For $\frac{3}{4}$ in. (bore) pipe.....	100	5 $\frac{1}{4}$	\$.96
20819	For 1 inch (bore) pipe.....	100	5 $\frac{1}{2}$	1.02
20820	For $1\frac{1}{4}$ inch (bore) pipe.....	100	5 $\frac{3}{4}$	1.08
20821	For $1\frac{1}{2}$ inch (bore) pipe.....	100	6	1.14

PLAIN ROOF PULLEYS

A companion to the ceiling pulley, with a ceiling plate for bridges, beams, etc.

20822	100	5 $\frac{1}{2}$	\$1.08
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For galvanizing any of the above, add 50 per cent. to list price.

For warehouse deliveries write nearest house.



Sleeve Pulley



Plain Roof Pulley

CUTTER STREET FIXTURES

Pulleys and Windlasses



Plain End Pulley

Medium Pulley

PLAIN END PULLEYS

A plain weatherproof pulley with an end clamp to fit mast arm pipes.

List No.	Description	Std. Wt. Pkg. Lbs.	*List Price Each
20823	For 1 1/4 in. (bore) pipe.....	100 6 1/2	\$1.08
20824	For 1 1/2 in. (bore) pipe.....	100 6 3/4	1.08

MEDIUM PULLEYS

A center suspension pulley with long supporting clamp and weatherproof casing, but with no safety features. Takes any size rope up to 1/2 inch in diameter and is second only to the Cutter Lamp-Supporting Pulley.

20825	100 5 1/2	\$0.90
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Pole Housing

POLE HOUSING

The pole plate and pulley casing are made in one piece, with the sheaves placed so the rope can run through the pipe, as with the Cutter Inner-Rope and Corporal Mast Arms.

List No.	Description	Std. Wt. Pkg. Lbs.	*List Price Each
20826	For 1 1/4 in. (bore) pipe.....	75 6 1/2	\$1.44
20827	For 1 1/2 in. (bore) pipe.....	75 6 3/4	1.44



Tail Pulley

TAIL PULLEYS

A companion to the pole housing for use with Cutter Inner-Rope and Corporal Mast Arms.

20828	For 1 1/4 in. (bore) pipe.....	75 6 3/4	\$1.08
20829	For 1 1/2 in. (bore) pipe.....	75 7	1.08



Combination Pole Windlass

COMBINATION WALL WINDLASSES

Similar to the combination pole windlass, but with a side plate for fastening to walls.

20834	25 24	\$5.40
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COMBINATION POLE WINDLASSES

These are self-locking safety windlasses which can be used either as plain or geared windlasses at the option of the trimmer. Can be used as plain windlass to lower the lamp quickly, and then by inserting the handle further into the drum, changed to a geared windlass to raise the lamp. These windlasses are perfectly safe for heavy lamps, the whole device being made as fool-proof as possible.

The pinion handle is detachable so that it can be used with any number of windlasses.

The drum will hold 60 feet of 1/4 inch Ebony Wire Rope or 40 feet of 3/8 inch Banner Core Rope.

Prices below do not include handle.



Combination Wall Windlass

List No.	Description	Std. Wt. Pkg. Lbs.	*List Price Each
20830	For wood poles	25 22	\$5.10
20831	For 5 in. (bore) pipe.....	25 24	5.40
20832	For 6 in. (bore) pipe.....	25 25	5.70
20833	For 7 in. (bore) pipe.....	25 27	6.00

PINION HANDLES

For combination pole and wall windlasses.

20835	25 4	\$1.80
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For galvanizing any of the above, add 50 per cent. to list price.



Pinion Handle

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER STREET FIXTURES



No. 20836



No. 20837



No. 20838



No. 20839



No. 20841



No. 20844



No. 20846



No. 20850



No. 20847

*Delivery F. O. B. Factory, South Bend, Ind.
Street Lighting Appliances

HIGH VOLTAGE INSULATORS

High voltage insulators have a double petticoat porcelain bell, which forms a good watershed and gives high insulation even in wet weather. The rivets which fasten the metal cap to the porcelain pass under the elongated head of the bolt which supports the hood, so that this could not drop out even if the porcelain were broken with a hammer. The cap is sealed with insulating material and the extra petticoat gives a large surface insulation, making the device well suited for use on arc circuits exposed to weather, smoke or fumes.

While designed especially for use on arc circuits of high voltage, the extra protection and the elimination of leakage afforded by this insulator make it a desirable one, even for circuits of comparatively low voltage.

List No.	Description	Std. Pkg.	Wt., Lbs. Each	*List Price Each
20836	With ring above and sister hook below.....	100	4	\$1.08
20837	With ring above and ring below.....	100	4	.96
20838	With clamp for wire rope above and with sister hook below.....	100	4	1.32
20839	With clamp for wire rope above and with ring below.....	100	4	1.20
20840	With clamp for chain above and sister hook below.....	100	4	1.38
20841	With clamp for chain above and ring below.....	100	4	1.20

For galvanizing all iron parts, add 24 cents each to list price.

JUPITER INSULATORS

Built on the same lines generally as high voltage insulators, but with a greatly enlarged series of petticoats to give higher surface insulation. Therefore it has the same high breakdown insulation (ample for 12000-volt circuits) and an extra large surface to reduce the leakage in wet weather.

20844	With ring above and sister hook below.....	75	6	\$1.62
20845	With ring above and ring below.....	75	6	1.50

For galvanizing all iron parts, add 24 cents each to list price.

TREE INSULATORS

A simple, strong tree insulator with wrought iron base, galvanized. Will take wires up to $\frac{3}{4}$ inch in diameter.

List No.	Std. Pkg. Dozen	Wt., Lbs. per Doz.	*List Price per Doz.
20846	25	12	\$4.32

MAMMOTH TREE INSULATORS

Similar to the above, but for wires up to $1\frac{1}{4}$ inches in diameter.

20847	12	40	\$9.60
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SWINGING INSULATORS

Swinging insulators allow the wire to move freely between porcelain rollers without chafing the insulation. Being hung from the loop, it is free to adapt itself to any strains, and therefore will not cramp the wire, as the bracket base tree insulators often do. Strongly made of malleable iron, takes wires up to $\frac{3}{4}$ inch diameter.

20848	Painted.....	25	15	\$4.32
20849	Galvanized.....	20	16	5.40

JUMBO SWINGING INSULATORS

Similar to the above, but for wires up to $1\frac{1}{4}$ inches in diameter.

20850	Painted.....	12	55	\$9.60
20851	Galvanized.....	6	55	17.40

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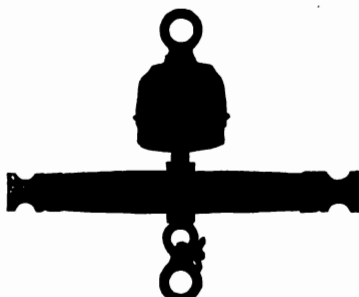
CUTTER STREET FIXTURES

Insulators and Cross-Arms

TRIPLE INSULATION ARMS

Triple insulation arms have a high voltage insulator above an enameled wood arm, thus giving a triple insulation between the line wire and the supporting ring.

The arm is coated with a baked enamel, which outwears paint in the weather, and has its ends bound by strong metal ferrules to prevent their splitting. Every part of the whole device is built for fine wear and high insulation, making it a fine insulating arm for all high voltage lamps, and the only low priced one adapted for use with alternating series lamps. It is second only to the Jupiter Cross-Arm.



Triple Insulation Arm

List No.	Finish	Std. Pkg.	Wt., Lbs. Each	*List Price Each
20852	Enameled.....	75	5	\$1.62
20853	Galvanized.....	75	5	1.92

HIGH VOLTAGE CROSS-ARMS

High voltage cross-arms combine the high voltage insulator with a well-built insulating spreader arm, making a fine insulating arm for use over arc lamps. The arm proper is of wood, coated with a baked enamel, which keeps it dry and high insulating. Each end is bound by a malleable iron ferrule, which keeps the wood from splitting in case a heavy strain is put on the screws holding the porcelain insulators in place. The latter are deep grooved as illustrated.

The supporting ring is of malleable iron and all the parts are built just right to make this a good insulating arm, though not equal to the Triple Insulation Arm or Jupiter Cross-Arm.



High Voltage Cross-Arm

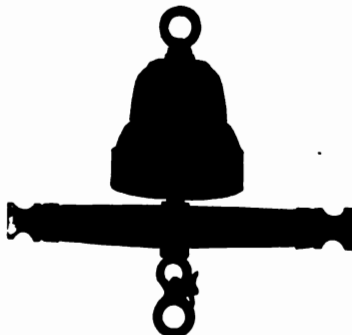
List No.	Finish	Std. Pkg.	Wt., Lbs. Each	*List Price Each
20854	Enameled.....	75	5	\$1.50
20855	Galvanized.....	75	5	1.80

JUPITER CROSS-ARMS

An insulating cross-arm having both the wire supports and the lamp hook insulated from the support by a Jupiter Insulator. The cross-arm is enameled and metal-bound and has deep grooved knobs at each end.

The ideal insulating arm for use on high voltage circuits.

List No.	Finish	Std. Pkg.	Wt., Lbs. Each	*List Price Each
20856	Enameled.....	50	7	\$2.16
20857	Galvanized.....	50	7	2.46



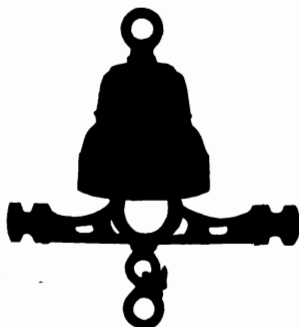
Jupiter Cross-Arm

AJAX CROSS-ARMS

An insulating cross-arm having both the wire supports and the lamp hook insulated from the support by a Jupiter Insulator. The cross-arm is of iron, fitted with porcelain knobs for supporting the line wires and a locking sister hook for the lamp.

List No.	Finish	Std. Pkg.	Wt., Lbs. Each	*List Price Each
20858	Enameled.....	50	10	\$2.16
20859	Galvanized.....	50	10	2.70

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Ajax Cross-Arm

CUTTER INSULATORS AND CROSSARMS



Plain Arm



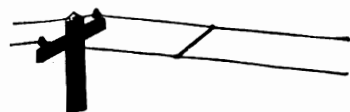
Grip Arm



Economy Arm



Featherweight Spreader



Featherweight Spreader in Use



Guide Spreader



Strain Arm



Double-Braced Strain Arm

Delivery F. O. B. Factory, South Bend, Ind.

Street Lighting Appliances

PLAIN ARMS

Enameled wood, with metal-bound ends and porcelain knobs. Holds the line wire 12 inches apart.

List No.	Std. Pkg.	Wt., Lbs. Each	Price Each
20862	200	1½	\$0.36

GRIP ARMS

Consists of the plain arm with a "U" bolt for clamping same to 1¼ inch (bore) iron piping as used on mast arms, outriggers and brackets.

List No.	Finish	Std. Pkg.	Wt., Lbs. Each	Price Each
20863	Enameled	200	1¾	\$0.48
20864	"U" bolt galvanized	200	1¾	.54

ECONOMY ARMS

A common sense crossarm for use where the insulation is not important. Similar to the grip arm, but with sister hook.

List No.	Finish	Std. Pkg.	Wt., Lbs. Each	Price Each
22441	Enameled	200	2	\$0.60
22442	Iron parts galvanized	200	2	.72

FEATHERWEIGHT SPREADERS

Featherweight spreaders are readily fastened to the wires running to suspension lamps, so as to keep them at a distance of 18 inches from each other. Made of enameled wood, metal tipped, with porcelain insulators. Weighs less than 8 ounces.

List No.	Finish	Std. Pkg.	Wt., Lbs. Each	Price Each
20865	Enameled	200	¾	\$0.30

GUIDE SPREADERS

Same as the above, with a collar to clasp the suspension cable. Keeps the line wires 18 inches apart and in line with the suspension strand.

List No.	Finish	Std. Pkg.	Wt., Lbs. Each	Price Each
20866	Enameled	200	1	\$0.48
20867	Collar galvanized	200	1	.54

STRAIN ARMS

As Furnished on Junior and Cadet Mast Arms

Strain arms are made of wrought iron with a cast iron pole plate.

List No.	Std. Pkg.	Wt., Lbs.	Price Each
20746	100	8½	\$1.44

DOUBLE-BRACED STRAIN ARMS

As Furnished on Long Junior Mast Arms

Double-braced strain arms are longer than the regular strain arms and have side braces to prevent rocking in high winds.

List No.	Std. Pkg.	Wt., Lbs.	Price Each
20747	50	10	\$2.40

For warehouse deliveries write nearest house.

CUTTER POLE LINE MATERIAL



Rope Cleat



Pole Lock

POLE LOCKS

Has the keyhole at the bottom and not at the top (where the rain and sleet would drive into it). The double catch makes it non-pickable, the back fits either a wall or a pole, and the casting makes it weatherproof. Just the thing to prevent tampering with hoisting ropes. One key free with every ten locks.

List No.	Finish	Std. Pkg.	Wt. Lbs.	*List Price Each
20868	Painted.....	100	1½	\$0.90
20869	Galvanized.....	100	1½	1.02
20870	Extra key.....	25	1 oz.	.24

ROPE CLEATS

Strong and neat (though no cleat with its coil of rope makes as neat a job as the rope clamp and pole lock). Has the edges rounded so as not to cut the rope.

20871	Galvanized.....	200	1	\$0.36
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ROPE CLAMPS

Made of malleable iron, will readily clamp any size rope up to ¾ inch, enabling the end of the hoisting rope to be locked at the pole. Can be used over and over again when the rope wears out.

20872	Painted.....	400	¼	\$0.22
20873	Galvanized.....	400	¼	.28

½-Inch Rope Clamps

Same as above, for ½-inch ropes.

20874	Painted.....	400	¾	\$0.24
20875	Galvanized.....	400	¾	.30

CHAIN CLAMPS

A neat, secure fastening, enabling the end of the hoisting chain to be locked to the pole. Made for No. 1 or No. 3 Oneida Chain.

20876	Painted.....	400	½	\$0.22
20877	Galvanized.....	400	½	.28

BANNER CORE ROPE

A fine braided cotton rope with a weatherproof finish, which keeps out the rain and makes it extra durable. We recommend the ¾ and ½ inch sizes for hoisting arc lamps, the ¼ and ⅜ inch for use with the swinging hoods and the ⅜ inch for the Always Level Streethood.

List No.	Size Inches	Wt., Lbs. Std. Pkg.	Approx. Wt., Lbs. per 100 Ft.	*List Price per Lb.
20878.....	¾	100	2	\$0.88
20879.....	½	100	2½	.88
20880.....	¼	100	3½	.88
20881.....	⅜	100	5	.88
20882.....	½	100	8	.88



Banner Core Rope



Ebony Wire Rope

EBONY WIRE ROPE

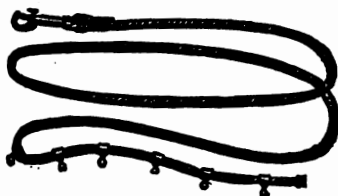
A ¼ inch wire rope made of six flexible strands (each with soft center) around a flexible (black) center. The only wire rope really pliable enough to work freely with standard types of pulleys.

List No.	No. of Feet in Std. Pkg.	Approx. Wt., Lbs. per 100 Ft.	*List Price per Ft.
20883	1000	5	\$0.08

TRIMMER'S ROPE

Trimmer's rope is a 30-foot hoisting rope, with a snap hook at one end and six rings near the other end. The rings can be readily clamped at any desired intervals, so as to accommodate lamps hung at varying heights above the street. Just the thing for use with hoisting ropes, ending in a Cutter Rope Clamp and locked with a Cutter Pole Lock.

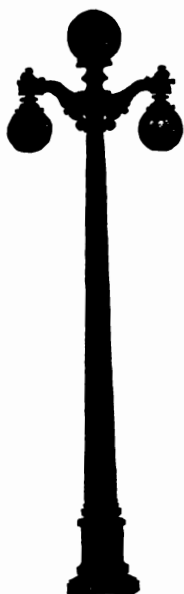
List No.	Std. Pkg.	Wt. Lbs.	*List Price Each
20884	25	4	\$3.00



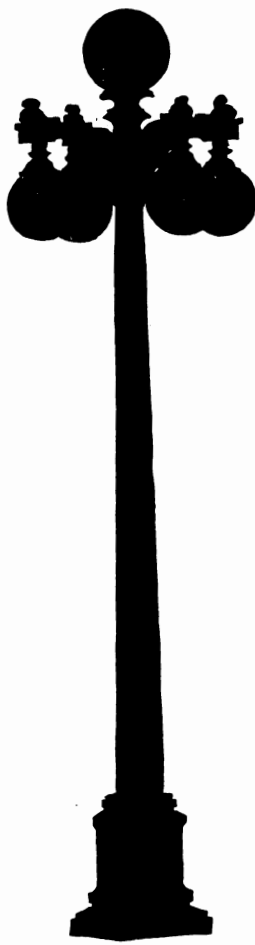
Trimmer's Rope

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER ORNAMENTAL POSTS



No. 23502



No. 23504



No. 23500

Commonwealth Design

Base, 18 inches square, 2 feet high; provided with hinged door and sufficient space for locating switch and cutout in base. Column, 8 inches octagon above the base, tapering to 4 inches octagon near the top. Height from ground to bottom of pendent globes, 11 feet; to top of top globe, 14 feet 3 inches; to top of globe on the 1 light post, 13 feet 6 inches. Distance from center to center of opposite globes, 36 inches. Pendent globes, 6 x 12 inches; top globe, 8 x 14 inches; globe for 1 light post, 8 x 16 inches.

List No.	No. of Lights	Std. Pkg.	Wt., Lbs. Each	*List Price Each
23500	1	20	475	\$59.40
23501	2	20	560	64.80
23502	3	20	560	64.80
23503	4	20	665	70.20
23504	5	20	665	70.20

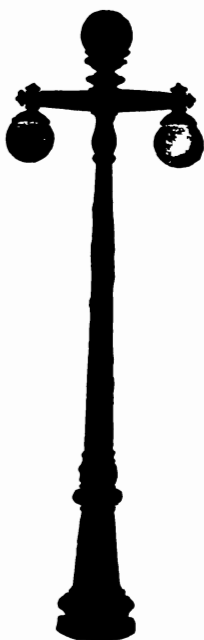
For ground sections see listing elsewhere. Prices include sockets and glassware holders, but not glassware or wiring.

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

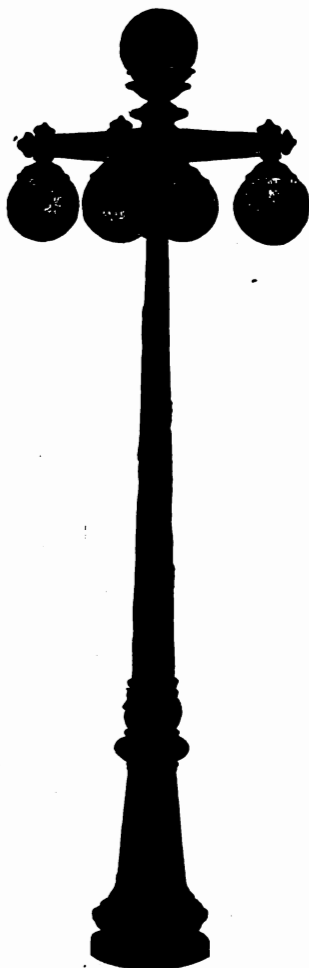
Street Lighting Appliances

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CUTTER ORNAMENTAL POSTS



No. 21107



No. 21109



No. 21105

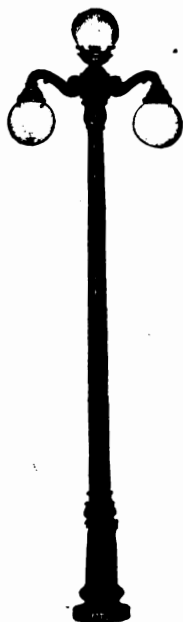
Riverside Design

Base, 18 inches diameter, 3 feet 6 inches high; provided with two doors and sufficient space for locating switch and cutout in base. Column, 8½ inches largest diameter, tapering to 3½ inches diameter near the top. Height from ground to bottom of pendent globes, 11 feet; to top of top globe, 14 feet; to top of globe on the 1 light post, 13 feet 2 inches. Distance from center to center of opposite globes, 40 inches. All globes 8 x 12 inches, except for 1 light post, which is 8 x 16 inches.

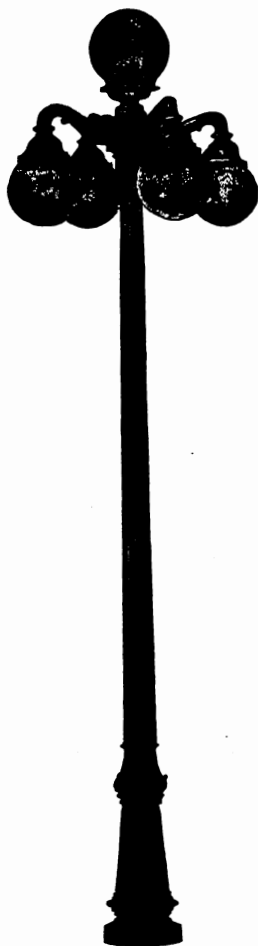
List No.	No. of Lights	Std. Pkg.	Wt., Lbs. Each	*List Price Each
21105.....	1	20	450	\$54.00
21106.....	2	20	500	59.40
21107.....	3	20	500	59.40
21108.....	4	20	585	64.80
21109.....	5	20	585	64.80

For ground sections see listing elsewhere. Prices include sockets and glassware holders, but not glassware or wiring.

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER ORNAMENTAL POSTS


No. 21119



No. 21121



No. 21117

Boulevard Design

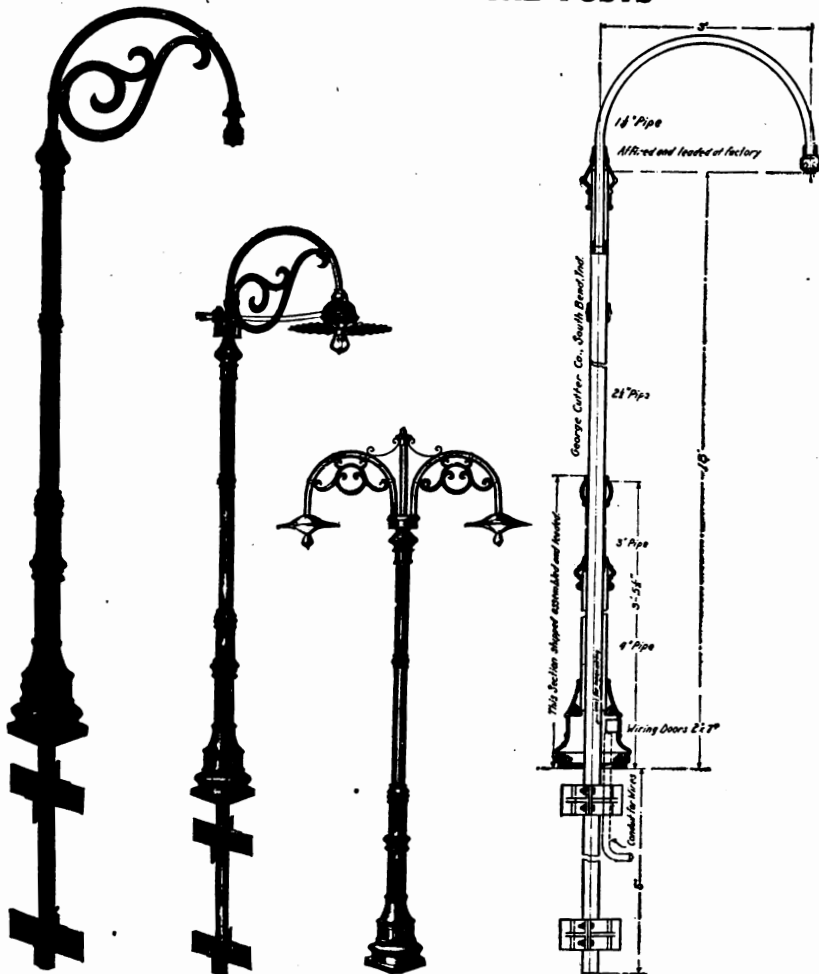
Base, 14 inches diameter, 2 feet 10 inches high; provided with two doors and sufficient space for locating switch and cutout in base. Column, 5½ inches diameter above the base, tapering to 3¼ inches diameter near the top. Height, from ground to bottom of pendent globes, 10 feet; to top of top globe, 13 feet 2 inches; to top of globe on the 1-light post, 12 feet 7 inches. Distance from center to center of opposite globes, 32 inches. Pendent globes, 6x10 inches; top globe, 6x12 inches; globe for 1-light post, 8x14 inches.

List No.	No. of Lights	Std. Pkg.	Wt., Lbs. Each	List Price Each
21117.....	1	20	300	\$37.80
21118.....	2	20	335	44.82
21119.....	3	20	335	44.82
21120.....	4	20	375	51.30
21121.....	5	20	375	51.30

For ground sections see listing elsewhere. Prices include sockets and glassware holders, but not glassware or wiring.

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.
 Street Lighting Appliances 30

CUTTER ORNAMENTAL POSTS



Park Crook

Driveway Crook

Park Crook with Hoods

Dimension Diagram Park Crook

Park and Driveway Crooks

PARK CROOKS

These are light but substantial poles for supporting arc or Mazda lamps. Standard height from ground to insulator, 18 feet. Other heights built to order. In ordering, state height and whether insulators or 17 inch hoods with medium screw sockets are wanted. On 14 foot and shorter heights, 4 foot ground sections will be supplied, on greater heights, 5 foot. If ground section is not wanted, deduct \$8.10 from list.

List Number	With	No. of	Std.	Wt.,	*List	List Number	With	No. of	Std.	Wt.,	*List
With	17 Inch	Lights	Pkg.	Lbs.	Price	With	17 Inch	Lights	Pkg.	Lbs.	Price
Insula- tors	Hoods			Each	Each	Insula- tors	Hoods			Each	Each
440902	440904	1	20	340	\$40.50	440906	440908	3	20	385	\$52.38
440903	440905	2	20	365	46.98	440907	440909	4	20	410	57.78

DRIVEWAY CROOK

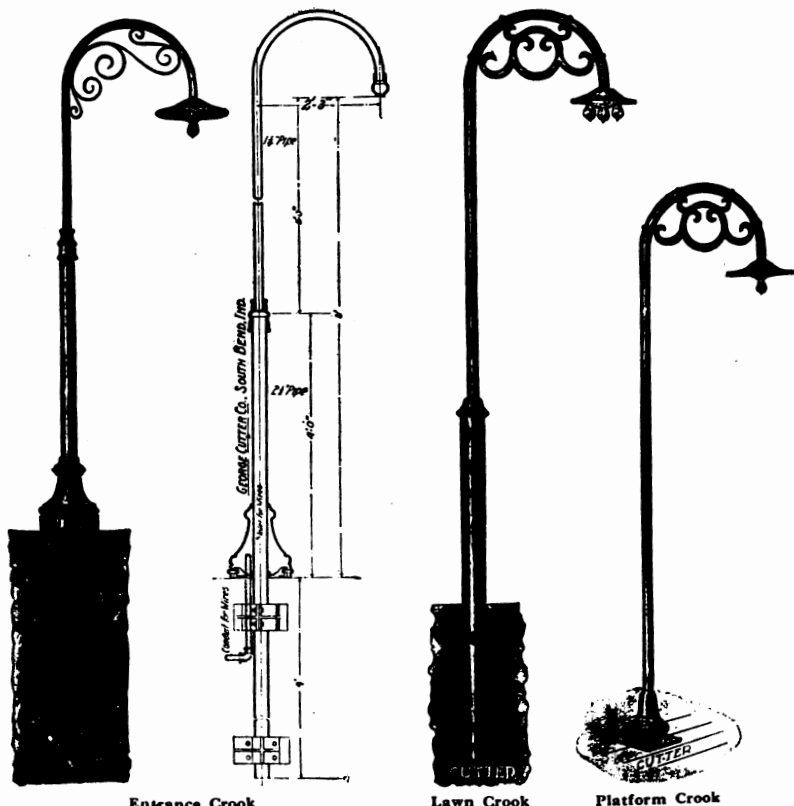
Cutter Driveway Crook, a variation of the Park Crook, built 14 feet from ground to lamp, fitted with 4 foot ground section, clamp arm for overhead wires and 20 inch one-piece fluted steethead body with insulating joint.

List No.	Style Socket	Std. Pkg.	Wt., Lbs.	*List Price	List No.	Style Socket	Std. Pkg.	Wt., Lbs.	*List Price
21206	Medium screw	20	350	\$43.20	21208	Film	20	350	\$44.62
21207	Mogul screw	20	350	43.54	21209	Without socket	20	350	42.66

This fixture built for underground wiring at a reduction of \$0.88 list.

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER ORNAMENTAL POSTS



Entrance Crook

Lawn Crook

Platform Crook

Entrance, Lawn and Platform Crooks

ENTRANCE CROOKS

These are artistic fixtures for lighting entrances to parks, private grounds, etc. The $1\frac{1}{4}$ inch pipe extends 4 feet into the ground. Ground anchors, as shown, are \$5.40 extra. Furnished with 17 inch hood, reflector and medium screw socket.

List No.	No. of Lights	Std. Pkg.	Wt. Lbs. Each	*List Price Each	List No.	No. of Lights	Std. Pkg.	Wt. Lbs. Each	*List Price Each
21230	1	20	100	\$20.26	21233	4	20	103	\$21.88
21231	2	20	101	20.80	21234	5	20	104	22.42
21232	3	20	102	21.34	.....	..	..	...	.....

If scroll is not wanted, deduct \$2.16 from list.

LAWN CROOKS

Similar to entrance crooks, but without cast iron base and with cast iron scroll. If scroll is not wanted, deduct \$1.62 from list. Holds the lamp 2 feet from the column.

21235	1	20	75	\$17.02	21238	4	20	78	\$18.64
21236	2	20	76	17.56	21239	5	20	79	19.18
21237	3	20	77	18.10	.....	..	..	...	.....

PLATFORM CROOKS

A $1\frac{1}{4}$ inch pipe crook holds the lamp 8 feet from the floor. If scroll is not wanted, deduct \$1.62 from list.

21240	1	20	80	\$10.54	21243	4	20	83	\$12.16
21241	2	20	81	11.08	21244	5	20	84	12.70
21242	3	20	82	11.62

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Street Lighting Appliances

CUTTER ORNAMENTAL POSTS



Continental, No. 22055



Colony, No. 22065



Colony, No. 22068

Single-light Posts for Type C High Efficiency Mazda Lamps

The Continental Post is designed for "White Way" lighting, with Sol-lux Senior Top which accommodates compensators for 15 and 20 ampere series Mazda lamps. Base, 20 inches in diameter, 31 inches high. Column, 7½ inches in diameter above the base, tapering to 5¾ inches in diameter near the top. Height to bottom of globe, 12 feet 6 inches; to top of ventilator on Sol-lux Senior Globe, 14 feet 8 inches; to top of ventilator on 16 inch ball globe, 14 feet 4 inches. Globe holder has 8 inch fitter. Use four ¾ or 1 inch foundation bolts.

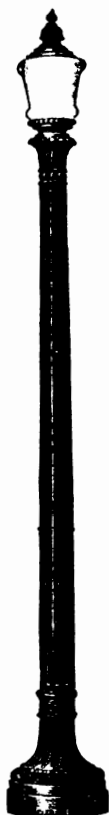
The Colony Post is a smaller size of the Continental. Base, 16 inches in diameter, 21 inches high. Column, 5¾ inches in diameter above the base, tapering to 3¾ inches in diameter near the top. Height to bottom of globe, 10 feet; to top of ventilator on Sol-lux Junior Globe, 11 feet 11 inches; to top of ventilator on 16 inch globe, 11 feet 10 inches. Globe holder has 8 inch fitter and will accommodate compensator. Use three ¾ inch foundation bolts.

Standard Package Quantity, 20 of One Style

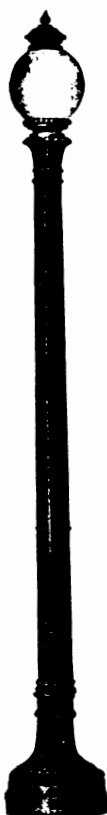
Description	Continental			Colony		
	List No.	Wt., Lbs. Each	Price Each	List No.	Wt., Lbs. Each	Price Each
With globe holder and Mogul screw socket.....	22051	500	\$57.04	22061	300	\$38.14
With Sol-lux ornamental top, Mogul screw socket.....	22055	520	76.48	22065	320	54.34
Same, with Regent film socket.....	22056	521	77.56	22066	321	55.42
With 16 inch diffusing ball, ventilator and Mogul socket..	22058	520	68.38	22068	320	49.48
Same, with Regent film socket.....	22059	521	69.46	22069	321	50.56

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CUTTER ORNAMENTAL POSTS



Capitol, No. 22075



Capitol, No. 22078



Broadway, No. 22085

Single-light Posts for Type C High Efficiency Mazda Lamps

The Capitol Post is a massive standard of highly artistic design built especially for the lighting of business districts with high candle power incandescent lamps. Base, 20 inches in diameter, 2 feet 5 inches high. Column, 7½ inches in diameter above the base, tapering to 6¼ inches in diameter near the top. Height to bottom of globe, 13 feet 5 inches; to top of ventilator on Sol-lux Senior globe, 15 feet 7 inches; to top of ventilator on 16 inch ball globe, 15 feet 3 inches. Globe holder has 8 inch fitter.

The Broadway post is of the same general design as the Capitol, with more simple ornamentation. Has a Corinthian top equipped with 8 inch globe fitter.

Standard Package Quantity, 20 of One Style

Description	List No.	Capitol		List No.	Broadway	
		Wt., Lbs. Each	Price Each		Wt., Lbs. Each	Price Each
*With 8 inch globe holder and Mogul screw socket.....	22071	580	\$65.14	22081	580	\$62.44
*Same, with Regent film socket.....	22072	581	66.22	22082	581	63.52
With Sol-lux ornamental top, Mogul socket.....	22075	600	84.58	22085	600	81.88
Same, with Regent film socket.....	22076	601	85.66	22086	601	82.96
With 16 inch diffusing ball, ventilator and Mogul socket....	22078	600	76.48	22088	600	73.78
Same, with Regent film socket.....	22079	601	77.56	22089	601	74.86

* Use four 1 inch foundation bolts.

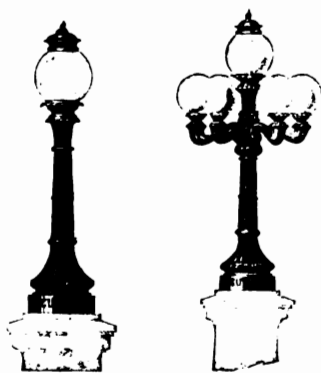
Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

Street Lighting Appliances

CUTTER ORNAMENTAL NEWELS

For Type C Lamps

SOL-LUX GATE POST NEWELS



Sol-lux Gate Post Newels

These newels are made of the highest quality gray iron. They are of distinctive design and very appropriate for the lighting of gateways and private grounds, entrances of buildings, etc.

Base, 14 inches in diameter, 24 inches high. Column, 5 inches in diameter above base, tapering to 3½ inches in diameter near the top. Height from base plane to bottom of side globes, 3 feet 8 inches; to bottom of center globe, 4 feet 6½ inches; to bottom of globe of 1 light newel, 3 feet 8 inches. Distance from center to center of opposite globes, 30 inches. Designed for 6 x 9 inch or 6 x 10 inch side globes, and 6 x 12 inch or 6 x 14 inch top globe.

Prices below include medium screw sockets for side lamps and Mogul screw sockets for center lamps, unless otherwise specified. Prices do not include globes, ventilators, lamps, wiring or foundation bolts. Use three ¾ inch bolts.

List No.	No. of Lights	Std. Pkg.	Wt., Lbs. Each	List Price Each
21817.....	1	20	125	\$27.00
21818.....	2	20	175	37.80
21819.....	3	20	175	37.80
21820.....	4	20	215	43.20
21821.....	5	20	215	43.20

SOL-LUX BRIDGE NEWELS

Similar in design to Sol-lux Gate Post Newel but higher. Base, 14 inches in diameter, 24 inches high. Column, 5 inches in diameter above the base, tapering to 3½ inches in diameter near the top. Height from base plane to bottom of side globes, 6 feet; to bottom of center globe, 6 feet 10½ inches; to bottom of globe on the 1 light newel, 6 feet. Distance from center to center of opposite globes, 30 inches. Designed for 6 x 9 inch or 6 x 10 inch side globes and 6 x 12 inch or 6 x 14 inch center globes.

Arms may be reversed for pendent clusters.

Prices below do not include globes, ventilators, lamps, wiring or foundation bolts. Use three ¾ inch bolts. Prices include medium screw sockets for side lamps and Mogul screw sockets for top lamps.



Sol-lux Bridge Newels

List No.	No. of Lights	Std. Pkg.	Wt., Lbs. Each	List Price Each
21825.....	1	20	175	\$35.10
21826.....	2	20	225	45.90
21827.....	3	20	225	45.90
21828.....	4	20	265	51.30
21829.....	5	20	265	51.30

GLOBES

List No.	Description	Std. Pkg.	Wt., Lbs. Each	List Price Each
21830	6x9 in. diffusing ball.....	20	6	\$1.90
21842	6x10 in. diffusing ball.....	20	7	2.16
21831	6x12 in. diffusing ball (without top fitter).....	20	8	2.70
21832	6x12 in. diffusing ball (with 5½ in. top fitter).....	20	8	2.70
21833	6x14 in. diffusing ball (with 5½ in. top fitter).....	20	9	3.78
21791	8x16 in. diffusing ball (with 6 in. top fitter).....	20	10	7.02

VENTILATORS

List No.	Description	Std. Pkg.	Wt., Lbs. Each	List Price Each
21792	With 6 in. fitter.....	20	9	\$4.32
21793	With 5½ in. fitter.....	20	9	4.32

Delivery F. O. B. Factory, South Bend, Ind.

CUTTER ORNAMENTAL BRACKETS

Midget
BracketReversible
Bracket

MIDGET BRACKETS

A light cast iron bracket designed for small sizes of lamps which do not require ventilation. Has a threaded stem for attachment to crowfoot or conduit. Diameter of wall canopy, 5¼ inches. Distance from end of stem to center of globe, 6 inches. Equipped with ¼ inch holder and medium screw socket, but not wired.

List No.	Description	Std. Pkg.	Wt.,		Price Each
			Lbs.	Each	
21835	With 4 x 8 in. diffusing globe....	20	12		\$5.14
21836	Without globe.....	20	7		3.52

REVERSIBLE BRACKETS

When ventilation is not necessary, this bracket may have the globe hang downward. In this position, the bracket has the same artistic lines and correct proportions as in the position illustrated. Distance from wall to center of globe, 2 feet. Distance between centers of wall plates, approximately 20 inches. Fitted with 8 inch globe holder.

Prices do not include globe, ventilator or wiring.

21248	Medium screw socket.....	20	65		\$16.20
21837	Mogul screw socket.....	20	65		16.54
21791	8 x 16 in. diffusing ball (with 6 in. top fitter).....	20	19		7.02
21792	Ventilator, with 6 in. fitter.....	20	9		4.32

COMMERCE BRACKETS

A massive fixture of distinctly artistic and classical design. Particularly adapted for lighting fronts of fine structures, such as banks and office buildings, clubs, libraries, etc.

Wall plate, 9 inches wide, 20 inches high. Distance from wall to center of top globe, 14 inches. Height to bottom of globe of 1 light bracket, 33 inches; to bottom of center globe of 3 and 4 light brackets, 41 inches. Distance from center to center of opposite globe, 30 inches.

For side lamps use 6 x 9 inch or 6 x 10 inch globe. For center lamps use 6 x 12 inch or 6 x 14 inch globe.

Prices below do not include lamps, globes, ventilators or wiring. Medium screw sockets are furnished for side lamps, Mogul screw sockets for center lamps, unless otherwise specified.

21838	1 light.....	20	90		\$21.60
21839	3 light.....	20	145		32.40
21840	4 light.....	20	155		35.10
21830	6 x 9 in. diffusing ball.....	20	6		1.90
21842	6 x 10 in. diffusing ball.....	20	7		2.16
21831	6 x 12 in. diffusing ball (without top fitter).....	20	8		2.70
21832	6 x 12 in. diffusing ball (with 5½ in. top fitter).....	20	8		2.70
21833	6 x 14 in. diffusing ball (with 5½ in. top fitter).....	20	9		3.78
21793	5½ in. ventilator.....	20	9		4.32

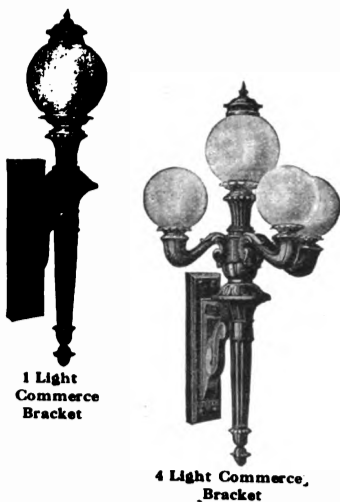
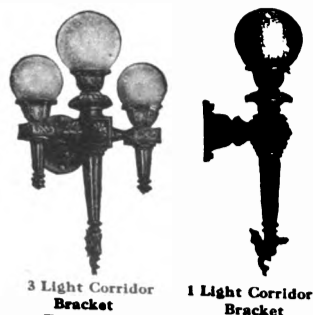
CORRIDOR BRACKETS

Distance from wall to center of globe of the 1 light bracket, 10 inches. Distance from center to center of opposite globes of the 3 light bracket, 16 inches. Height over all, 40 inches. Globe holders have 6 inch fitters for 6 x 8 inch side globes and 6 x 10 inch center globes.

Prices below include globe holders and medium screw sockets, but not the globes or wiring.

21245	1 light.....	20	65		\$16.20
21246	3 light.....	20	110		22.68
21247	4 light.....	20	135		25.92
21841	6 x 8 in. diffusing ball.....	20	5		1.62
21842	6 x 10 in. diffusing ball.....	20	7		2.16

For warehouse deliveries write nearest house.

1 Light
Commerce
Bracket4 Light Commerce,
Bracket3 Light Corridor
Bracket1 Light Corridor
Bracket

Street Lighting Appliances

Delivery F. O. B. Factory, South Bend, Ind.

PARTS FOR CUTTER ORNAMENTAL POSTS



**Sol-lux Senior
Ornamental
Top**



**Sol-lux Junior
Ornamental
Top**



**Octagonal Top with
Sol-lux Senior Globe
and Ventilator**



**Sol-lux Junior Casing
with 16 Inch Diffusing
Ball and Ventilator**

SOL-LUX ORNAMENTAL POST TOPS FOR TYPE C LAMPS

Made in two sizes, designated Senior and Junior, respectively. The casings fit over cylindrical shanks 3½ inches in diameter and 5 inches high. Both have 8 inch globe fitters and accommodate compensators for 15 and 20 ampere Type C lamps. The Senior casing is made for poles with columns about 6 inches in diameter near the top; Junior casing, about 3½ inches. Sol-lux Senior tops may be used on Capitol, Continental, Broadway and Plaza columns; Junior tops on Chicago, Avenue, Riverside, Boulevard, Midway and Park View columns.

Deduct \$3.46 list from prices of 1 light posts for globe holder and medium screw socket and add prices of parts listed below.

Height of Senior casing, 13½ inches; Junior casing, 12 inches. Height of Sol-lux Senior globe, 14½ inches; Sol-lux Junior globe, 13 inches. Height of Senior ventilator, 12 inches; Junior, 10 inches. Ventilators are equipped with white enameled reflectors which direct the maximum amount of light into useful planes.

Description	Senior			Junior		
	List No.	Wt., Lbs.	Price Each	List No.	Std. Pkg.	Wt., Lbs. Price Each
Sol-lux casing without socket*	22477	30	\$7.56	22481	20	20 \$5.40
Sol-lux high efficiency globe	22478	11	8.10	22482	20	9 6.48
Sol-lux ventilator with reflector	22479	9	11.34	22483	20	8 9.72
Complete Sol-lux top, less socket*	22480	50	27.00	22484	20	37 21.60

OCTAGONAL POST TOPS

Height of casing, 19 inches. Fits Octagonal, Commonwealth and Midway columns. Deduct \$3.46 from list prices of 1 light Commonwealth and Midway posts for globe holders and medium screw sockets and add the following prices:

List No.	Mfr. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
442021	22485	Octagonal casing, 8 in. globe fitter, less socket*	20	50	\$10.80
442022	22478	Sol-lux Senior globe	20	11	8.10
442023	22479	Sol-lux Senior ventilator and reflector	20	9	11.34
442024	22486	Complete top, less socket*	20	70	30.24

DIFFUSING BALL GLOBES

List No.	Size of Fitter, Diam.			Wt., Lbs.	Price Each	List No.	Size of Fitter, Diam.			Wt., Lbs.	Price Each
	In.	Lower	Top				In.	Lower	Top		
21841	8	6	...	5	\$1.62	22488	14	7	...	20	9 \$3.78
21830	9	6	...	6	1.90	22489	14	8	...	20	9 3.78
21842	10	6	...	7	2.16	22490	16	8	...	20	10 7.02
21831	12	6	...	8	2.70	21791	16	8	6	20	10 7.02
21832	12	6	5½	8	2.70	22492	18	8	6	20	12 9.72
22487	12	8	...	8	2.70	22493	20	8½	...	20	36 27.00
21833	14	6	5½	9	3.78						

VENTILATORS FOR DIFFUSING BALL GLOBES

List No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
21792	For globe with 6 in. top fitter	20	9	\$4.32
21793	For globe with 5½ in. top fitter	20	9	4.32

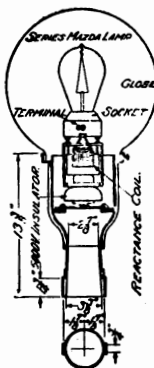
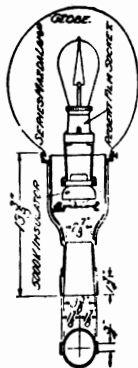
COMPENSATORS WITH MOGUL SOCKETS

List No. For	List No. For	Description	Std. Pkg.	Wt., Lbs.	Price Each
6.6 Amps.	7.5 Amps.				
22494	22497	For 400 c.p., 15 amp. lamp	20	7	\$11.68
22495	22498	For 600 c.p., 20 amp. lamp	20	9	12.76
22496	22499	For 1000 c.p., 20 amp. lamp	20	14	14.92

*Add following list prices for sockets: Medium screw, 54 cents; Mogul screw, 88 cents; Regent Film, \$1.96. Compensators with Mogul screw sockets are listed separately. Diffusing ball globes and ventilators for same are listed above.

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

PARTS FOR CUTTER ORNAMENTAL POSTS

Gas Post with
HeadPost Head with
7x14 in. Diffusing BallPost Head with
Reactance CoilPost Head with
Regent Film Socket

POST HEADS

Designed for converting gas posts into electric light standards. Fits gas post columns or steel poles of 2½ inch internal diameter. Equipped with Mogul socket and reactance coil (for use on series circuits without regulator) or with Cutter Lamp Grip Multiple Sockets or Regent film socket. A high voltage insulator protects all live parts from grounds. Globe holder has 7 inch fitter. Prices do not include globes.

With Reactance Coils and Mogul Sockets

List No.	List No.	Size of Lamp	Std. Pkg.	Weight, Lbs.	Price Each
4 Amperes, 60 Cycle	6.6 Amperes, 60 Cycle	C. P.			
23051	23147	32	20	21	\$12.54
23052	23148	40	20	21 ½	12.70
23053	23149	60	20	22	12.96
23054	23150	80	20	23	13.62
23055	23151	100	20	25	13.84
23056	23152	200	20	28	17.50

With Sockets Only

Medium Screw Socket			Mogul Screw Socket			Regent Film Socket		
List No.	Wt., Lbs.	Price Each	List No.	Wt., Lbs.	Price Each	List No.	Wt., Lbs.	Price Each
23153*	18	\$5.94	23154*	19	\$6.28	23155*	20	\$7.34

*Standard Package, 20.



Pothead

POTHEADS

Has an iron bracket support for mounting in base of post.

List No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
23156	In ordering, give external diameter of cables.	20	10	\$3.24

GROUND SECTIONS

Prices of posts on preceding pages do not include foundation bolts or ground sections. When cast iron ground sections are used, bolts are supplied for fastening bases of posts to ground sections. Foundation bolts listed below.

21138	Commonwealth and Midway	20	225	\$17.28
21144	Broadway, Plaza, Capitol, Continental, White Way, Residential, Park Way and Flaming Arc	20	225	17.28
21139	Avenue	20	225	17.28
21115	Chicago	20	225	17.28
21140	Riverside	20	160	14.04
21142	Park View and Colony	20	150	13.50
21116	Villa	20	160	14.04
21141	Boulevard	20	110	12.96

FOUNDATION BOLTS

Prices cover round head machine bolts with hexagon nuts. Wrought washers are 10 per cent. list extra.

Length, Bolt, Ins.			Length, Bolt, Ins.			Length, Bolt, Ins.			Length, Bolt, Ins.		
8	¼ In.	\$0.14	1 In.	¼ In.	\$0.20	1 ¼ In.	¼ In.	\$0.24	1 In.	¼ In.	\$0.31
10	¼ In.	.16	1 In.	¼ In.	.21	1 ¼ In.	¼ In.	.35	1 In.	¼ In.	.50
12	¼ In.	.18	1 In.	¼ In.	.24	1 ¼ In.	¼ In.	.58	1 In.	¼ In.	.58
15	¼ In.	.22	1 In.	¼ In.	.28	1 ¼ In.	¼ In.	.75	1 In.	¼ In.	.90

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Street Lighting Appliances

CUTTER SOL-LUX FIXTURES

For Type C Lamps—Bracket Styles

Standard Package Quantity, 20 of One Style or Trade Number

For 500 watt or smaller Type C lamps, use 6 x 10 inch opal globe or 6 x 8 inch Stalacite; for larger lamps, use 8 x 12 inch opal globe or Acorn Diffuser.

STANDARD BRACKETS WITH SOL-LUX HOLDERS

A simple form of bracket suspension, consisting of a 3 foot gooseneck of $\frac{1}{2}$ inch pipe, with grooved wall plate, for inner wiring.

The Sol-lux holder attached to the outer end is made of copper with gun metal finish. Furnished with Cutter Grip sockets, but not wired.



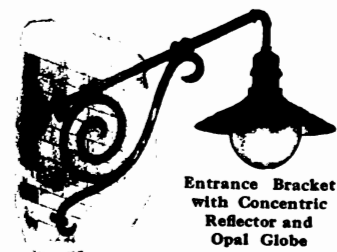
Standard Bracket
with Sol-lux Holder
and Opal Globe



Spartan Junior Bracket
with Sol-lux Holder and
Stalacite



Wall bracket with Sol-lux Holder
and Opal Globe



Entrance Bracket
with Concentric
Reflector and
Opal Globe

Med. Screw Skt. Mogul Screw Skt.

Description	Wt. Lbs.	List No.	Price Each	List No.	Price Each
With 6 x 10 in. opal globe.....	15	30037	\$6.06	30038	\$6.28
With 6 x 8 in. Stalacite.....	15	30039	5.52	30040	5.74
With 8 x 12 in. opal globe.....	17	30041	6.54	30042	6.76
With 6 in. holder only.....	7	30043	4.18	30044	4.38
With 8 in. holder only.....	7½	30045	4.38	30046	4.60

For galvanized gooseneck, add 22 cents list; for galvanized pole plate, add 11 cents list. For sign on globe of less than 20 letters, add \$1.62 list; for 20 or more letters, add \$3.24 list.

SPARTAN JUNIOR BRACKETS WITH SOL-LUX HOLDERS

An artistic and substantial bracket which holds the lamp 3 feet from the wall. Made of $\frac{1}{2}$ inch (bore) pipe, with wrought iron scrolls and grooved wall plate. The Sol-lux holder is made of copper and supplied in gun metal finish. Shipped complete with Cutter Grip sockets, but not wired.

With 6 x 10 in. opal globe.....	23	30047	\$7.78	30048	\$8.00
With 6 x 8 in. Stalacite.....	23	30049	7.24	30050	7.46
With 8 x 12 in. opal globe.....	15	30051	8.28	30052	8.48
With 6 in. holder only.....	12	30053	5.90	30054	6.12
With 8 in. holder only.....	11½	30055	6.12	30056	6.32

For galvanized bracket, add 76 cents list. For sign on globe, add \$1.62 list for less than 20 letters; \$3.24 list for 20 or more.

WALL BRACKETS WITH SOL-LUX HOLDERS

Consists of a 4 foot gooseneck of $\frac{1}{2}$ inch pipe with wall flange, allowing the pipe to extend 1 foot inside the wall and 3 feet outside. Furnished complete, as shown, with a Sol-lux holder and Cutter Grip socket, but not wired.

With 6 x 10 in. opal globe.....	16	30057	\$6.48	30058	\$6.70
With 6 x 8 in. Stalacite.....	16	30059	5.94	30060	6.16
With 8 x 12 in. opal globe.....	18	30061	6.98	30062	7.20
With 6 in. holder only.....	8	30063	4.60	30064	4.82
With 8 in. holder only.....	7½	30065	4.82	30066	5.04

For galvanized gooseneck, add 27 cents list; for galvanized wall flange, add 17 cents list. For sign on globe, add \$1.62 for less than 20 letters; \$3.24 list for 20 or more.

ENTRANCE BRACKETS

With Sol-lux Concentric Dome Reflector

Consists of a 4 foot gooseneck of $\frac{3}{4}$ inch pipe, terminating in a vertical piece of $\frac{1}{2}$ inch pipe, which allows the hood to be raised for making connections. The wall flange slips over the pipe, and fastens with a set screw.

With Sol-lux Holder (4 Inch Fitter) and 20 Inch Concentric Dome Reflector

With 8 x 12 in. opal globe.....	37	30067	\$12.82	30068	\$13.14
With Acorn diffuser.....	37	30069	14.00	30070	14.22
With 4 in. holder only.....	24	30071	6.76	30072	6.98
With reflector, without globe.....	27	30073	9.56	30074	9.78

For galvanized bracket, add \$1.08 list.

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

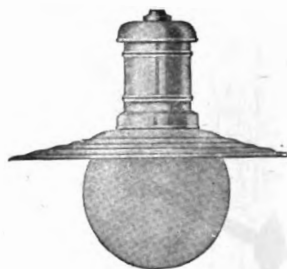
IVANHOE METAL REFLECTORS



No. 646



Nos. 649 and 699



No. 645

Units for 400, 500, 750, 1000 Watt Mazda Lamps

Unit No. 646 is designed for either indoor or outdoor use. It is suitable for the exterior lighting of shop fronts and will be used to a certain extent for shop interiors. The unit is finished in white porcelain enamel on the interior and green porcelain enamel on the outside.

Nos. 649 and 699 are new units for outdoor lighting with 400, 500, 750 and 1000 watt multiple Mazda lamps. These units are finished with white porcelain enamel inside and outside.

For store fronts, moving picture show entrances and similar locations where a "white way" effect is desired, this effect is best obtained by unit No. 645. The unit is weatherproof, substantial in construction and neat in appearance. It is tapped for $\frac{1}{2}$ inch pipe suspension.

Unit No. 715 is composed of a metal reflector canopy and a Holophane Prismatic internal glass refractor. This internal refractor gives a broad, efficient distribution of light, is easily cleaned, as it is smooth on both sides, and is protected from bugs by a screen in the bottom. This unit has a wide application for multiple street lighting.

List No.	Description	Recommended Mazda Lamp Watts	Dimensions in Inches		Standard Quantity	Approximate Shipping Weight Standard Quantity	List Price Each
			Diameter	Depth			
646	Unit complete.....	750, 1000	18	18 $\frac{3}{8}$	12	276	\$16.18
649	Unit complete.....	750, 1000	15 $\frac{1}{4}$	17 $\frac{3}{4}$	12	185	15.90
699	Unit complete.....	400, 500	15 $\frac{1}{4}$	13 $\frac{1}{4}$	12	185	13.44
*645	Unit complete.....	750, 1000	20	17	12	356	18.00
*715	Unit complete.....	400, 500	15 $\frac{1}{4}$	13 $\frac{3}{8}$	10	175	22.82



No. 804



No. 806



No. 808

White Way Units for 200 to 1000 Watt Mazda Lamps

These units are built especially for outdoor service. They are porcelain enameled green outside with the reflector porcelain enameled white inside. The glass is Sudan; a high-grade opal.

List No.	Recommended Mazda Lamp Watts	Dimensions in Inches		Standard Quantity	Approximate Shipping Weight Standard Quantity	List Price Each
		Diameter	Depth			
804	200, 300	12	11 $\frac{3}{4}$	12	130	\$4.70
806	400, 500	15	13 $\frac{3}{4}$	12	200	4.72
808	750, 1000	15	15 $\frac{1}{8}$	12	270	4.62

*Finish reflector No. 645, white porcelain enamel inside and outside, two beads finished in white. 715, white porcelain enamel inside and outside.

Bug screens are included with all of the above units.

Wire screen guards should be used over the opal balls on these units to prevent the glass falling out.

IVANHOE "C" LINE FIXTURES



No. 760—Fixture and Glass
No. 761—Fixture Only
No. 775—Glass Only



No. 754—Fixture and Glass
No. 765—Fixture Only
No. 776—Glass Only



No. 762—Fixture and Glass
No. 763—Fixture Only
No. 775—Glass Only

Ivanhoe "C" Line COPPER FIXTURES

Copper fixtures will stand up under the most severe exposure to the weather. They are recommended for use out of doors, for store front, sign board and display lighting in preference to any other type of equipment. Copper fixtures are permanent, desirable and worth the additional cost.

*List No.	Description	Dimensions in Inches			Recom- mended Mazda Lamp Watts	Std. Qty.	Approx. Shp. Wt. Std. Qty.	List Price Each
		Length Over All	Max. Diam.	Size of Holder				
760	Fixture and glass	12½	8	6	200, 300	12	55	\$4.68
761	Fixture only (glass not included)	4½	6	6	200, 300	12	30	3.48
775	Glass only (fixture not included)	8	8	6	200, 300	12	25	1.22
762	Fixture and glass	14½	8	6	400, 500	12	60	5.32
763	Fixture only (glass not included)	6½	6	6	400, 500	12	35	4.10
775	Glass only (fixture not included)	8	8	6	400, 500	12	25	1.22
784	Fixture and glass	19	12	8	750, 1000	12	160	7.66
765	Fixture only (glass not included)	7	8	8	750, 1000	12	40	4.92
776	Glass only (fixture not included)	12	12	8	750, 1000	12	120	2.76

Finish: Natural copper.



No. 727—Fixture and Glass
No. 741—Fixture Only
No. 775—Glass Only



No. 782—Fixture and Glass
No. 753—Fixture Only
No. 776—Glass Only



No. 728—Fixture and Glass
No. 729—Fixture Only
No. 775—Glass Only

Ivanhoe "C" Line

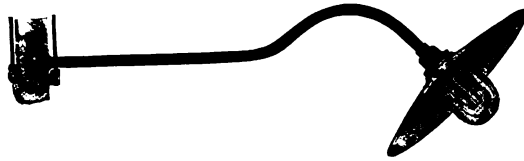
FIXTURES FINISHED WITH HEAT-RESISTING JAPAN

These fixtures are made of steel finished with a special japan. They will give satisfactory service out of doors and are the most desirable indoor unit for lighting spaces where low cost is a deciding factor.

*List No.	Description	Dimensions in Inches			Recom- mended Mazda Lamp Watts	Std. Qty.	Approx. Shp. Wt. Std. Qty.	List Price Each
		Length Over All	Max. Diam.	Size of Holder				
727	Fixture and glass	12½	8	6	200, 300	12	55	\$3.12
741	Fixture only (glass not included)	4½	6	6	200, 300	12	30	1.90
775	Glass only (fixture not included)	8	8	6	200, 300	12	25	1.22
728	Fixture and glass	14½	8	6	400, 500	12	60	3.42
729	Fixture only (glass not included)	6½	6	6	400, 500	12	35	2.22
775	Glass only (fixture not included)	8	8	6	400, 500	12	25	1.22
782	Fixture and glass	19	12	8	750, 1000	12	160	5.04
753	Fixture only (glass not included)	7	8	8	750, 1000	12	40	2.30
776	Glass only (fixture not included)	12	12	8	750, 1000	12	120	2.76

*Fixtures include sockets, but are not wired.

Finish: Dark heat-resisting japan only.

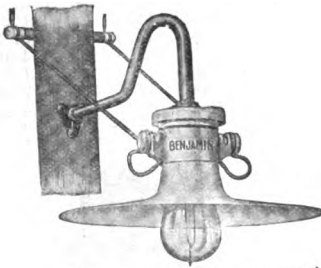
BENJAMIN STREET FIXTURES


No. 5471—45 Degrees

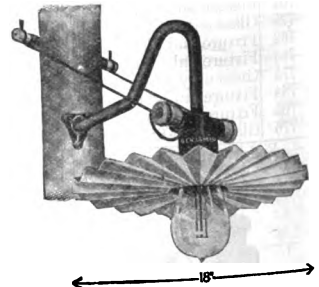
Schedule 2

Fixtures Nos. 5471-5481 have porcelain-lined weatherproof socket enclosed within a copper hood, firmly attached 15 inch porcelain enameled steel reflector, 4 inch aluminum globe holder, either 5 inch or 7 inch deep globe, gooseneck of $\frac{1}{2}$ inch iron pipe formed at an angle of 45 degrees, and wall or pole fitting. Unless otherwise specified, wall fitting is regularly supplied. Iron parts are black enamel. The device measures 39 inches from pole to lamp center. 5 inch globes will take 32 C.P. carbon filament, or 40-watt short base Mazda lamps; 7 inch globes, 60-watt Mazda lamps. For fixture less gooseneck and fitting deduct \$1.08 list.

List No.	Description	List Price
5471	Complete, with 5 x 4 inch globe.....	\$5.04
5481	Complete, with 7 x 4 inch globe.....	6.00



No. 1288



No. 1252

Schedule 2

Fixtures Nos. 1282-1288 have 18 inch flat cone reflector. The open wiring with series film cut-out socket, and 40 inch gooseneck of $\frac{3}{4}$ inch iron pipe with pole fitting is shown. They are intended for 100-watt lamps. 20 inch reflectors for 250-watt lamps may be ordered at an advance of 72 cents list; 22 inch reflectors, for 500-watt lamps, at an advance of \$1.44 list.

List No.	Description	List Price
1282	Reflector and multiple medium base socket only, concealed wiring.....	\$5.40
1284	Complete, with 40 inch gooseneck, concealed wiring.....	6.96
1286	Reflector and multiple Mogul base socket only, open wiring.....	6.00
1288	Complete, with 40 inch gooseneck, open wiring.....	7.56

Schedule 2

Fixtures Nos. 1246-1256 have 18 inch one-piece radial wave reflector with beaded edge. The usual raw surface of the latter is therefore eliminated, thus affording protection against the incursions of rust. The open wiring with cast iron cover, crossarm with porcelain knobs, and 40 inch gooseneck of $\frac{3}{4}$ inch iron pipe with pole fitting is shown. They are intended for 100-watt lamps. 22 inch reflector for 250 to 500-watt lamps may be ordered at an advance of \$1.44 list.

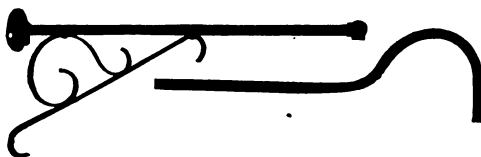
List No.	Description	List Price
1246	Reflector and multiple medium base socket only, concealed wiring.....	\$5.40
1248	Complete, with 40 inch gooseneck, concealed wiring.....	6.96
1250	Reflector and multiple Mogul base socket only, open wiring.....	6.00
1252	Complete, with 40 inch gooseneck, open, wiring.....	7.56

Prices are less wires and lamps.

BENJAMIN STREET FIXTURE FITTINGS



No. 6008



No. 5040

No. 5036

Nipples

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price
6008	Iron Pipe Stem, $\frac{1}{2}$ x 8 inch.....	20	10	\$0.30

Goosenecks

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price
5036	Iron Pipe Gooseneck, $\frac{1}{2}$ x 30 inch.....	20	46	\$0.72
5037	Iron Pipe Gooseneck, $\frac{3}{4}$ x 40 inch.....	20	110	1.08

Brackets

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price
5038	Bracket with Fitting (No. 5031), less brace, $\frac{3}{4}$ x 40 inch.....	20	110	\$1.80
5040	Bracket with Fitting (No. 5031), and lower brace, $\frac{3}{4}$ x 40 inch...	20	140	3.12
5042	Bracket with Fitting (No. 5031), and double brace, $\frac{3}{4}$ x 40 inch...	20	170	4.44



No. 6180



No. 6182

Mast Arms

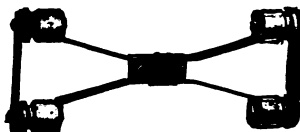
List No.	Description	Std. Pkg.	Wt. Lbs.	List Price
6180	Mast Arm with Fitting (No. 5031), chains and attaching terminals, $\frac{3}{4}$ x 36 inch.....	20	164	\$2.88

Suspension Fittings

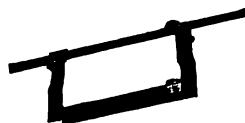
List No.	Description	Std. Pkg.	Wt. Lbs.	List Price
6182	3-Point Center Suspension, slips $\frac{1}{2}$ inch pipe.....	20	75	\$1.20



No. 6202



No. 6204



No. 6206

Cross Arms

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price
6200	Cross Arm less shock absorber, tapped $\frac{1}{2}$ inch.....	20	26	\$0.96
6202	Cross Arm with shock absorber, tapped $\frac{1}{2}$ inch.....	20	28	1.08

Suspension Fittings

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price
6204	4-Point Center Suspension, porcelain wire openings, $\frac{1}{2}$ inch.....	20	40	\$1.56
6206	Span Wire Suspension, slips $\frac{1}{2}$ inch bolt.....	20	21	.60

Street Lighting Appliances

BENJAMIN STREET FIXTURE FITTINGS



No. 6029



No. 6031



No. 6028C

Suspension Fittings

List No.	Description	Schedule 4		
		Std. Pkg.	Wt. Lbs.	List Price
6029	Suspension Fitting less shock absorber, $\frac{1}{2}$ inch.....	20	16	\$0.36
6030	Suspension Fitting with shock absorber, $\frac{1}{2}$ inch.....	20	17	.48
6031	Suspension Fitting with porcelain wire openings, $\frac{1}{2}$ inch.....	20	10	.72
6031M	Suspension Fitting with porcelain wire openings, $\frac{1}{2}$ inch, male.....	20	10	.78
6049	Suspension Fitting with porcelain wire openings, $\frac{1}{2}$ inch.....	20	10	.90
6049M	Suspension Fitting with porcelain wire openings, $\frac{1}{2}$ inch, male.....	20	10	.96

Connecting Blocks

		Schedule 4		
		Std. Pkg.	Wt. Lbs.	List Price
6028C	Suspension Connecting Block, $\frac{1}{2}$ inch.....	20	10	\$1.20



No. 5025



No. 5026



No. 6184

Pole and Wall Fittings

List No.	Description	Schedule 4		
		Std. Pkg.	Wt. Lbs.	List Price
5025	Pole Fitting, malleable iron, $\frac{1}{2}$ inch.....	20	16	\$0.36
5026	Wall Fitting, malleable iron, $\frac{1}{2}$ inch.....	20	8	.36

Extension Fittings

		Schedule 4		
		Std. Pkg.	Wt. Lbs.	List Price
6184	Hexagon Extension Fitting, $\frac{1}{2} \times \frac{1}{2}$ inch.....	20	2	\$0.18



No. 5027



No. 5031



No. 6186

Pole Fittings

List No.	Description	Schedule 4		
		Std. Pkg.	Wt. Lbs.	List Price
5027	Pole Fitting less wire openings, $\frac{3}{4}$ inch.....	20	27	\$0.48
5028	Pole Fitting less wire openings, $\frac{1}{2}$ inch.....	20	27	.48
5031	Pole Fitting with porcelain wire openings, $\frac{3}{4}$ inch.....	20	30	.72
5032	Pole Fitting with porcelain wire openings, $\frac{1}{2}$ inch.....	20	31	.72

Ball Fittings

		Schedule 4		
		Std. Pkg.	Wt. Lbs.	List Price
6186	Ball Fitting, $\frac{3}{4} \times \frac{1}{2}$ inch.....	20	10	\$0.36

Street Lighting Appliances

INSULATING MATERIALS

Insulating Tapes

VICTOR TAPES



Victor Tape

These are commercial grades of tape which we furnish regularly in half-pound rolls, $\frac{3}{4}$ inch wide. We furnish under this same brand both a friction tape and a rubber splicing compound. Therefore it is always necessary to specify whether friction tape or splicing compound is desired. The standard width of all tapes is $\frac{3}{4}$ inch, but on special orders we can furnish the Victor friction tape either $\frac{1}{2}$ inch, 1 inch, $1\frac{1}{4}$ inches, $1\frac{1}{2}$ inches or 2 inches wide.

VICTOR FRICTION TAPE

List No.	Description	List Price per Lb.
460000	$\frac{3}{4}$ -in. Black Tape	\$0.80

VICTOR SPLICING COMPOUND

List No.	Description	List Price per Lb.
460001	$\frac{3}{4}$ -in. Rubber Tape	\$1.00

NOTE: Victor Splicing Compound, $\frac{3}{4}$ inch wide, 35 mils thick, in $\frac{1}{2}$ lb. rolls, contains 50 to 55 feet per lb. packed in foil and cartons. Shipped, 100 lbs. in wood case and 50 lbs. in fiber case.



Amazon Tape

AMAZON TAPES

These tapes are of excellent quality and meet the requirements of those desiring something better than a regular commercial product. The price is accordingly somewhat higher than our Victor tapes.

AMAZON FRICTION TAPE

List No.	Description	List Price per Lb.
460002	$\frac{3}{4}$ -in. Black Tape	\$0.90

AMAZON SPLICING COMPOUND

List No.	Description	List Price per Lb.
460003	$\frac{3}{4}$ -in. Rubber Tape	\$1.60

NOTE: Amazon Splicing Compound, $\frac{3}{4}$ inch wide, 40 mils thick, in $\frac{1}{2}$ lb. rolls, contains 40 to 45 feet per lb. packed in foil and cartons. Shipped, 100 lbs. in wood case and 50 lbs. in fiber case.

GRIMSHAW TAPES

$\frac{3}{4}$ inch, $\frac{1}{2}$ lb. Rolls

List No.	Description	List Price per Lb.
460004	Black Friction	\$1.70
460005	White Friction	1.70
460006	Splicing Compound	2.20

OKONITE TAPES

$\frac{3}{4}$ inch, $\frac{1}{2}$ lb. Rolls

List No.	Description	List Price per Lb.
460007	Manson Black Friction	\$1.16
460008	Manson White Friction	1.16
460009	Okonite Splicing Compound	1.70

P. & B. TAPE

$\frac{3}{4}$ inch, $\frac{1}{2}$ lb. Rolls

460011	Black Weatherproof	\$0.80
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NOTE: If desired in $\frac{1}{4}$ lb. rolls add $\frac{1}{8}$ c. per lb. to list.

COMPETITION FRICTION TAPE

$\frac{3}{4}$ inch, $\frac{1}{2}$ lb. Rolls

460012	Black Friction	\$1.04
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COMPETITION SPLICING COMPOUND

$\frac{3}{4}$ inch, $\frac{1}{2}$ lb. Rolls

460013	Competition Rubber	\$1.80
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Armature Coil Tape

Is an extra fine quality of thin tape necessary to secure the best results in armature work. This tape is made of white sheeting with a white compound. The compound contains a large percentage of pure Para gum and will stand a very high insulation test.

List No.	Thickness, Ins.	Width, Ins.	List Price per Lb.
460014	.011	$\frac{3}{4}$	\$1.00

Field Coil Tape

Is used to insulate cable connections and street railway field coils. It is coated on one side with a sticky friction coat and on the other by an even coat of rubber. The cloth base is a strong heavy drilling. It is absolutely water and acid proof and will not deteriorate or change with age.

List No.	Approx. Thickness, Ins.	Width, Ins.	List Price per Lb.
460015	.025	$1\frac{1}{2}$	\$0.70

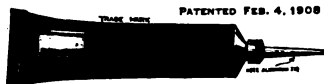
SOLDERING ACCESSORIES

Western-Electric Soldering Paste

This is a superior quality of soldering paste. It will not corrode or injure in any way the material that is to be soldered. It takes the place of injurious acids and is equally effective. It may be applied with a rag, a stick or even with the fingers. It is particularly intended for those who prefer a soldering flux in paste form rather than the soldering stick, and in cases where it is inconvenient to heat the joint in order to apply the stick flux.

List No.		List Price Each			
		Less than 12	12 to 36	36 to 108	108 and Over
460016	2-oz. tin cans.....	\$0.18	\$0.16	\$0.12	\$0.10
460017	4-oz. tin cans.....	.25	.20	.16	.14

		Net Prices Per Lb.			
		Less than 5 lbs.	5 to 100 lbs.	100 lbs. and Over	
460018	½ lb. tin cans.....	\$0.80	\$0.54	\$0.50	
460019	1-lb. tin cans.....	.72	.52	.46	
460020	5-lb. tin cans.....	.68	.50	.40	


Tube Flux

A soldering flux, not a substitute for solder. A non-corrosive soldering flux put up in convenient form. The spout in the tube is aluminum and allows the paste to be applied directly to the joint at the same time with the heat without soldering up the vent. This is an important feature.

List No.	Description	List Price Each
460021	Tube Flux.....	\$0.40

Miscellaneous Soldering Paste
HIGHLAND


List No.	Description	List Price
460022	2-oz. tin boxes....	\$0.50 ea.
460023	1-lb. tin boxes....	2.00 per lb.
460024	5-lb. tin boxes....	2.00 per lb.


CRESCENT

List No.	Description	List Price
460025	2½-oz. tin boxes....	\$0.30 ea.
460026	½-lb. tin boxes....	.90 per lb.
460027	1-lb. tin boxes....	.90 per lb.


BURNLEY

List No.	Description	List Price Each
460028	2-oz. tin boxes....	\$0.18
460029	4-oz. tin boxes....	.25
460030	1-lb. tin cans.....	.72


ALLEN'S

List No.	Description	List Price Each
460031	2-oz. tin boxes.....	\$0.28
460032	4-oz. tin boxes.....	.48
460033	½-lb. tin boxes.....	.82

YAGER'S

List No.	Description	List Price Each
460034	2-oz. tin boxes.....	\$0.24
460035	½-lb. tin cans.....	.58
460036	1-lb. tin cans.....	.92

STAR

List No.	Description	List Price Each
460037	2-oz. tin boxes.....	\$0.20
460038	4-oz. tin boxes.....	.30
460039	1-lb. tin boxes.....	.80

SOLDERING ACCESSORIES

Soldering Salts

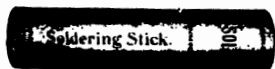
Our soldering salt combines in soluble crystal form the most efficient soldering agents known to chemistry. It dissolves readily in water and does not give off any obnoxious odors or gases. Directions for dissolving in water to make a soldering agent of proper strength are included with each package.



Western-Electric

Allen's

List No.	Description	List Price each	List No.	Description	List Price each
460040	1/2-lb. cans..	\$0.72	460046	1/2-lb. bottles	\$0.45
460041	1-lb. cans..	.68	460047	1-lb. bottles	.60
461046	5-lb. cans..	.42	460048	5-lb. bottles	3.00
Yager's					
460043	1/2-lb. bottles	\$0.60	460049	1/2-lb. bottles	\$0.42
460044	1-lb. bottles	.90	460050	1-lb. bottles	.60
460045	5-lb. bottles	4.00			



Western-Electric Soldering Stick

This soldering stick is made under the same formula as our paste and put up in a neat substantial package. Its use is very convenient as it can be carelessly carried in the workman's tool kit or pocket. To apply this stick it is only necessary to heat the joint to be soldered and rub it with the bared end of the stick.

List No.	Description	List Price each
460052	Western-Electric Soldering Stick.....	\$0.25

Miscellaneous Soldering Sticks

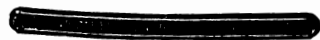
List No.	Description	List Price each	List No.	Description	List Price each
460053	Crescent.....	\$0.24	460055	Allen's.....	\$0.24
460054	Star.....	.24	460056	Yager's.....	.30



Solderall

A complete solder, and non-corrosive fluid. Combined in paste form and put up in convenient collapsible tubes.

List No.	Description	List Price each
460058	Solderall.....	.83



Bar and Wire Solder

List No.	Description	List Price per lb.
460060	Strictly Half and Half Bar Solder.....	Prices on application
460061	Strictly Half and Half Wire Solder.....	



W.-E. Resin Core Solder

List No.	Description	List Price
460062	Resin Core Solder in 1/2-lb. boxes.....	Prices on application
460063	Resin Core Solder, on 1-lb. spools.....	
460064	Resin Core Solder, on 2-lb. spools.....	
460065	Resin Core Solder, on 5-lb. spools.....	
460066	Resin Core Solder, on 10-lb. spools.....	



Cable Solder

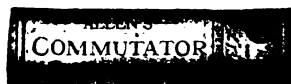
List No.	Description	List Price
460067	W.-E. Cable Solder.....	Prices on application

CENTRAL STATION SUPPLIES

Trotter's Commutator Compound

This compound is an article of merit. Particularly adapted as a lubricant for carbon or woven wire, dynamo or motor brushes. A very small application required.

List No.		List Price
460068	Small size sticks $4\frac{1}{2} \times \frac{5}{8}$ ins.	Each \$0.34
460069	Large size sticks $4\frac{1}{2} \times \frac{3}{4}$ ins.	Each .68


Allen's Commutator Lubricant

The Allen Commutator Lubricant contains no acid or destructive ingredient; is made of pure chemicals, and can be safely used on dynamos generating high potentials. Whenever cutting, heating, sparking, or wearing of the commutator is noticed, a very slight application of the Allen Commutator Lubricant to the revolving surface of the commutator will restore a normal working condition and give a "bright, clean face."

List No.		List Price
460070	Allen's Commutator Lubricant.	Each \$0.45

Gale's Commutator Compound

List No.		List Price
460071	Gale's Commutator Compound	Each \$1.00

Early's Commutator Cement

List No.		List Price
461002	Small size, $2\frac{1}{2} \times 5\frac{3}{4}$, wgt. 1 lb.	Each \$3.60
461003	Large size, $5 \times 10\frac{1}{2}$, wgt. 7 lbs.	Each 18.00

Emery Cloth
 Sheets 9 x 11 inches

List No.	Mfr. No.	Weight Ream	Reams in Bundle	List Price per Ream	List No.	Mfr. No.	Weight Ream	Reams in Bundle	List Price per Ream
460072	Crocus	30 lbs.	$2\frac{1}{2}$	\$35.52	460076	1	45 lbs.	2	\$38.00
460073	00	32 "	$2\frac{1}{2}$	35.52	460077	$1\frac{1}{2}$	47 "	2	39.88
460074	0	34 "	$2\frac{1}{2}$	35.52	460078	2	52 "	2	41.00
460075	$\frac{1}{2}$	41 "	$2\frac{1}{2}$	35.52	460079	$2\frac{1}{2}$	75 "	$1\frac{1}{2}$	44.00

Emery Paper
 Sheets 9 x 11 inches

List No.	Mfr. No.	Weight Ream	Reams in Bundle	List Price per Ream	List No.	Mfr. No.	Weight Ream	Reams in Bundle	List Price per Ream
460080	00	19 lbs.	5	\$13.74	460084	$1\frac{1}{2}$	33 lbs.	3	\$17.00
460081	0	20 "	5	13.74	460085	2	37 "	$2\frac{1}{2}$	18.00
460082	$\frac{1}{2}$	26 "	5	13.74	460086	$2\frac{1}{2}$	40 "	2	20.78
460083	1	31 "	4	16.00					

Sand Paper—First Quality
 Sheets 9 x 11 inches

List No.	Mfr. No.	Weight Ream	Reams in Bundle	List Price per Ream	List No.	Mfr. No.	Weight Ream	Reams in Bundle	List Price per Ream
460087	00	15 lbs.	5	\$8.72	460092	2	37 lbs.	2	\$10.72
460088	0	17 "	5	8.72	460093	$2\frac{1}{2}$	43 "	2	11.40
460089	$\frac{1}{2}$	20 "	4	8.72	460094	3	50 "	$1\frac{1}{2}$	13.00
460090	1	24 "	3	9.38	460095	$3\frac{1}{2}$	28 "	$1\frac{1}{2}$	14.74
460091	$1\frac{1}{2}$	27 "	2	10.00					

Insulating and Soldering Materials

INSULATING MATERIAL

Treated Papers

Also Known as Empire Papers

The treated papers listed below are very complete, especially so in regard to their wide range of thickness.

The papers forming the bases all possess the greatest tensile strength consistent with their thickness and have been selected for their uniformity of thickness and freedom from deleterious chemicals such as sulphite, etc.

Treated cement paper consists of a long-fibred flexible strong rope cement paper so impregnated as to have a smooth hard surface and yet to retain its flexibility. It is used for armature, field, and transformer coil insulation. Paraffined express paper is of a good grade of express paper thoroughly impregnated with paraffine to exclude moisture.

Paraffined fishpaper consists of fishpaper thoroughly impregnated with paraffine to exclude moisture and to make it more convenient in handling. Treated fullerboard is not only coated but thoroughly impregnated. Used for washers, winding coils, spacing strips, transformer insulation, etc.

List No.	Material	Thick- ness, Ins.	Width Roll, Ins.	List Price per Sq. Yd.	List No.	Material	Thick- ness, Ins.	Width Roll, Ins.	List Price per Sq. Yd.
460096	Manila Rope.....	.005	36	\$0.35	460103	Paraffined Express....	.007	40	\$0.19
460097	Red Rope.....	.007	36	.35	460104	Paraffined Fishpaper..	.004	44	.25
460098	Gray Rope.....	.009	36	.50	460105	Paraffined Fishpaper..	.007	44	.21
460099	Bond.....	.005	36	.44	460106	Paraffined Fishpaper..	.010	44	.58
460100	Treated Cement.....	.008	40	.58	460107	Paraffined Fishpaper..	.015	44	.78
460101	Treated Cement.....	.013	40	.82					
460102	Treated Cement.....	.018	40	1.06					
					460108	Treated Fullerboard..	.035	36 x 56	1.46
					460109	Treated Fullerboard..	.080	40 x 42	2.14
					460945	Treated Fullerboard..	.130	40 x 42	4.32

Oiled Paper Tapes

Furnished in rolls either 72 or 144 yards, depending upon thickness of paper.

OILED CONDENSER PAPER				OILED BOND PAPER				OILED ROPE PAPER			
List No.	Width Ins.	Thick- ness, Ins.	List Price 144 Yds.	List No.	Width Ins.	Thick- ness, Ins.	List Price 144 Yds.	List No.	Width Ins.	Thick- ness, Ins.	List Price 144 Yds.
460110	¾	.002	\$1.26	460113	¾	.005½	\$1.58	460116	¾	.009	\$1.74
460111	1	.002	1.52	460114	1	.005½	1.96	460117	1	.009	2.16
460112	1½	.002	2.28	460115	1½	.005½	2.92	460118	1½	.009	3.24

Impregnated Paper Tape

Impregnated Paper Tape consists of pure manila paper which has been dried in a vacuum and impregnated with a special cable compound and is recommended for splicing saturated paper insulated cable for electric light and power work.

Furnished in 1-lb. rolls in air-tight cans.

List No.	Description	List Price per Roll
460119	1-in. Impregnated Paper Tape.....	\$0.50

"Numica" Paper Tape

No. 14 "Numica" paper tape consists of a paper faced on one side with overlapping layer of carefully selected white mica films.

Principally used for insulating armature coils and bars in conjunction with Linotape or the ordinary friction tape.

No. 15 "Numica" paper tape is similar to No. 14 except that the mica layer is faced on both sides with tissue paper, adding slightly to its thickness and mechanical strength.

NO. 14 "NUMICA" PAPER TAPE				NO. 15 "NUMICA" PAPER TAPE			
List No.	Width Inches	Approx. Thickness Inches	List Price per Lb.	List No.	Width Inches	Approx. Thickness Inches	List Price per Lb.
460120	¾	.003 to .005	\$3.58	460122	¾	.005 to .007	\$3.58
460121	1	.003 to .005	3.58	460123	1	.005 to .007	3.58

They are put up in rolls containing 100 lineal feet.

INSULATING MATERIAL

Western Electric

Treated Cloths

Also Known as Empire Cloth

This is a cambric cloth impregnated and coated with clear varnishes and oils. Specially finished and closely woven from long fibre cotton. Special attention is paid to its tensile strength. Furnished in rolls containing 25, 50, 100 yards or in any length desired.

List No.	Material	Thickness Inches	List Price per Yd.	List No.	Material	Thickness Inches	List Price per Yd.
460124	Cambric.....	.005	\$0.50	460127	Cambric.....	.010	\$0.54
460125	Cambric.....	.007	.50	460128	Cambric.....	.012	.56
460126	Cambric.....	.008	.52	460129	Cambric.....	.015	.60

OILED CANVAS AND DUCK

This material is put through an oil treatment which makes it waterproof. It is a very strong, durable material.

List No.	Material	Thickness Inches	List Price per Yd.	List No.	Material	Thickness Inches	List Price per Yd.
460130	Canvas.....	.015	\$0.60	460132	Duck.....	.020	\$0.72
460131	Canvas.....	.016	.60	460133	Duck.....	.030	1.08

OILED LINEN

For purposes of insulation linen has no special advantage over cotton, except that of resisting slightly higher voltage for a given thickness.

It is made of imported Irish Linen, coated with double films of special oxidized oil, and the fabric is thoroughly impregnated.

List No.	Material	Thickness Ins.	List Price per Yd.
460134	Linen.....	.006	\$1.90

OILED SILK

Oiled Silk has for a base a closely woven fabric of pure silk. It is an excellent insulation when a material possessing very high insulating qualities combined with extreme thinness and great flexibility is demanded.

List No.	Material	Thickness Inches	List Price per Yd.	List No.	Material	Thickness Inches	List Price per Yd.
460135	Silk.....	.004	\$2.44	460136	Silk.....	.006	\$2.44

Western Electric

Varnished Tape

Also Known as Linotape or Oiled Linen Tape

An electrical insulating tape extensively used in coil winding, cable splicing and other high tension work, having high insulating and moisture resisting qualities. The coating consists of films of oxidized linseed oil, and is furnished straight or bias cut, in rolls containing 72 lineal yards, each roll coated with paraffine to exclude moisture.

List No.	Width	—List Price per 144 Yds.—		List No.	Width	—List Price per 144 Yds.—	
		No. 10-L Cut Straight	No. 10-B Cut Bias			No. 10-L Cut Straight	No. 10-B Cut Bias
460138	5/8".....	\$1.62	\$1.90	460145	2".....	\$4.60	\$5.68
460139	3/4".....	1.90	2.16	460146	2 1/4".....	5.14	6.22
460141	1".....	2.44	2.88	460147	2 1/2".....	5.68	6.92
460142	1 1/4".....	2.98	3.52	460148	2 3/4".....	6.48	7.56
460143	1 1/2".....	3.52	4.32	460149	3".....	7.02	8.38
460144	1 3/4".....	4.06	4.86				

NOTE: The thickness is .010 in. Approximate weight 1 in. wide, 2 1/4 lbs. per gro. yds.

Unless otherwise specified, biased tape will be furnished. Can be furnished .007 in. or .012 in. thick.

Insulating and Soldering Materials

INSULATING MATERIAL

Untreated Papers

Fyberoid or Fish paper is a very tough, strong, specially prepared paper, somewhat resembling hard fibre but considerably more flexible.

Express paper is a high-grade wood-fibre paper.

Red-Rope paper is manufactured from an all hemp stock, free from pin holes, and guaranteed to contain no wood pulp.

Japanese paper is an extremely thin, soft finish paper running from .00075 in. to .001 in. thick.

Fullerboard is a dense material like cardboard; less hard and stiff than hard fibre, and more easily worked.

FISH PAPER

List No.	Material	Thick- ness, Ins.	Width Roll, Ins.	List Price per Lb.	List No.	Material	Thick- ness, Ins.	Width Roll, Ins.	List Price per Lb.
460150	Fish Paper.....	.005	46	\$0.54	460153	Fish Paper.....	.015	46	\$0.54
460151	Fish Paper.....	.007	46	.54	460154	Fish Paper.....	.020	36 x 48	.54
460152	Fish Paper.....	.010	46	.54	460155	Fish Paper.....	.025	36 x 48	.54

EXPRESS PAPER

460156	Express Paper....	.003	36	\$0.27	460158	Express Paper....	.009	36	\$0.27
460157	Express Paper....	.005	36	.27					

RED ROPE PAPER

460159	Red Rope Paper..	.005 and thicker	36	\$0.37
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JAPANESE PAPER

460160	Japanese Paper...	.001	36	\$1.84
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CEMENT PAPER

460161	Cement Paper....	.005	36	\$0.33	460163	Cement Paper....	.010	36	\$0.33
460162	Cement Paper....	.007	36	.33	460164	Cement Paper....	.015	36	.33

FULLERBOARD OR PRESSBOARD

List No.	Material	Thick- ness, Ins.	Size Shts. Ins.	List Price per Lb.	List No.	Material	Thick- ness, Ins.	Size Shts. Ins.	List Price per Lb.
460165	Fullerboard.....	.008	36 x 36	\$0.27	460168	Fullerboard.....	.015	36 x 36	\$0.27
460166	Fullerboard.....	.010	36 x 36	.27	460169	Fullerboard.....	.017	36 x 36	.27
460167	Fullerboard.....	.012	36 x 36	.27	460170	Fullerboard.....	.020	36 x 36	.27

Untreated Cloths

Cambric is a high grade of cotton cloth. It is so treated in manufacture that the nap does not rise in varnishing.

Muslin is a soft-finished thin cotton cloth.

Cotton cloth or sheeting is a strong, close-woven unbleached cotton cloth made up without starch and with a soft finish.

Linen cloth is a good grade of strong unbleached linen cloth of rather coarse weave.

Drill is a weight between sheeting and 8-oz. duck. It has great strength, of soft finish and without starch filling.

List No.	Material	Thick- ness, Ins.	Width Ins.	Yards per Roll	List No.	Material	Thick- ness, Ins.	Width Ins.	Yards per Roll
460171	Cambric.....	.005	37	100	460174	Linen.....	.012	35	40
460172	Muslin.....	.007	37	100	460175	Drill.....	.017	29	120
460173	Sheeting.....	.011	36	50					

Prices on application

INSULATING MATERIAL

Cotton Sleeving

Cotton Sleeving is used for insulating and protecting armature coils. It is regularly furnished in white, but can be supplied in red, blue, or black at a small additional cost.

List No.	Mfr. No.	For Wires	Yards per Lb.	List Price per Lb.	List No.	Mfr. No.	For Wires	Yards per Lb.	List Price per Lb.
460176	1	11-12-13	230	\$1.80	460183	8	1-2	65	\$1.80
460177	2	7-8-9	180	1.80	460184	9	1-2	95	1.80
460178	3	9-10	175	1.80	460185	10	1-0	65	1.80
460179	4	5-6-7	225	1.80	460186	11	1-0	65	1.80
460180	5	5	100	1.80	460187	12	2-No. 0	50	1.80
460181	6	3-4	135	1.80	460188	13	6-7	150	1.80
460182	7	3-4	120	1.80					

Put up in 10 lb. units and special 5 and 1 lb. units.

Plain Linen Tape

This is a good quality of calendered linen tape without friction or insulating compound. It is regularly furnished in rolls containing 36 lineal yards or will be furnished in other lengths when desired.

List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.	List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.
460189	11822	$\frac{1}{2}$	.007	\$1.10	460195	8769	$\frac{3}{8}$	.005	\$1.30
460190	11821	$\frac{5}{8}$	.007	1.24	460196	8841	$\frac{1}{2}$	.005	1.50
460191	11820	$\frac{3}{4}$	.007	1.38	460197	8843	$\frac{3}{8}$	.005	1.70
460192	14002	1	.007	1.80	460198	7703	$\frac{1}{2}$	.005	1.95
460193	14003	$1\frac{1}{2}$	.007	2.70	460199	9298	$\frac{1}{2}$	.005	2.30
460194	10470	$\frac{1}{4}$	.005	1.30	460200	8844	1	.005	2.30

Extra Quality Linen Tape

A similar tape to that described above, but of extra fine quality and close texture. It is also regularly furnished in rolls containing 36 lineal yards, but will be furnished in other lengths when desired.

List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.	List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.
460201	4826	$\frac{1}{2}$	.007	\$1.60	460204	4896	$\frac{1}{8}$	.007	\$2.40
460202	3737	$\frac{5}{8}$	.007	1.80	460205	10535	1	.007	2.90
460203	4308	$\frac{3}{4}$	.007	2.10					

Standard Linen Tape

Is superior in quality to plain linen but not equal to extra quality, as it is not as closely woven and possesses somewhat less potential strength.

List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.	List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.
460206	13869	$\frac{1}{2}$	.007	\$1.30	460210	13871	1	.007	\$2.20
460207	19002	$\frac{5}{8}$	.007	1.52	460211	14769	$1\frac{1}{4}$	.007	2.90
460208	13870	$\frac{3}{4}$	.007	1.70	460212	13872	$1\frac{1}{2}$	.007	3.20
460209	15845	$\frac{1}{4}$	.007	2.00	460213	17974	2	.007	4.90

Star Cotton Tape or Webbing

A plain cotton tape of good quality without compound. It is furnished regularly in rolls containing 36 lineal yards or will be furnished in other lengths when desired.

List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.	List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.
460214	5918	$\frac{1}{2}$	.013	\$1.36	460217	5906	1	.013	\$2.30
460215	5821	$\frac{5}{8}$	.013	1.60	460218	9562	$1\frac{1}{2}$	.013	3.60
460216	5727	$\frac{3}{4}$	.013	1.80					

Standard Cotton Tape or Webbing

A similar tape to that described above, but of extra fine quality and close texture. It is also regularly furnished in rolls containing 36 lineal yards or will be furnished in other lengths when desired.

List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.	List No.	Mfr. No.	Width, Ins.	Thickness Ins.	List Price Gr.Yds.
460219	4254	$\frac{1}{4}$	.013	\$1.50	460221	3890	$\frac{5}{8}$	.013	\$2.40
460220	3736	$\frac{1}{2}$	.013	2.20	460222	13100	$\frac{3}{4}$	.013	2.90

BINDING TAPES

Stay Binding or Webbing

This is a plain cotton webbing somewhat heavier and stronger than the ordinary cotton tape. It is used largely for field coil winding. Furnished in rolls containing 72 lineal yards. Made in two weights as listed below:

Regular					Heavy				
List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.	List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.
460223	6291	1	.013	\$2.80	460228	8730	1	.019	\$3.50
460224	6290	1 1/4	.013	3.40	460229	9982	1 1/4	.019	4.50
460225	6289	1 1/2	.013	4.00	460230	1613	1 1/2	.019	5.00
460226	4544	2	.013	5.70	460231	9999	2	.019	7.60
460227	15020	3	.013	12.00	460232	18178	3	.019	12.60

Surgical Web Tape

Surgical Web is a superior grade of stay binding closely woven, herringbone weave, and possesses considerable tensile strength.

Regular									
List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.	List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.
460233	19003	3/4	.022	\$2.60	460236	18146	1 1/2	.022	\$5.40
460234	15618	1	.022	3.50	460237	18486	2	.022	7.10
460235	19004	1 1/4	.022	4.20					

Extra Quality

460238	7699	1 1/2	.022	\$2.60	460243	8870	1 1/2	.022	\$6.60
460239	5281	3/4	.022	3.50	460244	9058	2	.022	9.40
460240	17581	7/8	.022	3.60	460245	10449	2 1/4	.022	10.40
460241	5224	1	.022	4.60	460246	15859	2 1/2	.022	15.70
460242	5298	1 1/4	.022	5.60	460247	15861	3	.022	18.60

Non-Elastic Webbing

Non-Elastic Web is a good quality stay binding which is suitable for general use.

List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.	List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.
460248	19005	3/4	.022	\$3.20	460254	4094	3/4	.030	\$3.70
460249	13238	1	.022	3.90	460255	10177	1	.030	4.10
460250	14671	1 1/4	.022	5.00	460256	3862	1	.030	4.50
460251	13097	1 1/2	.022	5.90	460257	4096	1 1/4	.030	5.80
460252	19006	2	.022	8.00	460258	3940	1 1/2	.030	6.40
460253	4092	1 1/2	.030	2.90	460259	4098	2	.030	8.80

Plain Silk Tape

Silk Tape is used for general insulating purposes, particularly when the available space is extremely limited. It is furnished in rolls containing 36 lineal yards, in black, white and colors. Unless otherwise specified, white tape will always be furnished.

List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.	List No.	Mfr. No.	Width Inches	Thickness Inches	List Price Gr. Yds.
460260	15841	1/4	.006	\$3.10	460264	12519	5/8	.006	\$6.00
460261	12821	3/8	.006	4.00	460265	14734	3/4	.006	7.20
460262	11216	1/2	.006	4.40	460266	16299	1	.006	9.50
460263	16604	3/4	.006	4.90					

"DELTA" INSULATION**"Delta" Tape**

"Delta" tape is particularly adapted for railway, motor and controller work where high temperature and severe conditions are to be met. It is a heat-resisting insulating material, having asbestos fibre as a base. Due to this fact and the special compound used for impregnation, the tape can be raised to a temperature of 500° Fahr., before decomposition begins.

The flexibility of "Delta" tape is practically permanent, which makes it a desirable material for forming around corners and terminals of coils.

Electrically it is an admirable insulator, although at the same time a good conductor of heat. Therefore a coil wrapped with it, though thoroughly insulated, is not blanketed so as to make it retain heat.

List No.	Thick-ness Mils.	Width Ins.	Approx. Feet		Approx. Punct. Voltage	List Price per Lb.	List No.	Thick-ness Mils.	Width Ins.	Approx. Feet		Approx. Punct. Voltage	List Price per Lb.
			per Lb.	per Roll						per Lb.	per Roll		
460267	10	¾	351	161	2500	\$1.70	460277	20	¾	140	80	4400	\$1.70
460268	10	1	264	161	2500	1.70	460278	20	1	105	80	4400	1.70
460269	10	1¼	211	161	2500	1.70	460279	20	1¼	84	80	4400	1.70
460270	10	1½	176	161	2500	1.70	460280	20	1½	70	80	4400	1.70
460271	10	2	132	161	2500	1.70	460281	20	2	53	80	4400	1.70
460272	15	¾	198	107	3500	1.70	460282	25	¾	111	64	5000	1.70
460273	15	1	149	107	3500	1.70	460283	25	1	83	64	5000	1.70
460274	15	1¼	119	107	3500	1.70	460284	25	1¼	67	64	5000	1.70
460275	15	1½	99	107	3500	1.70	460285	25	1½	56	64	5000	1.70
460276	15	2	74	107	3500	1.70	460286	25	2	42	64	5000	1.70

Furnished in rolls 5 inches in diameter, with a ½ inch hole at center, unless otherwise specified.

"Delta" Sheet

"Delta" sheeting is intended for use where large pieces of insulating material are required, but identical with "Delta" tape in properties, texture and finish. It is 8 inches wide and furnished in rolls 5 inches in diameter, with a ½ inch hole at center, unless otherwise specified.

List No.	Thckns. Mils.	Approx. Feet		Approx. Puncture Voltage	List Price per Lb.	List No.	Thckns. Mils.	Approx. Feet		Approx. Puncture Voltage	List Price per Lb.
		per Lb.	per Roll					per Lb.	per Roll		
460287	10	33	140	2500	\$1.50	460289	20	13	70	4100	\$1.50
460288	15	19	93	3500	1.50	460290	25	10	56	5000	1.50

"Delta" Insulating Varnish

"Delta" Insulating Varnish is a compound for insulating coils designed to run at high temperatures. It has the property of rendering cotton and other carbonizable coil coverings much more heat-resisting than they otherwise would be. This fact makes it well adapted for insulating ordinary cotton insulated coils of the non-heatproof variety. It was developed to meet the requirements of a compound for asbestos insulated heatproof armature, field and special coils. For this purpose it has no equal because of its high melting point. Yet at ordinary temperatures it is not brittle like the so-called synthetic insulating materials which will stand high temperatures, but which are glass hard in ordinary use. The varnish is applied by dipping the coils in it and baking them. This treatment gives them a smooth, glossy, black finish of unsurpassed insulating quality.

List No.		Less Barrel Lots	Barrel Lots	Five-Barrel Lots
460291	Insulating Varnish, per gallon.....	\$2.38	\$1.90	\$1.72

"Delta" Plastic Compound

"Delta" Plastic Compound is used for smoothing the surface and filling cavities of field coils prior to applying the outer insulation. Applied as a paste it becomes very hard and tough after baking. It is an excellent insulator, a good conductor of heat, one of the best binders known, will not reduce to powder in service, will not soften at any ordinary temperature, and is unaffected by oil or grease. The best results are obtained by using as fresh as possible and to that end it is put up in five-pound cans.

List No.		List Price per Lb.
460292	Plastic Compound.....	\$0.96

INSULATING MATERIAL

Wide Cotton Duck

WHITE DUCK

White Duck is used for weatherproofing car roofs and for many other purposes in electrical repair work. It is of the best quality of white cotton duck.

Manufacturers' Standard Net Price Per Running Yard

Special Discounts on Application

Nos.	1-0	1	2	3	4	5	6	7	8	9	10	11	12
26 in.	\$0.58	\$0.55	\$0.52	\$0.49	\$0.46	\$0.43	\$0.40	\$0.39	\$0.35	\$0.33	\$0.30	\$0.28	\$0.26
28 in. ....	.62	.59	.56	.53	.49	.46	.43	.42	.38	.35	.32	.30	.28
30 in. ....	.67	.63	.60	.56	.53	.49	.46	.44	.41	.38	.34	.33	.29
32 in. ....	.71	.68	.64	.60	.56	.53	.49	.47	.43	.40	.36	.35	.30
34 in. ....	.76	.72	.68	.64	.60	.56	.52	.50	.46	.43	.39	.37	.32
36 in. ....	.80	.76	.72	.68	.63	.59	.55	.53	.49	.45	.41	.39	.34
38 in. ....	.85	.80	.76	.71	.67	.62	.58	.56	.52	.48	.43	.41	.36
40 in. ....	.89	.84	.80	.75	.70	.66	.61	.59	.54	.50	.45	.43	.38
42 in. ....	.93	.89	.84	.79	.74	.69	.64	.62	.57	.53	.48	.45	.40
44 in. ....	.98	.93	.88	.82	.77	.72	.67	.65	.60	.55	.50	.47	.42
46 in.	1.02	.97	.92	.86	.81	.75	.70	.68	.62	.58	.52	.50	.44
48 in.	1.08	1.03	.97	.91	.86	.80	.74	.72	.65	.61	.55	.53	.46
50 in.	1.14	1.08	1.02	.96	.90	.84	.78	.75	.69	.64	.58	.55	.48
52 in.	1.18	1.12	1.06	1.00	.94	.87	.81	.78	.72	.67	.60	.57	.50
54 in.	1.23	1.16	1.10	1.04	.97	.91	.84	.81	.75	.70	.63	.59	.52
56 in.	1.27	1.21	1.14	1.07	1.01	.94	.87	.84	.78	.72	.65	.62	.54
58 in.	1.32	1.25	1.18	1.11	1.05	.97	.90	.87	.80	.75	.67	.64	.56
60 in.	1.39	1.32	1.24	1.17	1.10	1.02	.95	.92	.84	.78	.70	.67	.59
62 in.	1.44	1.37	1.29	1.22	1.14	1.07	.99	.96	.88	.81	.73	.70	.61
64 in.	1.49	1.41	1.33	1.26	1.18	1.10	1.02	.99	.90	.84	.76	.72	.63
66 in.	1.54	1.46	1.38	1.29	1.21	1.13	1.05	1.02	.93	.87	.78	.74	.65
68 in.	1.58	1.50	1.42	1.33	1.25	1.17	1.08	1.05	.96	.89	.80	.76	.67
70 in.	1.63	1.54	1.46	1.37	1.29	1.20	1.12	1.08	.99	.92	.83	.78	.69
72 in.	1.71	1.62	1.53	1.44	1.35	1.26	1.17	1.13	1.04	.97	.87	.82	.72
74 in.	1.76	1.67	1.58	1.48	1.39	1.30	1.21	1.17	1.07	.99	.89	.85	.74
76 in.	1.81	1.71	1.62	1.52	1.43	1.33	1.24	1.20	1.10	1.02	.92	.87	.76
78 in.	1.86	1.76	1.66	1.56	1.47	1.37	1.27	1.23	1.13	1.05	.94	.89	.78
80 in.	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.26	1.16	1.07	.97	.91	.80
82 in.	1.95	1.85	1.75	1.64	1.54	1.44	1.34	1.29	1.18	1.10	.99	.94	.82
84 in.	2.00	1.89	1.79	1.68	1.58	1.47	1.37	1.32	1.21	1.13	1.01	.96	.84
86 in.	2.14	2.03	1.92	1.80	1.69	1.58	1.47	1.41	1.29	1.20	1.08	1.02	.89
88 in.	2.19	2.08	1.96	1.84	1.73	1.62	1.50	1.44	1.32	1.23	1.11	1.04	.91
90 in.	2.24	2.12	2.00	1.89	1.77	1.65	1.53	1.48	1.35	1.26	1.13	1.07	.94
92 in.	2.29	2.17	2.05	1.93	1.81	1.69	1.57	1.51	1.38	1.29	1.16	1.09	.96
94 in.	2.34	2.22	2.09	1.97	1.85	1.72	1.60	1.54	1.41	1.31	1.18	1.11	.98
96 in.	2.39	2.26	2.14	2.01	1.89	1.76	1.64	1.58	1.44	1.34	1.21	1.14	1.00
98 in.	2.49	2.36	2.23	2.10	1.97	1.84	1.71	1.64	1.51	1.40	1.26	1.18	1.04
100 in.	2.54	2.41	2.27	2.14	2.01	1.87	1.74	1.67	1.54	1.43	1.28	1.21	1.06
102 in.	2.59	2.46	2.32	2.18	2.05	1.91	1.78	1.71	1.57	1.45	1.31	1.23	1.08
104 in.	2.64	2.50	2.37	2.23	2.09	1.95	1.81	1.74	1.60	1.48	1.33	1.26	1.10
106 in.	2.69	2.55	2.41	2.27	2.13	1.99	1.84	1.78	1.63	1.51	1.36	1.28	1.12
108 in.	2.74	2.60	2.46	2.31	2.17	2.02	1.88	1.81	1.66	1.54	1.39	1.31	1.14
110 in.	2.91	2.76	2.61	2.45	2.30	2.15	2.00	1.92	1.76	1.63	1.47	1.38	1.21
112 in.	2.97	2.81	2.65	2.50	2.34	2.19	2.03	1.95	1.79	1.66	1.49	1.40	1.23
120 in.	3.18	3.01	2.84	2.68	2.51	2.34	2.18	2.09	1.92	1.78	1.60	1.50	1.32

Adopted Oct. 10, 1912.

Army Duck

Army Duck is used for covering armature leads, magnet coils, and for similar purposes. It is made in uniform width, 28½ inches.

List No.	Description	List Price per Rng. Yd.	List No.	Description	List Price per Rng. Yd.
460293	Army Duck, 7-oz.	\$0.37	460296	Army Duck, 10-oz.	\$0.48
460294	Army Duck, 8-oz. ....	.36	460297	Army Duck, 12-oz. ....	.56
460295	Army Duck, 9-oz. ....	.44	460298	Army Duck, 15-oz. ....	.72

INSULATING MATERIALS
Braided or Woven Asbestos Tubing

For insulating conductor wires of arc lamps and for covering electrical wires where superior fireproof protection is required. Very flexible, absolutely fireproof, and can easily be made impervious to moisture.

List No.	Inside Diameter of Tubing Inches	Outside Diameter of Tubing Inches	Approx. No. Lin. Ft. per Lb.	List Price per Lb.
115.....	$\frac{1}{8}$	$\frac{1}{4}$	150	\$2.00
215.....	$\frac{1}{8}$	$\frac{3}{8}$	125	1.90
220.....	$\frac{1}{8}$	$\frac{1}{2}$	60	1.90
315.....	$\frac{1}{8}$	$\frac{3}{4}$	70	1.80
320.....	$\frac{1}{8}$	$\frac{7}{8}$	70	1.90
415.....	$\frac{1}{8}$	$1\frac{1}{4}$	90	1.80
515.....	$\frac{1}{8}$	$1\frac{1}{2}$	70	1.60
615.....	$\frac{1}{8}$	$1\frac{3}{4}$	40	1.60
710.....	$\frac{1}{8}$	$1\frac{1}{2}$	25	1.60
715.....	$\frac{1}{8}$	$1\frac{1}{2}$	30	1.60
720.....	$\frac{1}{8}$	$1\frac{3}{4}$	49	1.90
750.....	$\frac{1}{8}$	$1\frac{3}{4}$	19	1.60
760.....	$\frac{1}{8}$	$1\frac{3}{4}$	14	1.60
780.....	$\frac{1}{8}$	$1\frac{3}{4}$	13	1.60

Asbestos Tape

Asbestos tape is a strong selvage-edge tape having a minimum of organic fibre.

List No.	Thickness Ins.	Width	Yards per Roll	Yards per Lb.	List Price per Lb.	List No.	Thickness Ins.	Width	Yards per Roll	Yards per Lb.	List Price per Lb.
460306	.015	$\frac{1}{2}$ "	36	82	\$3.10	460311	.025	$\frac{1}{2}$ "	36	44	\$2.60
460307	.015	$\frac{3}{4}$ "	36	63	2.80	460312	.025	$\frac{3}{4}$ "	36	33	2.30
460308	.015	1"	36	41	2.70	460313	.025	1"	36	23	2.20
460309	.015	$1\frac{1}{8}$ "	36	37	2.60	460314	.025	$1\frac{1}{8}$ "	36	19	2.20
460310	.015	$1\frac{1}{4}$ "	36	33	2.50	460315	.025	$1\frac{1}{4}$ "	36	16	2.10

"Niagrite" Cable Tape

"Niagrite" cable tape is a flexible, fireproof felt tape, made of asbestos, in strips three feet long and three inches wide. It is applied by means of fireproof and waterproofing compound which thoroughly impregnates the tape, forming a solid, one-piece casing which becomes as hard as stone when dry. Used for insulating feeder cables in tunnels, and on rear of switchboards for insulating feeder cables and wires as a protection against fires.

List No.	Description	List Price per 1000 Ft.
460316	Standard $\frac{1}{8}$ -inch, per 1000 lineal feet, with fireproof glue.....	\$79.80
460317	Standard $\frac{1}{4}$ -inch, per 1000 lineal feet, with fireproof glue.....	103.60
460318	Standard $\frac{1}{2}$ -inch, per 1000 lineal feet, with fireproof glue.....	154.00

Asbestos Cloth

Asbestos cloth is a thick strong cloth of pure asbestos used for various insulating purposes.

List No.	Description	Thickness	Width	Approx. Wgt. per Sq. Yd.	List Price per Lb.
460319	Diamond "A" .....	.025"	36"	2 $\frac{1}{4}$ lb.	\$2.10
460320	No. 7	$\frac{1}{8}$ "	36"	1 $\frac{1}{2}$ "	1.25
460321	No. 8	$\frac{1}{4}$ "	36"	2 $\frac{1}{4}$ "	1.10

INSULATING MATERIALS

Asbestos Paper

Is made of an extra light pure asbestos paper. It contains a small amount of binder. It is soft and has not much mechanical strength.

List No.	Thickness Inches	Furnished	List Price per Lb.	List No.	Thickness Inches	Furnished	List Price per Lb.
460322	.005	36-inch Rolls	\$0.25	460325	.015	36-inch Rolls	\$0.25
460323	.007	36-inch Rolls	.25	460326	.025	36-inch Rolls	.25
460324	.010	36-inch Rolls	.25				

NOTE.—Weight from 2 lbs. to 5 lbs. per 100 sq. ft.

Asbestos Paper Tape or Ribbon

This is made of exceptionally thin pure asbestos paper and can be furnished in various thicknesses. It is furnished in widths $\frac{3}{8}$ inch up. Particularly recommended for insulating magnet wires, etc.

List No.	List Price per Lb.
460327 Asbestos paper tape $\frac{3}{8}$ inch wide.....	\$0.38

Asbestos Sheet Mill Board

Furnished in Sheets 40 x 40 or 42 x 44 Inches

List No.	Thickness Inches	Weight per Sheet	List Price per Lb.	List No.	Thickness Inches	Weight per Sheet	List Price per Lb.
460328	$\frac{1}{8}$	2 Lbs.	\$0.10	460333	$\frac{1}{8}$	12 Lbs.	\$0.10
460329	$\frac{1}{8}$	3 Lbs.	.10	460334	$\frac{1}{8}$	14 Lbs.	.10
460330	$\frac{1}{8}$	4 Lbs.	.10	460335	$\frac{3}{8}$	23 Lbs.	.10
460331	$\frac{1}{8}$	5 Lbs.	.10	460336	$\frac{1}{2}$	27 Lbs.	.10
460332	$\frac{1}{8}$	6 Lbs.	.10				

Transite Fireproof Lumber

Transite Fireproof lumber is adapted to general forms of construction where ordinary wood has been used and where absolutely fireproof structures are desired. It is as readily applied to metal as to wooden frame construction. It is used for lining the bottom of electric cars and in general car construction, such as flooring, coving, roofing, and general panel work. In addition to being fireproof it is permanently moisture-resisting and is not affected by extremes of temperature from the coldest to the hottest weather. Standard size sheets all thicknesses, 36 in. x 48 in., 42 in. x 48 in., and 42 in. x 96 in.

List No.	Thickness Inches	Weight per Sq. Ft.	List Price Sq. Ft.—Plain	Ebony	List No.	Thickness Inches	Weight per Sq. Ft.	List Price Sq. Ft.—Plain	Ebony
460337	$\frac{1}{8}$	1 Lb.	\$0.20	\$1.20	460341	$\frac{3}{8}$	3 Lbs.	\$0.60	\$2.00
460338	$\frac{1}{8}$	1½ Lbs.	.30	1.60	460342	$\frac{1}{2}$	4 Lbs.	.80	2.60
460339	$\frac{1}{4}$	2 Lbs.	.40	1.60	460343	$\frac{3}{4}$	6 Lbs.	1.10	3.40
460340	$\frac{1}{4}$	2½ Lbs.	.50	2.00	460344	1	8 Lbs.	1.30	3.80

Car Cable Hose

Car Cable hose is used for protecting and holding together motor and controller cables. It is a closely woven cotton tubing, being made from the best quality of material. The measurement of the diameter given is taken with the hose in circular form. Can furnish any length desired.

List No.	Diam.	List Price 100 Ft.	List No.	Diam.	List Price 100 Ft.	List No.	Diam.	List Price 100 Ft.
460345	$\frac{3}{4}$ -inch	\$4.20	460349	1¾-inch	\$6.30	460353	2¾-inch	\$11.26
460346	1 -inch	4.50	460350	2 -inch	6.90	460354	3 -inch	12.00
460347	1¼-inch	5.26	460351	2¼-inch	7.66	460355	3½-inch	13.50
460348	1½-inch	5.70	460352	2½-inch	10.50	460356	4 -inch	15.00

Ebony Asbestos Wood

Ebony Asbestos Wood is composed of asbestos fiber and other insulating and waterproofing materials. As an insulating product it is far superior to either slate or marble in mechanical strength and electrical resistance. It is recommended for switchboards and panelboards, bus bar barriers, rheostat tops and insulating bases for all electrical purposes.

Standard size sheets 36 x 48 inches and 42 x 96 inches.

List No.	Thickness Inches	Weight per Sq. Ft.	Price per Sq. Ft.	List No.	Thickness Inches	Weight per Sq. Ft.	Price per Sq. Ft.
460982	$\frac{1}{8}$	1¾ Lbs.	\$1.20	460990	$\frac{1}{8}$	6¼ Lbs.	\$3.20
460983	$\frac{1}{8}$	1½ Lbs.	1.60	460991	$\frac{1}{4}$	7½ Lbs.	3.40
460984	$\frac{1}{4}$	2½ Lbs.	1.60	460992	$\frac{1}{8}$	8¾ Lbs.	3.60
460985	$\frac{1}{4}$	3¼ Lbs.	2.00	460993	1	10 Lbs.	3.80
460986	$\frac{1}{4}$	3½ Lbs.	2.00	460994	1¼	12½ Lbs.	4.20
460987	$\frac{1}{4}$	4½ Lbs.	2.60	460995	1½	15 Lbs.	5.80
460988	$\frac{1}{2}$	5 Lbs.	2.60	460996	1¾	17½ Lbs.	6.00
460989	$\frac{1}{2}$	5¾ Lbs.	3.20	460997	2	20 Lbs.	8.60

Ebony Asbestos Wood is not made in sheets 42 x 96 inches in thicknesses less than $\frac{1}{2}$ inch.

NOTE: For cutting to size an extra charge will be made.

VULCANIZED FIBRE

Sheet Fibre

RED, GRAY OR BLACK

Approximate size of sheets .005 to .120 inch thick 48 x 80 inches.

 $\frac{1}{8}$ to $\frac{3}{4}$ inch thick 44 x 70 inches. $\frac{1}{4}$ to 2 inch thick 46 x 76 inches.

Manufacturer's List Special Discounts on Application

List No.	Thickness Inches	Approx.		List No.	Thickness Inches	Approx.		List No.	Thickness Inches	Approx.	
		Lbs. per Sheet	List Price per Lb.			Lbs. per Sheet	List Price per Lb.			Lbs. per Sheet	List Price per Lb.
460962	.005	2	\$0.50	460969	.075	11	\$0.23	460371	$\frac{7}{8}$	138	\$0.39
460963	.010	2	.40	460970	.100	15	.24	460372	1	155	.46
460357	.015	2½	.35	460362	$\frac{1}{8}$	20	.24	460373	1½	165	.60
460964	.020	4	.32	460363	$\frac{1}{4}$	30	.25	460971	1¾	195	.75
460965	.025	4½	.29	460364	$\frac{3}{8}$	40	.25	460972	1½	215	.95
460359	.030	5	.26	460365	$\frac{1}{2}$	50	.26	460973	1½	235	1.20
460966	.035	6	.24	460366	$\frac{3}{4}$	60	.26	460974	1½	255	1.50
460967	.040	7½	.23	460368	$\frac{1}{2}$	80	.28	460975	1¾	275	2.00
460968	.045	8	.23	460369	$\frac{5}{8}$	100	.31	460976	1¾	295	3.00
460360	.060	10	.23	460370	$\frac{3}{4}$	120	.34	460980	2	315	4.00

Unless color is specified, shipment will be made at option of manufacturer to facilitate delivery or give best quality.

Hard Vulcanized Fibre Rods

Colors Red, Black and Gray

These are turned from the sheet goods. There is no economy in cutting them into sections to make washers or discs, and they are not intended to be used for gears or gear blanks, as they will not answer for that purpose. Adapted for making plugs, bushings, handles, pins, dowels, etc. In red, gray and black colors.

Unless color is specified, shipment will be made at option of manufacturer to facilitate delivery or give best quality.

Manufacturer's List Special Discounts on Application

List No.	Diameter Inches	List Price		List No.	Diameter Inches	List Price		List No.	Diameter Inches	List Price	
		per Ft.				per Ft.				per Ft.	
460376	$\frac{1}{8}$	\$0.15	460384	$\frac{1}{4}$	\$0.50	460390	1½	460390	1½	\$5.00	
460377	$\frac{1}{4}$	.15	460385	$\frac{3}{8}$	.65	460391	1½	460391	1½	8.00	
460378	$\frac{3}{8}$	.16	460977	$\frac{1}{2}$	.80	460392	1½	460392	1½	10.00	
460379	$\frac{1}{2}$	.18	460386	$\frac{3}{4}$	1.00	460393	1¾	460393	1¾	15.00	
460380	$\frac{5}{8}$	.22	460978	1	1.25	460979	1½	460979	1½	25.00	
460381	$\frac{3}{4}$	.28	460387	1¼	2.00	460394	2	460394	2	35.00	
460382	$\frac{7}{8}$	.35	460388	1½	3.00						
460383	$\frac{1}{2}$	.40	460389	1¾	4.00						

Intermediate sizes at prices of nearest larger standard size.

These rods are turned and are sufficiently accurate for ordinary uses.

Fibre Tubes

Round Vulcanized Red Fibre Tubes

Manufacturer's List Price per Foot Special Discounts on Application

Inside Diam. Inches	List Price		List Price		List Price		List Price		List Price	
	Wall	Wall	Wall	Wall	Wall	Wall	Wall	Wall	Wall	Wall
$\frac{1}{8}$	\$0.20	\$0.30	\$0.40	.....	.....	.....	.....	.....	.....	.....
$\frac{1}{4}$	.20	.30	.40	.....	.....	.....	.....	.....	.....	.....
$\frac{3}{8}$	.10	.14	.18	\$0.22	\$0.26	.....	.....	.....	.....	.....
$\frac{1}{2}$	.10	.15	.19	.24	.28	.....	.....	.....	.....	.....
$\frac{5}{8}$	.11	.16	.21	.26	.31	.....	.....	.....	.....	.....
$\frac{3}{4}$	.11	.17	.22	.28	.33	.....	.....	.....	.....	.....
$\frac{7}{8}$	.12	.18	.24	.30	.36	\$0.42	\$0.48	.....	.....	.....
1	.13	.20	.26	.32	.39	.46	.52	.....	.....	.....
$1\frac{1}{8}$	.14	.21	.28	.35	.42	.49	.56	.....	.....	.....
$1\frac{1}{4}$	.15	.23	.30	.37	.45	.52	.60	.....	.....	.....
$1\frac{3}{8}$	.16	.24	.32	.40	.48	.56	.64	.....	.....	.....
$1\frac{1}{2}$	.17	.26	.34	.42	.51	.60	.68	.....	.....	.....
$1\frac{3}{4}$	.18	.27	.36	.45	.54	.63	.72	.....	.....	.....
2	.19	.29	.38	.47	.57	.66	.76	.....	.....	.....
$2\frac{1}{8}$	.20	.30	.40	.50	.60	.70	.80	.....	.....	.....
$2\frac{1}{4}$	.22	.33	.44	.55	.66	.77	.88	.....	.....	.....
$2\frac{3}{8}$	.24	.36	.48	.60	.72	.84	.96	.....	.....	.....
$2\frac{1}{2}$	.26	.39	.52	.65	.78	.91	1.04	.....	.....	.....
$2\frac{3}{4}$	.28	.42	.56	.70	.84	.98	1.12	.....	.....	.....
3	.30	.45	.60	.75	.90	1.05	1.20	.....	.....	.....
$3\frac{1}{8}$	.32	.48	.64	.80	.96	1.12	1.28	.....	.....	.....
$3\frac{1}{4}$	.34	.51	.68	.85	1.02	1.19	1.36	.....	.....	.....
$3\frac{3}{8}$	.36	.54	.72	.90	1.08	1.26	1.44	.....	.....	.....
$3\frac{1}{2}$	.38	.57	.76	.95	1.14	1.33	1.52	.....	.....	.....
$3\frac{3}{4}$	.40	.60	.80	1.00	1.20	1.40	1.60	.....	.....	.....

Unless color is specified, shipment will be made at option of manufacturer to facilitate delivery, or give best quality.

Insulating and Soldering Materials

INSULATING MATERIAL

"Numica" Plates

Numica plates are made of the best white and amber mica and are suitable for all general purposes such as commutator rings, armature slots, spools, etc.

NO. 1 "NUMICA" PLATES

No. 1 Numica plate is made of very thin films of white mica cemented together with pure shellac and carefully surfaced to a uniform thickness. When heated it softens and becomes flexible and is readily moulded to any form. It is used for armature slots and commutator rings but should not be used for commutator segments. Standard size 18 in. x 36 in. sheets.

List No.	Mfr. No.		List Price per Lb.	List No.	Mfr. No.		List Price per Lb.
460395	1	White Mica .025" and thicker	\$1.75	460396	1	White Mica .025" and thinner	\$2.25

NO. 11 "NUMICA" PLATES

No. 11 Numica plate is of the same quality material as No. 1 plate, but not quite as exact to thickness. It is suitable for all general purposes where a slight variation in thickness is permissible, except commutator segments. It should not be used between the copper bars of commutators. Standard size 18 in. x 36 in. sheets.

List No.	Mfr. No.		List Price per Lb.	List No.	Mfr. No.		List Price per Lb.
460397	11	White Mica .025" and thicker	\$1.50	460398	11	White Mica .025" and thinner	\$1.75

NO. 2 "NUMICA" PLATES

No. 2 Numica plate is made of very thin films of white mica cemented together with the smallest possible amount of pure shellac, and carefully surfaced to a uniform thickness. It is specially made to be cut into segments for insulating copper bars of commutators, and cannot be moulded. Standard size 18 in. x 36 in. sheets.

List No.	Mfr. No.		List Price per Lb.	List No.	Mfr. No.		List Price per Lb.
460399	2	White Mica .025" and thicker	\$2.00	460400	2	White Mica .025" and thinner	\$2.50

NO. 22 "NUMICA" PLATES

No. 22 Numica plate is of the same quality material as No. 2 and differs only in that the variation in thickness is not confined to such close limits. It is used for commutator bar insulation but cannot be moulded. Standard size 18 in. x 36 in. sheets.

List No.	Mfr. No.		List Price per Lb.	List No.	Mfr. No.		List Price per Lb.
460401	22	White Mica .025" and thicker	\$1.75	460402	22	White Mica .025" and thinner	\$2.25

NO. 3 AMBER "NUMICA" PLATES

No. 3 Numica plate is made of very thin films of Canadian amber mica, cemented together with pure shellac and carefully surfaced to a uniform thickness.

On account of its being soft it wears away with the copper of a commutator and is therefore recommended for that purpose. Standard size 18 in. x 36 in. sheets.

List No.	Mfr. No.		List Price per Lb.	List No.	Mfr. No.		List Price per Lb.
460403	3	Amber Mica .025" and thicker	\$2.75	460404	3	Amber Mica .025" and thinner	\$3.25

INSULATING MATERIAL

"Numica" Plates—(Continued)

NO. 33 AMBER "NUMICA" PLATE

No. 33 Numica plate is made of the same quality of Canadian amber mica films and shellac that is used in No. 3 plate. It differs only in that the variation in thickness is not confined to such close limits. In practice it gives splendid service for commutator work. This plate cannot be molded. Standard size 18 in. x 36 in. sheets.

List No.	Mfr. No.		List Price per Lb.	List No.	Mfr. No.		List Price per Lb.
460405	33	Amber Mica .025" and thicker	\$2.50	460406	33	Amber Mica .025" and thinner.....	\$3.00

NO. 4 "NUMICA" PLATE

No. 4 Numica plate is made for flat work and for purposes where extreme accuracy of thickness is not important. It is suitable for all kinds of bases, round and square washers, and for all kinds of apparatus not subjected to high heat. Its non-liability to fracture under extreme vibration is a valuable feature for marine work. It does not take a screw thread, but can be drilled and turned.

List No.	Approx. Thickness	Approx. Lbs. per Sheet	List Price per Lb.	List No.	Approx. Thickness	Approx. Lbs. per Sheet	List Price per Lb.
460407	1/8 in.	2.95	\$1.35	460410	1/8 in.	9.85	\$1.35
460408	1/4 "	4.3	1.35	460411	1/4 "	13.2	1.35
460409	3/8 "	5.9	1.35	460412	3/8 "	19.1	1.35

Flexible "Numica" Plate

NO. 5 FLEXIBLE PLATE

No. 5 Flexible Numica plate is made of very thin films of white mica cemented together with a special insulating cement of great flexibility and adhesiveness. It can be formed or bent to shape without the application of heat. It is an excellent insulator for armature slots, magnet and commutator cores, transformers, field coils, etc. Standard size 36 in. x 36 in. sheets.

List No.	Approx. Thickness	Approx. Lbs. per Sheet	List Price per Lb.	List No.	Approx. Thickness	Approx. Lbs. per Sheet	List Price per Lb.
460413	.005 in.	.575	\$2.00	460415	.015 in.	1.43	\$1.60
460414	.010 "	.967	1.65	460416	.020 " and thicker	1.84	1.50

"Numica" Cloth

No. 6 Numica cloth is made with 1, 2, or 3 layers of high-grade white mica films carefully cemented together with overlapping edges in sheet form, the sheet being faced on one side with cotton cloth and on the other side with Japanese paper. It is an excellent composite insulation, and is often used in conjunction with Empire cloth and paper, fish paper, etc., for transformers, field magnets, armature core, etc.

No. 7 Numica cloth is identical with No. 6 except that the material is made with a very thin rubber tissue as a binder between the layers of mica, cloth and paper.

NO. 6 "NUMICA" CLOTH

List No.	Approx. Thickness	Approx. Lbs. per Roll	List Price per Lb.
460417	.008 in.	2.8	\$2.00
460418	.011 "	4.2	1.75
460419	.014 "	5.4	1.75

Insulating and Soldering Materials

NO. 7 "NUMICA" CLOTH

List No.	Approx. Thickness	Approx. Lbs. per Roll	List Price per Lb.
460420	.008 in.	2.1	\$2.50
460421	.011 "	3.5	2.25
460422	.014 "	4.7	2.00

INSULATING MATERIAL

"Numica" Paper

No. 8 Numica paper is of the same nature as No. 6 Numica cloth except that the material is faced on both sides with Japanese tissue paper instead of cotton cloth, the object being to supply an insulation thinner than Numica cloth, but retaining the same thickness of mica film.

No. 9 Numica paper is extra flexible and similar to No. 8 except that the material is made with a very thin rubber tissue as a binder between the layers of mica, cloth and paper, instead of an oil varnish, which is used in the No. 8 Numica paper.

NO. 8 "NUMICA" PAPER

List No.	Approx. Thickness	Approx. Lbs. per Roll	List Price per Lb.
460423	.005 in.	2.1	\$2.25
460424	.008 "	3.3	2.00
460425	.011 "	4.4	1.80

NO. 9 "NUMICA" PAPER

List No.	Approx. Thickness	Approx. Lbs. per Roll	List Price per Lb.
460426	.005 in.	1.8	\$3.00
460427	.008 "	3.	2.75
460428	.011 "	4.1	2.50

NO. 10 ROPE PAPER AND MICA

A composite insulation consisting of rope paper faced on one side with two layers of white mica films and tissue.

List No.	Size Sheets	Approx. Finished Thickness	Approx. Oz. Per Sheet	List Price Per Lb.
460429	36 in. x 36 in.	.007 in.	7½	\$2.00
460430	36 " x 36 "	.010 "	12	1.50
460431	36 " x 36 "	.015 "	15	1.50

NO. 12 PRESSBOARD AND MICA

This material is composed of No. 1 pressboard faced on one side with two overlapping layers of white mica films and tissue paper.

This insulation is of the same order as No. 10 rope paper and mica.

List No.	Size Sheets	Approx. Finished Thickness	Approx. Oz. Per Sheet	List Price Per Lb.
460432	36 in. x 36 in.	.012 in.	14½	\$1.25
460433	36 " x 36 "	.017 "	18	1.00
460434	36 " x 36 "	.020 "	21¼	1.00

NO. 13 FISH PAPER AND MICA

This material consists of fish paper, faced on one side with two overlapping layers of white mica films and tissue paper. The fish paper employed is also known as Fyberoid, Tarpon Paper, Peerless Paper, etc.

This insulation is recommended when a material stronger than rope paper or pressboard is desired as a base for the mica films.

Furnished in sheets 36 inches x 47 inches.

List No.	Approx. Finished Thickness	Approx. Lbs. per Sheet	List Price per Lb.	List No.	Approx. Finished Thickness	Approx. Lbs. per Sheet	List Price per Lb.
460435	.010 in.	1.2	\$1.75	460437	.015 in.	1.6	\$1.25
460436	.012 "	1.4	1.50	460438	.020 "	2.	1.25

Linen Armature Twine

Linen Armature twine is made of the finest quality of linen twine and is used in connection with armature work. Unless otherwise specified the standard size No. 8 will be furnished. Put up in tubes containing one pound each.

List No.	Description	List Price per Lb.
460841	Linen Armature Twine.....	\$2.10

Samson Armature Cord

Samson Armature Cord is used for various purposes in connection with armature and field winding. It is made of solid braided cotton armature cord ¼ inch in diameter; will not kink or ravel. Furnished in coils containing 1,000 yards.

List No.	Description	List Price 1000 Yds.
460842	Samson Armature Cord No. 4.....	\$14.00

Chatterton Compound

Chatterton Compound is manufactured in two grades: domestic and imported. The domestic grade is made of a good serviceable quality of gutta-percha and has a high melting point. The imported grade contains the best quality of gutta-percha, is waterproof and very elastic, having a high melting point. They come in stick form and are applied by simply heating with a blow-torch to a soft stringy consistency and winding around the joint or other part to be insulated.

List No.	Description	List Price per Lb.	List No.	Description	List Price per Lb.
460843	Domestic brand.....	\$1.32	460844	Imported brand.....	\$2.64

INSULATING MATERIAL

“Numica” Tubing

List Price per Foot

Inside Diam. Ins.	$\frac{1}{32}$ Wall	$\frac{1}{16}$ Wall	$\frac{3}{32}$ Wall	$\frac{1}{8}$ Wall	$\frac{5}{16}$ Wall	$\frac{1}{4}$ Wall	Inside Diam. Ins.	$\frac{1}{32}$ Wall	$\frac{1}{16}$ Wall	$\frac{3}{32}$ Wall	$\frac{1}{8}$ Wall	$\frac{5}{16}$ Wall	$\frac{1}{4}$ Wall
$\frac{1}{16}$	\$0.21	\$0.26	\$0.33	\$0.45	\$0.65	\$0.95	$1\frac{1}{4}$	\$0.36	\$0.56	\$0.90	\$1.20	\$1.85	\$2.50
$\frac{1}{8}$	.22	.30	.37	.50	.75	1.05	$1\frac{1}{2}$	.37	.60	.94	1.25	1.90	2.65
$\frac{3}{16}$	.16	.25	.33	.45	.70	1.05	$1\frac{3}{4}$	.38	.62	.97	1.30	2.00	2.75
$\frac{1}{4}$	.17	.28	.38	.52	.80	1.15	$1\frac{7}{8}$	.40	.64	1.05	1.40	2.10	2.85
$\frac{5}{16}$	.18	.28	.38	.52	.85	1.25	$1\frac{9}{16}$	.42	.66	1.05	1.45	2.15	2.95
$\frac{3}{8}$	.20	.29	.42	.57	.90	1.30	$1\frac{11}{16}$	.42	.68	1.07	1.50	2.25	3.10
$\frac{7}{16}$	.20	.33	.47	.65	1.00	1.40	$1\frac{13}{16}$	.45	.73	1.15	1.55	2.35	3.20
$\frac{1}{2}$	.22	.36	.50	.70	1.10	1.50	$1\frac{15}{16}$	.46	.75	1.20	1.60	2.40	3.30
$\frac{3}{4}$	.22	.38	.55	.75	1.15	1.65	$1\frac{7}{8}$	.48	.77	1.25	1.65	2.50	3.40
$\frac{5}{8}$	.24	.40	.58	.80	1.25	1.75	$1\frac{1}{2}$	.50	.80	1.30	1.70	2.60	3.50
$\frac{7}{8}$	.25	.42	.65	.85	1.35	1.85	$1\frac{1}{4}$	.50	.82	1.35	1.75	2.65	3.60
1	.26	.43	.67	.90	1.40	1.95	$1\frac{1}{8}$	.52	.85	1.35	1.80	2.75	3.70
$1\frac{1}{8}$	.28	.45	.70	.95	1.50	2.10	$1\frac{1}{4}$	.53	.88	1.40	1.85	2.85	3.80
$1\frac{1}{4}$	.30	.46	.75	1.00	1.55	2.15	$1\frac{1}{2}$	.55	.90	1.50	1.95	2.90	3.90
$1\frac{1}{2}$	.33	.50	.82	1.10	1.65	2.30	2	.60	.95	1.60	2.00	3.00	4.10
$1\frac{3}{4}$	.34	.54	.86	1.15	1.80	2.40							

Less than 24 feet, add 20 per cent. to list; 24 to 50 feet, add 10 per cent. to list.

Mica Washers

Of Random Thickness

List Price per Pound

Outside Diam. Inches	INSIDE DIAMETER, INCHES																				Diam. Inches
	1½	1⅝	1¾	1⅞	1	1⅛	7⁄8	15⁄16	¾	11⁄16	5⁄8	9⁄16	½	7⁄16	3⁄8	5⁄16	¼	3⁄16	1⁄8		
3	3.25	3.25	3.25	3.00	2.75	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25	
2⅞	3.25	3.25	3.25	3.00	2.75	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25	
2¾	3.00	3.00	3.00	2.75	2.50	2.40	2.40	2.40	2.40	2.40	2.40	2.30	2.30	2.25	2.25	2.25	2.15	2.15	2.15	2.15	
2⅝	2.75	2.75	2.75	2.50	2.25	2.15	2.15	2.15	2.15	2.15	2.15	2.10	2.10	2.10	2.10	2.00	2.00	2.00	2.00	2.00	
2⅜	2.50	2.50	2.50	2.25	2.25	2.00	2.00	1.90	1.90	1.90	1.85	1.85	1.85	1.85	1.80	1.80	1.80	1.80	1.80	1.80	
2¼		2.25	2.25	2.00	2.00	1.90	1.90	1.90	1.90	1.85	1.85	1.75	1.75	1.75	1.75	1.75	1.75	1.70	1.70	1.70	
2⅓		2.25	2.25	1.90	1.90	1.90	1.80	1.80	1.80	1.75	1.75	1.75	1.65	1.65	1.65	1.60	1.60	1.60	1.60	1.60	
2			2.25	1.90	1.90	1.90	1.75	1.75	1.65	1.65	1.65	1.60	1.60	1.60	1.60	1.50	1.50	1.50	1.50	1.50	
1⅞			2.25	1.90	1.90	1.90	1.80	1.75	1.70	1.65	1.65	1.65	1.60	1.50	1.50	1.50	1.50	1.40	1.40	1.40	
1⅝				2.15	1.95	1.90	1.80	1.75	1.70	1.65	1.65	1.65	1.60	1.50	1.50	1.50	1.50	1.40	1.40	1.40	
1⅜				2.25	2.00	1.90	1.80	1.75	1.70	1.65	1.65	1.60	1.60	1.50	1.50	1.50	1.40	1.40	1.40	1.40	
1½				2.35	2.10	2.00	1.80	1.75	1.70	1.65	1.65	1.60	1.50	1.45	1.45	1.45	1.40	1.40	1.40	1.40	
1⅓				2.50	2.25	2.20	1.90	1.85	1.75	1.65	1.65	1.60	1.50	1.45	1.45	1.45	1.40	1.40	1.40	1.40	
1⅒					2.25	2.25	2.15	2.10	2.00	1.80	1.75	1.60	1.55	1.50	1.45	1.45	1.45	1.40	1.40	1.40	
1					2.30	2.30	2.25	2.20	2.15	2.00	1.90	1.80	1.70	1.60	1.50	1.50	1.50	1.40	1.40	1.40	
¾					2.40	2.40	2.30	2.25	2.20	2.15	2.00	1.95	1.90	1.65	1.50	1.50	1.50	1.40	1.40	1.40	
⅝					2.50	2.50	2.30	2.25	2.25	2.25	2.15	2.05	1.90	1.70	1.60	1.50	1.50	1.45	1.45	1.45	
⅜							2.35	2.35	2.25	2.25	2.25	2.15	2.00	1.80	1.65	1.60	1.55	1.45	1.45	1.45	
⅓							2.50	2.50	2.50	2.35	2.35	2.25	2.15	2.10	1.80	1.70	1.60	1.50	1.50	1.50	
¼									2.75	2.65	2.45	2.30	2.25	2.10	1.90	1.80	1.60	1.55	1.50	1.50	
⅛										2.75	2.75	2.50	2.35	2.25	2.15	2.00	1.85	1.70	1.60	1.55	
1⁄16											3.00	2.90	2.65	2.40	2.30	2.20	2.15	1.90	1.70	1.60	
												2.75	2.45	2.35	2.25	2.15	2.00	1.90	1.70	1.65	
													3.00	2.50	2.35	2.25	2.20	2.00	1.90	1.80	
														2.75	2.60	2.25	2.25	2.05	1.95	1.80	
															2.60	2.50	2.25	2.10	2.00	1.90	
																3.00	2.75	2.25	2.15	2.00	
																	2.50	2.25	2.25	2.00	
																		2.75	2.50	2.25	
																			4.25	4.00	
																				3.75	
																				4.75	
																				5.00	
																				5.50	
																				5.25	
																				4.00	

ELECTRICAL INSULATING MICA

INDIA AND AMBER

Cut Mica

Size	List Price per Lb.	Size	List Price per Lb.	Size	List Price per Lb.	Size	List Price per Lb.	Size	List Price per Lb.
1 x 3	\$3.00	1 1/4 x 9	\$13.50	1 1/4 x 5 1/2	\$9.50	2 x 11	\$16.25	2 1/2 x 6	\$11.00
1 x 4	5.00	1 1/4 x 10	15.25	1 1/4 x 6	10.00	2 x 12	17.00	2 1/2 x 6 1/2	11.50
1 x 4 1/2	5.50	1 1/4 x 11	15.50	1 1/4 x 6 1/2	10.25	2 1/4 x 2 1/4	4.50	2 1/2 x 7	11.50
1 x 5	7.50	1 1/4 x 12	16.25	1 1/4 x 7	10.75	2 1/4 x 2 1/2	4.75	2 1/2 x 7 1/2	12.00
1 x 5 1/2	8.00	1 1/2 x 2	3.00	1 1/4 x 7 1/2	11.25	2 1/4 x 3	6.25	2 1/2 x 8	12.50
1 x 6	8.50	1 1/2 x 2 1/2	3.25	1 1/4 x 8	11.75	2 1/4 x 3 1/2	6.50	2 1/2 x 8 1/2	13.00
1 x 6 1/2	9.50	1 1/2 x 3	3.50	1 1/4 x 8 1/2	12.25	2 1/4 x 4	7.50	2 1/2 x 9	14.75
1 x 7	10.00	1 1/2 x 3 1/2	4.00	1 1/4 x 9	14.00	2 1/4 x 4 1/2	8.25	2 1/2 x 10	16.50
1 x 7 1/2	10.50	1 1/2 x 4	6.00	1 1/4 x 10	15.75	2 1/4 x 5	9.50	2 1/2 x 11	16.75
1 x 8	11.00	1 1/2 x 4 1/2	6.50	1 1/4 x 11	16.00	2 1/4 x 5 1/2	10.00	2 1/2 x 12	17.50
1 x 8 1/2	11.50	1 1/2 x 5	8.50	1 1/4 x 12	16.75	2 1/4 x 6	10.50	2 3/4 x 3	7.00
1 x 9	13.25	1 1/2 x 5 1/2	9.00	2 x 2	4.00	2 1/4 x 6 1/2	11.00	2 3/4 x 3 1/2	7.75
1 x 10	15.00	1 1/2 x 6	9.25	2 x 2 1/2	4.25	2 1/4 x 7	11.25	2 3/4 x 4	8.50
1 x 11	15.25	1 1/2 x 6 1/2	10.00	2 x 3	6.00	2 1/4 x 7 1/2	11.75	2 3/4 x 4 1/2	9.00
1 x 12	16.00	1 1/2 x 7	10.50	2 x 3 1/2	6.25	2 1/4 x 8	12.25	2 3/4 x 5	10.50
1 1/4 x 3	3.25	1 1/2 x 7 1/2	11.00	2 x 4	7.00	2 1/4 x 8 1/2	12.75	2 3/4 x 5 1/2	11.00
1 1/4 x 3 1/2	3.50	1 1/2 x 8	11.50	2 x 4 1/2	8.00	2 1/4 x 9	14.50	2 3/4 x 6	11.50
1 1/4 x 4	5.50	1 1/2 x 8 1/2	12.00	2 x 5	9.25	2 1/4 x 10	16.25	2 3/4 x 6 1/2	11.50
1 1/4 x 4 1/2	6.25	1 1/2 x 9	13.75	2 x 5 1/2	9.75	2 1/4 x 11	16.50	2 3/4 x 7	11.75
1 1/4 x 5	8.00	1 1/2 x 10	15.50	2 x 6	10.25	2 1/4 x 12	17.25	2 3/4 x 8	13.00
1 1/4 x 5 1/2	8.50	1 1/2 x 11	15.75	2 x 6 1/2	10.50	2 1/2 x 2 1/2	6.00	2 3/4 x 9	15.00
1 1/4 x 6	9.00	1 1/2 x 12	16.50	2 x 7	11.00	2 1/2 x 3	6.50	2 3/4 x 10	16.75
1 1/4 x 6 1/2	9.75	1 1/2 x 3	4.50	2 x 7 1/2	11.50	2 1/2 x 3 1/2	7.00	2 3/4 x 11	17.00
1 1/4 x 7	10.25	1 1/2 x 3 1/2	6.00	2 x 8	12.00	2 1/2 x 4	8.00	2 3/4 x 12	17.75
1 1/4 x 7 1/2	10.75	1 1/2 x 4	6.50	2 x 8 1/2	12.50	2 1/2 x 4 1/2	8.50	3 x 3	7.50
1 1/4 x 8	11.25	1 1/2 x 4 1/2	7.50	2 x 9	14.25	2 1/2 x 5	10.00	3 x 3 1/2	8.75
1 1/4 x 8 1/2	11.75	1 1/2 x 5	8.75	2 x 10	16.00	2 1/2 x 5 1/2	10.50	3 x 4	9.50

Size	List Price per Lb.	Size	List Price per Lb.	Size	List Price per Lb.	Size	List Price per Lb.
3 x 4 1/2	\$9.75	3 1/2 x 3 1/2	\$9.25	4 x 12	\$18.50	5 1/2 x 6 1/2	\$15.50
3 x 5	11.00	3 1/2 x 4	10.00	4 1/2 x 4 1/2	11.50	5 1/2 x 7	16.50
3 x 5 1/2	11.50	3 1/2 x 4 1/2	10.50	4 1/2 x 5	12.00	5 1/2 x 8	16.75
3 x 6	12.00	3 1/2 x 5	11.25	4 1/2 x 5 1/2	12.50	5 1/2 x 9	17.00
3 x 6 1/2	12.50	3 1/2 x 5 1/2	11.75	4 1/2 x 6	13.50	5 1/2 x 10	18.00
3 x 7	13.00	3 1/2 x 6	12.50	4 1/2 x 6 1/2	14.00	5 1/2 x 11	18.25
3 x 8	13.50	3 1/2 x 6 1/2	13.00	4 1/2 x 7	14.50	5 1/2 x 12	19.25
3 x 9	15.25	3 1/2 x 7	13.50	4 1/2 x 8	15.00	6 x 6	16.00
3 x 10	17.00	3 1/2 x 8	13.75	4 1/2 x 9	15.75	6 x 6 1/2	16.25
3 x 11	17.25	3 1/2 x 9	15.25	4 1/2 x 10	17.50	6 x 7	17.00
3 x 12	18.00	3 1/2 x 10	17.00	4 1/2 x 11	17.75	6 x 8	17.50
3 1/4 x 3 1/2	9.00	3 1/2 x 11	17.25	4 1/2 x 12	18.75	6 x 9	18.00
3 1/4 x 3 1/2	9.50	3 1/2 x 12	18.25	5 x 5	13.50	6 x 10	21.50
3 1/4 x 4	10.00	4 x 4	10.50	5 x 5 1/2	14.00	6 x 11	22.50
3 1/4 x 4 1/2	10.50	4 x 4 1/2	11.00	5 x 6	14.50	6 x 12	23.50
3 1/4 x 5	11.50	4 x 5	11.50	5 x 6 1/2	15.00	7 x 7	18.00
3 1/4 x 5 1/2	12.00	4 x 5 1/2	12.00	5 x 7	15.50	7 x 8	18.50
3 1/4 x 6	12.50	4 x 6	13.00	5 x 8	16.00	7 x 9	19.00
3 1/4 x 6 1/2	13.00	4 x 6 1/2	13.50	5 x 9	16.25	7 x 10	22.50
3 1/4 x 7	13.50	4 x 7	14.00	5 x 10	17.75	7 x 11	23.50
3 1/4 x 8	13.75	4 x 8	14.25	5 x 11	18.00	7 x 12	25.50
3 1/4 x 9	15.50	4 x 9	15.50	5 x 12	19.00	8 x 8	19.50
3 1/4 x 10	17.25	4 x 10	17.25	5 1/2 x 5 1/2	14.25	8 x 9	20.00
3 1/4 x 11	17.50	4 x 11	17.50	5 1/2 x 6	15.00	8 x 10	23.50
3 1/4 x 12	18.25						

Special sizes will be cut to order and will take the list price of the next larger size.

For Uncut India or Amber Mica, see following page.

INSULATING MATERIAL

Uncut Mica

Uncut mica is used for general repair purposes; carefully selected as to quality and closely knife trimmed, so as to cause as little waste as possible in cutting.

List No.	Grade	Will Cut Assorted Sizes		List Price per Lb.	
				India	Amber
460845	A-1	4 to 8	inches wide, 8 to 10 inches long	\$7.50	\$5.00
460846	No. 1	3 to 6	inches wide, 6 to 9 inches long	6.00	3.75
460847	No. 2	2 to 4	inches wide, 5 to 8 inches long	5.00	3.25
460848	No. 3	2 to 3½	inches wide, 4 to 6 inches long	4.00	2.50
460849	No. 4	1 to 3	inches wide, 2½ to 4 inches long	2.00	2.00

Hard Rubber Sheets

Grade No. 1001. Black hard rubber sheet, designed for thin sheets only. Dimensions, 25 x 49 inches or 24 x 48 inches. Thickness, .014 inch to .047 inch inclusive.

Grade No. 1010. Black hard rubber sheet. Medium quality of sheet designed for miscellaneous uses. Standard dimensions, trimmed, 24 x 48 inches. Thickness, .046 inch to 1.50 inch.

List No.	Thickness	Grade No.	Net Prices per Lb.	List No.	Thickness	Grade No.	Net Prices per Lb.
460881	¼ in.	1001	\$3.30	460859	¾ in.	1010	\$1.70
460850	½ in.	1001	2.60	460860	1 in.	1010	1.70
460851	¾ in.	1010	2.00	460861	1½ in.	1010	1.70
460852	1 in.	1010	1.80	460862	1½ in.	1010	1.70
460854	1½ in.	1010	1.80	460863	2 in.	1010	1.70
460855	2 in.	1010	1.80	460864	2½ in.	1010	1.70
460856	2½ in.	1010	1.80	460865	3 in.	1010	1.60
460857	3 in.	1010	1.80	460866	1 in.	1010	1.60
460858	3½ in.	1010	1.80				

Hard Rubber Rods

Grade No. 2000. Black Hard Rubber Rod. Standard length 30 inches; diameter 0.56 inch and less.

Grade No. 2007. Black Hard Rubber Rod. Dimensions 0.56 inch to 1.50 inch diameter.

List No.	Diameter	Grade No.	Net Prices per Lb.	List No.	Diameter	Grade No.	Net Prices per Lb.
460868	¼ in.	2000	\$5.20	460877	1½ in.	2007	\$1.70
460869	½ in.	2000	3.60	460878	2 in.	2007	1.70
460870	¾ in.	2000	2.80	460879	2½ in.	2007	1.60
460871	1 in.	2000	2.30	460880	3 in.	2007	1.60
460872	1½ in.	2000	2.10	460881	3½ in.	2007	1.60
460873	2 in.	2000	1.90	460882	4 in.	2007	1.60
460874	2½ in.	2000	1.90	460883	4½ in.	2007	1.60
460875	3 in.	2000	1.80	460884	5 in.	2007	1.50
460876	3½ in.	2007	1.70				

Soft Rubber Tubing

List No.	Inside Diameter	Covers B. & S. Wire	Feet per Lb.	List Price per Lb.	List No.	Inside Diameter	Covers B. & S. Wire	Feet per Lb.	List Price per Lb.
460888	1/16 in.	36	125	\$2.20	460891	1/4 in.	10	20	\$1.60
460889	1/8 "	20	60	2.20	460892	5/16 "	6	15	1.60
460890	3/16 "	14	30	1.60	460893	3/8 "	4	12	1.60

Corrugated Rubber Matting

Grade No. 1 for dynamos and switchboards.

List No.	Thickness	Wt. per Sq. Yd.	List Price per Lb.	List No.	Thickness	Wt. per Sq. Yd.	List Price per Lb.
460937	¼ in.	6 lbs.	\$1.20	460941	¾ in.	23 lbs.	\$1.20
460938	½ in.	8½ lbs.	1.20	460942	1 in.	28 lbs.	1.20
460939	¾ in.	13½ lbs.	1.20	460943	1½ in.	32½ lbs.	1.20
460940	1 in.	18½ lbs.	1.20	460944	2 in.	37½ lbs.	1.20

Improved Paper Sleeves

List No.	Style	Dimensions	List Price per 1000	List No.	Style	Dimensions	List Price per 1000
460894	2½ A	1½ x 2¾ ins.	\$1.50	460897	18 A	1½ x 18 ins.	\$7.50
460895	3 B	1½ x 3 ins.	1.50	460898	18 B	1½ x 18 ins.	7.50
460896	3 C	1½ x 3 ins.	1.50	460899	18 C	1½ x 18 ins.	7.50

Pothead Compound

List No.	Description	List Price per Lb.
460900	5-lb. Cartons	\$0.30
460901	10-lb. Cartons	.29

Insulating and Soldering Materials

Western Electric

AJAX INSULATING MATERIAL

Western Electric Ajax Insulating Varnish

BLACK AIR DRYING

A jet black, lustrous moistureproof varnish, a good insulator, and possesses the maximum amount of elasticity possible to secure in a black, quick, air drying varnish. It is used for dipping new armature and field coils and also for repair work requiring a varnish which will dry quickly without baking. It air dries in one-half hour.

List No.		*List Price Per Gal.
461002	Barrels (50 gallons).....	\$1.30
461003	5 gallon cans.....	1.92
461004	1 gallon cans.....	2.52

Western Electric Ajax Air Drying Finishing Varnish

A lustrous, deep black spirit finishing varnish, oilproof, waterproof, durable, it keeps in perfect solution. It is used as a finishing coating for all kinds of electrical apparatus to prevent absorption of lubricating oils and moisture. It air dries in from 10 to 15 minutes independent upon method of application and thickness of coat.

461005	Barrels (50 gallons).....	\$2.80
461006	5 gallon cans.....	4.40
461007	1 gallon cans.....	4.80

Western Electric Underwriters' Black ACID RESISTING INSULATING PAINT

This paint gives a high gloss finish which is flameproof and impervious to moisture. It is used for meter boards, switchboards, moldings, aerial and underground cables, service boxes, street car trucks, motor frames and all kinds of electrical wiring. It air dries in one half hour.

461008	Barrels (50 gallons).....	\$1.28
461009	5 gallon cans.....	2.00
461010	1 gallon cans.....	2.40

Western Electric Ajax Insulating Varnish CLEAR, QUICK BAKING

Designed expressly for quick repairs to motor, generator and transformer windings. For bare metal surface and sheet fiber of every description. It is clear oil and weatherproof, extremely penetrative and elastic. It is a high insulator, and is acidproof and free from acids.

461011	Barrels (50 gallons).....	\$2.10
461012	5 gallon cans.....	3.40
461013	1 gallon cans.....	3.80

Western Electric Ajax Oilproof Core Plate Baking Varnish

Elastic, heat resisting, clear enamel, proof against oil, water and acid. It is used for separating and insulating the metal laminations used in building up the cores of oilcooled transformers. Baked in 5 minutes at 250 degrees Fahrenheit.

461014	Barrels (50 gallons).....	\$1.76
461015	5 gallon cans.....	2.60
461016	1 gallon cans.....	3.00

Western Electric Ajax No. 1 Clear Air Drying Insulating Varnish

It is clear, elastic, extremely penetrative and oilproof. Is a high insulator, and produces a uniform homogeneous film. Especially adapted for use in electrical repair shops not equipped with baking facilities. Used for armature, field and magnet coils, molding, switch bases and fiber sheet insulation. Air dries in 6 hours.

461017	Barrels (50 gallons).....	\$1.92
461018	5 gallon cans.....	2.80
461019	1 gallon cans.....	3.20

Western Electric Ajax No. 2 Clear Air Drying Insulating Varnish

Similar to No. 1, but is superior to it in flexibility, moisture proof and oilproof qualities and heavier in body. Air dries in 13 to 20 hours.

461020	Barrels (50 gallons).....	\$2.40
461021	5 gallon cans.....	3.40
461022	1 gallon cans.....	3.80

*Delivery F. O. B. Cleveland or New York. For warehouse deliveries write nearest house.

Western Electric

AJAX INSULATING MATERIAL

Western Electric Ajax Clear Air Drying Finishing Varnish

Ajax clear insulating varnish is oilproof, waterproof, durable and keeps in perfect solution. It is used as a finishing coating for all kinds of electrical apparatus to prevent absorption of lubricating oils and moisture. It air dries in from 10 to 15 minutes, dependent on method of application and thickness of coat.

List No.		List Price per Gal.
461023	Barrels (50 gallons)	\$2.80
461024	5 gallon cans	4.40
461025	1 gallon cans	4.80

Western Electric Ajax, Black Air Drying Core Plate Varnish

Designed exclusively for the insulation of armature, field and air cooled transformer laminations against Eddy or Foucault currents. Coat of usual thickness will air dry in 5 minutes.

461026	Barrels (50 gallons)	\$1.30
461027	5 gallon cans	2.40
461028	1 gallon cans	2.80

Western Electric Ajax Insulating Varnish Coillac

A black baking insulating varnish for general coil work and insulating purposes. Combines high gloss with great elasticity and puncture resistance.

461029	Barrels (50 gallons)	\$2.08
461030	5 gallon cans	3.00
461031	1 gallon cans	3.40

Western Electric Ajax Black Acidproof Paint

This is an acidproof, waterproof and flameproof paint. Designed for use on battery boxes, switchboards, switch handles, cable connections and connection boxes. Also adapted for use on armature and field coils in repair shops not equipped with baking ovens. It air dries in 8 hours.

461032	Barrels (50 gallons)	\$1.12
461033	5 gallon cans	2.00
461034	1 gallon cans	2.40

Western Electric Ajax Black Elastic Baking Insulating Varnish

Black, plastic, oilproof, suitable for insulating high voltage, generator windings, oil cooled transformer coils and street railway motor armature and field coils which are subjected to continued vibrations and varying loads.

461035	Barrels (50 gallons)	\$2.10
461036	5 gallon cans	3.40
461037	1 gallon cans	3.80

Western Electric Ajax Clear Elastic Baking Insulating Varnish

A clear, tough, elastic, high heat resisting varnish. Designed expressly for insulating—form wound armatures and field coils that are brushed while winding and as finishing—coat for completed armatures and field coils. Excellent material for treating automobile ignition cables, canvas linen, cotton tapes, etc.

461038	Barrels (50 gallons)	\$2.24
461039	5 gallon cans	3.60
461040	1 gallon cans	4.00

Western Electric Ajax Black Quick Baking Insulating Varnish

Elastic, high gloss, quick baking varnish, oil and waterproof. Adaptable for quick repairs to motors, generators, transformers, and as insulator for high voltage windings of large cross sections.

461041	Barrels (50 gallons)	\$1.82
461042	5 gallon cans	3.00
461043	1 gallon cans	3.40

Western Electric Ajax Pot Head Compound or Filling Compound

List No.	Less than 3 Gallons (24 Lbs.)	3 to 10 Gallons	10 Gallons and Over
461044 Pothead Compound or Filling Compound.....	\$0.40	\$0.30	\$0.20

*Delivery F. O. B. Cleveland or New York. For warehouse deliveries write nearest house.
Insulating and Soldering Appliances

BRYANT SPECIAL FEATURES FOR SOCKETS

SCHEDULE "B"



Sockets with
Extra Long Keys



Sockets with
Metal Keys



Sockets for
Special Metal Keys



Pull Sockets with
Extension Chain Guides

† Sockets with Extra Long Keys

The key sockets listed in this Bulletin have keys $\frac{3}{4}$ inch long, but can be fitted with longer keys on special order, which must specify distance desired between outside of shell and end of key.

The following lengths are carried in stock:

1 inch, same price and standard package as regular. Sockets with $\frac{3}{4}$ inch and 1 inch keys may be assorted to make up standard package quantity. Sockets with keys longer than 1 inch may not be assorted with sockets having $\frac{3}{4}$ inch and 1 inch keys to make up standard package quantity.

$1\frac{1}{4}$, $1\frac{1}{2}$, 2 and $2\frac{1}{2}$ inches, add to list price of Standard sockets, 6 cents. Standard package, 100 of one length. On orders for sockets with extra long keys, where the length is not given, we furnish $1\frac{1}{2}$ inch.

† Sockets with Metal Keys

We are prepared to fit to any key socket in this Bulletin a metal key as shown in illustration. This key is detachable, so that it may be given the same finish as the socket or fixture. The standard metal key measures $\frac{3}{4}$ inch from the end to the shell. Longer keys will be furnished on special order.

Sockets with metal keys not longer than 1 inch, add to list price of Standard sockets 9 cents.

Sockets with metal keys longer than 1 inch, add to list price of Standard sockets 15 cents.

Standard package, 100 of one length.

† Sockets for Special Metal Keys

We are prepared to furnish sockets, as shown in the illustration, designed to receive a special key furnished by the fixture manufacturer, to match the fixture. The threaded metal part of the key mandrell is thoroughly insulated from the other parts of the socket. The screw is $\frac{1}{4}$ inch diameter, 26 threads.

Add to list price of Standard sockets, 9 cents. Standard package, 100.

† Pull Sockets with Extension Chain Guides

Pull sockets installed in husks or socket covers require extension chain guides to carry the chain free of cover and shade. The chain guide is not attached to the socket shell but to the socket mechanism. It is detachable and separable and can be removed for refinishing. By carrying a stock of various lengths of guides, it is possible to convert standard sockets into sockets with extension guides, making it unnecessary to carry a stock of completed sockets with various lengths of chain guides attached. The hole in the husk need not be more than $\frac{1}{8}$ inch. The portion of the extension chain guide which is attached to socket extends less than $\frac{1}{8}$ inch outside of socket shell, making it possible to insert the socket in any husk, no matter how closely it follows the outline of shell. Extension chain guides of following lengths furnished from stock: $\frac{3}{4}$, 1, $1\frac{1}{4}$ and $1\frac{1}{2}$ inches. Additional list price either assembled on sockets or loose, 15 cents. Standard package quantity, 50 of one length or 100 of assorted lengths. Sockets with extension chain guides may not be combined with sockets having regular chain guides to make up a standard package quantity.

Pull Sockets with Chains of Special Lengths

The standard length of chain on all pull sockets, except miniature and candelabra is 8 inches. Sockets with chains shorter than 8 inches will be billed at the same price as regular. For sockets with chains longer than 8 inches, add to list price per foot, 12 cents. For special finishes on chains longer than 8 inches, add to list price per foot 3 cents.

Pull Sockets with Silk Cord

Pull sockets can be furnished with silk cord in any desired color instead of chain. For sockets with cords not longer than 8 inches, add to list price 6 cents.

For sockets with cords longer than 8 inches, add to list price per foot, 18 cents.

Pull Sockets with Linen Cord

Pull sockets can be furnished with a short chain and 3 feet of linen cord, complete with ball, similar to that regularly furnished with pull switch rosettes without extra charge. For cords longer than 3 feet, add to list price per foot, 2 cents.

† Pull Sockets with Insulated Chain

Pull sockets can be furnished with insulated chain accomplished by inserting a piece of fiber rod in the chain about 2 inches below the chain guide. For sockets so equipped add to the list price, 18 cents.

The standard package quantity will be the same as for the Standard socket in connection with which the insulated chain is ordered.

† National Electrical Code Standard.



Pull
Socket
with
Insulated
Chain

BRYANT SPECIAL FEATURES FOR SOCKETS—Continued

Pull Socket Chain and Parts

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Ozs.	List Price
...	†Bead chain (per foot) .....	...	164 ft.	..	\$0.144
510	†Splicing link	200	200 ft.	4	.036
512	†Snap-lock ball	250	250 ft.	12	.067
513	†Insulating link	100	100 ft.	6	.116

No. 510

No. 512

No. 513

Standard finish on the above is brush or old brass, which will be supplied when no other finish is specified. All other finishes will be special and will be charged extra as follows: Chain, .028 cents list per foot; balls and links, .028 cents each list.

All New Wrinkle and Wrinklet Pull Sockets are supplied with the No. 512 Ball listed above. It may be detached and attached with the utmost ease, when necessary, but cannot be detached by any strain to which it will be subjected in service, no matter how severe.

Chain Guides

Schedule "H"

The Standard chain guide, when sold separately from the socket, will list at \$0.072. Standard package, 250. Extension chain guides described on the opposite page, when sold separately, will list at \$0.173. Standard package, 50 of one length or 100 of assorted lengths. For special finishes on chain guides, add to list price \$0.028.

†Sockets for Gas Filled Lamps

Schedule "B"

Sockets for gas filled lamps must be waxed with a compound which will not soften under heat. The Mogul base sockets listed are regularly so made. For medium base sockets to be used with gas filled lamps, add to list price \$0.036.

†Sockets with Lamp Grips

Schedule "B"

All Mogul base sockets and most medium base sockets listed in this Bulletin can be equipped with a lamp grip, which effectually prevents the lamp from accidentally unscrewing. For sockets so equipped, add to list price 6 cents.

Socket Caps with Special Bushings

Schedule "B"

Most caps of brass shell sockets can be furnished with insulated bushing, as illustrated. The purpose of this construction is to provide a passage for the conductors when the support for the socket is a rod instead of a pipe or tube. For sockets so equipped, add to list price \$0.024.

Sockets and Receptacles in Special Finishes

Socket Cap with Special Bushing

It is of great advantage to the electrical trade to be able to obtain on short notice sockets in various special finishes. It is also economical, as the refinishing of a socket after it once has been assembled is decidedly expensive.

To meet the demand for this class of goods we are now carrying in stock sockets in special finishes for which there is a large demand, such as polished brass, oxidized copper, polished nickel, etc.

Special finishes, occasionally used, we do not carry regularly, but are prepared to furnish on short notice to order. In placing orders for special finishes which are not standardized, we suggest the submitting, at the same time, of a sample for our information.

LIST OF SPECIAL FINISHES

Schedule "B"

The standard finish of all brass shell sockets is brush brass, which will be supplied where no finish is specified. Regular and special finishes of one List No. may be assorted to make up standard package quantity which will be the same as though all were regular finish.

Finish	Key and Keyless Sockets and Wall Sockets Add to List	Key and Keyless Sockets and Wall Sockets with Shade-Holder Attached Add to List	Pull Sockets and Pull Wall Sockets Add to List	Pull Sockets and Pull Wall Sockets with Shade-Holder Attached Add to List
Barff, bauer	\$0.024	\$0.048	\$0.036	\$0.06
Brass, antique .....	.048	.072	.12	.144
Brass, brush	No advance	No advance	No advance	No advance
Brass, Flemish .....	.048	.072	.12	.144
Brass, lemon .....	.048	.072	.12	.144
Brass, old	No advance	No advance	No advance	No advance
Brass, oxidized .....	.048	.072	.12	.144
Brass, polished	No advance	No advance	No advance	No advance
Bronze, antique .....	.072*	.096*	.12	.144
Bronze, English .....	.072*	.096*	.12	.144
Bronze, gold .....	.072*	.096*	.12	.144
Bronze, hardware .....	.072*	.096*	.12	.144
Bronze, Japanese .....	.072*	.096*	.12	.144
Bronze, old English .....	.072*	.096*	.12	.144
Bronze, polished .....	.072*	.096*	.12	.144
Bronze, Pompeian .....	.072*	.096*	.12	.224
Bronze, statuary .....	.048	.072	.12	.144
Copper, acid .....	.048	.072	.12	.144
Copper, antique .....	.048	.072	.12	.144
Copper, mottled .....	.048	.072	.12	.144
Copper, old .....	.048	.072	.12	.144
Copper, oxidized .....	.048	.072	.072	.096
Copper, polished .....	.048	.072	.12	.144
Enamel, white .....	.072*	.096*	.12	.144
Gilt, burnished .....	.072*	.096*	.12	.144
Gilt, Etruscan .....	.072*	.096*	.12	.144
Gilt, Ormolu .....	.072*	.096*	.12	.144
Gilt, polished .....	.072*	.096*	.12	.06
Gilt, rich .....	.024	.048	.036	.06
Gold, Roman .....	.072*	.096*	.18	.224
Gold, satin .....	.072*	.096*	.18	.224
Gun metal .....	.072*	.096*	.18	.224
Iron, wrought .....	.024	.048	.036	.06
Nickel, brush .....	.072*	.096*	.12	.144
Nickel, polished .....	.048	.072	.072	.096
Sand blast, any .....	.072*	.096*	.18	.224
Silver, butler's .....	.072*	.096*	.18	.224
Silver, ground .....	.072*	.096*	.18	.224
Silver, oxidized .....	.072*	.096*	.18	.224
Silver, polished .....	.072*	.096*	.18	.224
Steel, polished .....	.072*	.096*	.18	.144
Verde-antique .....	.072*	.096*	.18	.224

*When ordered in lots of 500 of one Catalog No. and one finish, this list will be reduced \$0.024.

Wiring Devices

"NEW WRINKLE" SOCKETS



No. 10
250 Watts, 250 Volts



No. 13
660 Watts, 250 Volts

Key and Keyless Sockets Schedule "B"

Description	Keyless Socket					SP Key Socket				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
†Body, without cap or base.	10	25	500	...	\$0.32	13	25	500	...	\$0.28
With 1/8 in. cap.	AA-10	25	500	139	.40	AA-13	25	500	115	.36
With 1/4 in. cap.	AB-10	25	250	70	.52	AB-13	25	250	65	.47
With 3/8 in. cap.	AC-10	25	250	70	.47	AC-13	25	250	65	.44
With 1/2 in. cap.	AD-10	25	250	...	.54	AD-13	25	250	...	.52
With 3/4 in. male cap.	AE-10	25	500	...	.40	AE-13	25	500	...	.36
With 1 in. male cap.	AF-10	25	250	...	.52	AF-13	25	250	...	.47
With 1 1/4 in. male cap.	AG-10	25	250	...	.52	AG-13	25	250	70	.47
With 1 1/2 in. male cap.	AH-10	25	250	...	.58	AH-13	25	250	...	.54
With 1 3/4 in. fixture cap.	AK-10	25	250	...	.47	AK-13	25	250	70	.44
With 1 1/2 in. fixture cap.	AL-10	25	250	73	.52	AL-13	25	250	70	.47
With 1 1/4 in. angle cap.	AM-10	25	100	78	.46	AM-13	25	100	28	.42
With 1 1/2 in. angle cap.	AN-10	25	100	30	.57	AN-13	25	100	28	.53
With 1 3/4 in. angle cap.	AP-10	25	100	30	.53	AP-13	25	100	31	.50
With 1 1/2 in. angle fixture cap.	AR-10	25	100	33	.53	AR-13	25	100	32	.50
With 1 1/4 in. angle fixture cap.	AS-10	25	100	35	.57	AS-13	25	100	32	.53
With pendant cap.	AT-10	25	500	35	.40	AT-13	25	500	105	.36
With strain relief cap.	AU-10	25	500	100	.40	AU-13	25	500	...	.36
With attachment plug.	AV-10	10	50	...	.64	AV-13	10	50	...	.60
With cleat base.	AW-10	10	250	25	.59	AW-13	10	250	140	.56
With slotted base.	AX-10	10	250	145	.53	AX-13	10	250	...	.50
With small concealed base.	AY-10	10	250	110	.53	AY-13	10	250	105	.50
With large concealed base.	AZ-10†	10	250	...	.59	AZ-13†	10	250	...	.56
With base for 3/8 and 1/2 in. conduits.	BA-10	10	100	50	.59	BA-13	10	100	45	.56
†With base for 3/4 in. conduits.	BC-10	10	250	125	.59	BC-13	10	250	120	.56
†With base for 1/2 and 3/4 in. taplets.	BW-10	10	250	...	.59	BW-13	10	250	...	.56
†With wood molding base.	BB-10	10	250	120	.53	BB-13	10	250	115	.50
†With one way National base.	BD-10	10	250	120	.53	BD-13	10	250	110	.50
†With two way National base.	BE-10	10	250	130	.53	BE-13	10	250	120	.50
†With small covered base.	BH-10	10	250	110	.65	BH-13	10	250	105	.62
†With large covered base.	BK-10	10	100	75	.76	BK-13	10	100	70	.72
With 3 1/4 in. box base.	BL-10	5	100	80	.76	BL-13	5	100	75	.72
With 4 in. box base.	BM-10	1	100	150	1.12	BM-13	1	100	150	1.08
With 3 1/4 in. pancake base.	BN-10	5	100	90	.88	BN-13	5	100	85	.84
With 4 in. pancake base.	BP-10	1	100	127	1.24	BP-13	1	100	122	1.20
With concealed rosette base.	BR-10	10	100	90	.90	BR-13	10	50	47	.87
†With cleat rosette base.	BS-10*	10	100	90	.90	BS-13*	10	50	47	.87
With 2 wire molding rosette base.	BT-10	10	100	90	.90	BT-13	10	50	47	.87
With 3 wire molding rosette base.	BU-10	10	100	90	.90	BU-13	10	50	45	.87
With combination rosette base.	BV-10	10	100	90	.90	BV-13	10	50	43	.87

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass, when specified, will be furnished without extra charge. For special finishes, see listing elsewhere.

For long keys, metal keys, sockets with threaded stems and other special sockets, see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National Electrical Code Standard.



"NEW WRINKLE" SOCKETS

No. 11
250 Watts, 250 VoltsNo. 12
660 Watts, 250 Volts

DP and QT Key Sockets Schedule "B"

Description	DP Key Socket					QT Key Socket				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
†Body, without cap or base.	11	25	500	...	\$0.32	12	25	500	...	\$0.35
With 1/4 in. cap.	AA-11	25	500	125	.40	AA-12	25	500	130	.44
With 1/2 in. cap.	AB-11	25	250	70	.51	AB-12	25	250	70	.54
With 3/4 in. cap.	AC-11	25	250	70	.47	AC-12	25	250	70	.51
With 1 in. cap.	AD-11	25	250	...	.54	AD-12	25	250	70	.58
With 1/4 in. male cap.	AE-11	25	500	...	.40	AE-12	25	500	...	.44
With 1/2 in. male cap.	AF-11	25	250	...	.51	AF-12	25	250	...	.54
With 3/4 in. male cap.	AG-11	25	250	65	.51	AG-12	25	250	...	.54
With 1 in. male cap.	AH-11	25	250	...	.58	AH-12	25	250	...	.62
With 1/4 in. fixture cap.	AK-11	25	250	78	.47	AK-12	25	250	...	.51
With 1/2 in. fixture cap.	AL-11	25	250	78	.51	AL-12	25	250	...	.54
With 3/4 in. angle cap.	AM-11	25	100	30	.46	AM-12	25	100	35	.50
With 1 in. angle cap.	AN-11	25	100	30	.57	AN-12	25	100	35	.60
With 1/4 in. angle cap.	AP-11	25	100	35	.53	AP-12	25	100	34	.57
With 3/4 in. angle fixture cap.	AR-11	25	100	35	.53	AR-12	25	100	...	.57
With 1 in. angle fixture cap.	AS-11	25	100	35	.57	AS-12	25	100	...	.60
With pendent cap.	AT-11	25	500	110	.40	AT-12	25	500	110	.44
With strain relief cap.	AU-11	25	500	...	.40	AU-12	25	500	130	.44
With attachment plug.	AV-11	10	50	...	.64	AV-12	10	50	...	.68
With cleat base.	AW-11	10	250	145	.59	AW-12	10	250	145	.63
With slotted base.	AX-11	10	250	...	.53	AX-12	10	250	...	.57
With small concealed base.	AY-11	10	250	110	.53	AY-12	10	250	110	.57
With large concealed base.	AZ-11†	10	250	...	.59	AZ-12†	10	250	155	.63
With angle concealed base.	BA-11	10	100	50	.59	BA-12	10	100	50	.63
With base for 3/8 and 1/2 in. condulets.	BC-11	10	250	125	.59	BC-12	10	250	125	.63
†With base for 3/4 in. condulets.	BX-11	10	250	125	.59	BX-12	10	250	125	.63
†With base for 1/2 and 3/4 in. taplets.	BW-11	10	250	...	.59	BW-12	10	250	...	.63
†With wood molding base.	BB-11	10	250	120	.53	BB-12	10	250	120	.57
†With one way National base.	BD-11	10	250	120	.53	BD-12	10	250	130	.57
†With two way National base.	BE-11	10	250	130	.53	BE-12	10	250	135	.57
†With small covered base.	BH-11	10	250	110	.65	BH-12	10	250	105	.69
†With large covered base.	BK-11	10	100	75	.76	BK-12	10	100	75	.80
†With 3 1/4 in. box base.	BL-11	5	100	80	.76	BL-12	5	100	95	.80
†With 4 in. box base.	BM-11	1	100	150	1.12	BM-12	1	100	180	1.16
†With 3 1/4 in. pancake base.	BN-11	5	100	90	.88	BN-12	5	100	95	.92
†With 4 in. pancake base.	BP-11	1	100	127	1.24	BP-12	1	100	150	1.28
†With concealed rosette base.	BR-11	10	100	90	.90	BR-12	10	100	...	.94
†With 2 wire molding rosette base.	BS-11*	10	100	90	.90	BS-12*	10	100	...	.94
†With 3 wire molding rosette base.	BT-11	10	100	90	.90	BT-12	10	100	...	.94
†With combination rosette base.	BU-11	10	100	90	.90	BU-12	10	100	...	.94
	BV-11	10	100	90	.90	BV-12	10	100	...	.94

Standard finish is brush or old brass which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere.

For long keys, metal keys, sockets with threaded stems and other special sockets, see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National Electrical Code Standard.



Wiring Devices

"NEW WRINKLE" SOCKETS



No. 14
250 Watts, 250 Volts



No. 15
250 Watts, 250 Volts

Turn and Pull Sockets Schedule "B"

Description	Turn Sockets					Pull Sockets				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
Body, without cap or base.	14	25	100		\$0.64	15	25	250		\$0.64
With 1/4 in. cap.	AA-14	25	100		.72	AA-15	25	250	65	.72
With 3/8 in. cap.	AB-14	25	50		.83	AB-15	25	100	27	.83
With 1/2 in. cap.	AC-14	25	50		.80	AC-15	25	100	30	.80
With 3/4 in. cap.	AD-14	25	50		.87	AD-15	25	50		.87
With 1/2 in. male cap.	AE-14	25	50		.72	AE-15	25	250		.72
With 3/4 in. male cap.	AF-14	25	50		.83	AF-15	25	100		.83
With 1/2 in. male cap.	AG-14	25	50		.83	AG-15	25	100	30	.83
With 3/4 in. male cap.	AH-14	25	50		.90	AH-15	25	50		.90
With 1/2 in. fixture cap.	AK-14	25	50		.80	AK-15	25	100	34	.80
With 3/4 in. fixture cap.	AL-14	25	50		.83	AL-15	25	100	34	.83
With 1/2 in. angle cap.	AM-14	25	50		.78	AM-15	25	50	18	.78
With 3/4 in. angle cap.	AN-14	25	50		.89	AN-15	25	50	18	.89
With 1/2 in. angle cap.	AP-14	25	50		.86	AP-15	25	50	22	.86
With 3/4 in. angle fixture cap.	AR-14	25	50		.86	AR-15	25	50	20	.86
With 1/2 in. angle fixture cap.	AS-14	25	50		.89	AS-15	25	50	20	.89
With pendant cap.	AT-14	25	50		.72	AT-15	25	250	60	.72
With strain relief cap.	AU-14	25	50		.72	AU-15	25	250		.72
With attachment plug.	AV-14	10	20		.96	AV-15	10	50	25	.96
With cleat base.	AW-14	10	20		.92	AW-15	10	100	62	.92
With slotted base.	AX-14	10	20		.86	AX-15	10	100		.86
With small concealed base.	AY-14	10	20		.81	AY-15	10	100	35	.86
With large concealed base.	AZ-14†	10	20		.92	AZ-15†	10	100		.92
With angle concealed base.	BA-14	10	20		.92	BA-15	10	50	25	.92
With base for 1/2 and 3/4 in. conduit.	BC-14	10	20		.92	BC-15	10	100	50	.92
With base for 1/2 in. condu- lets	BX-14	10	20		.92	BX-15	10	100	50	.92
With base for 1/2 and 3/4 in. taplets	BW-14	10	20		.92	BW-15	10	100		.92
With wood molding base.	BB-14	10	20		.81	BB-15	10	100	45	.86
With one way National base.	BD-14	10	20		.81	BD-15	10	100	45	.86
With two way National base.	BE-14	10	20		.86	BE-15	10	100	50	.86
With small covered base.	BH-14	10	20		.98	BH-15	10	100	30	.98
With large covered base.	BK-14	10	20		1.08	BK-15	10	50	35	1.08
With 3 1/4 in. box base.	BJ-14	5	20		1.08	BJ-15	5	50	40	1.08
With 4 in. box base.	BM-14	1	20		1.44	BM-15	1	50	85	1.44
With 3 1/4 in. pancake base.	BN-14	5	20		1.20	BN-15	5	50	45	1.20
With 4 in. pancake base.	BP-14	1	20		1.56	BP-15	1	50	70	1.56
With concealed rosette base.	BR-14	10	10		1.23	BR-15	10	20	15	1.23
With cleat rosette base.	BS-14*	10	10		1.23	BS-15*	10	20	15	1.23
With 2 wire molding rosette base	BT-14	10	10		1.23	BT-15	10	20	15	1.23
With 3 wire molding rosette base	BU-14	10	10		1.23	BU-15	10	20	15	1.23
With combination rosette base	BV-14	10	10		1.23	BV-15	10	20	15	1.23

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National electrical code standard.



"NEW WRINKLE" SOCKETS

No. 16
150 Watts, 250 VoltsNo. 17
Bottom Outlet, 250 Watts, 250 Volts
Side Outlet, 660 Watts, 150 Volts

Twin Pull Sockets

Schedule "B"

Description	Twin Pull Socket Both Outlets Operate on and Off Simultaneously					Twin Pull Socket Side Outlet on all the Time; Bottom Outlet on and Off				
	List No.	Car- ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Com- plete	List No.	Car- ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Com- plete
Body, without cap or base	16	10	20		\$1.30	17	10	20		\$1.30
With $\frac{1}{4}$ in. cap.	AA-16	10	20		1.38	AA-17	10	20		1.38
With $\frac{1}{4}$ in. cap.	AB-16	10	20		1.49	AB-17	10	20		1.49
With $\frac{1}{4}$ in. cap.	AC-16	10	20		1.46	AC-17	10	20		1.46
With $\frac{1}{4}$ in. cap.	AD-16	10	20		1.53	AD-17	10	20		1.53
With $\frac{1}{4}$ in. male cap.	AE-16	10	20		1.38	AE-17	10	20		1.38
With $\frac{1}{4}$ in. male cap.	AF-16	10	20		1.49	AF-17	10	20		1.49
With $\frac{1}{4}$ in. male cap.	AG-16	10	20		1.49	AG-17	10	20		1.49
With $\frac{1}{4}$ in. male cap.	AH-16	10	20		1.56	AH-17	10	20		1.56
With $\frac{1}{4}$ in. fixture cap.	AK-16	10	20		1.46	AK-17	10	20		1.46
With $\frac{1}{4}$ in. fixture cap.	AL-16	10	20		1.49	AL-17	10	20		1.49
With $\frac{1}{4}$ in. angle cap.	AM-16	10	20		1.44	AM-17	10	20		1.44
With $\frac{1}{4}$ in. angle cap.	AN-16	10	20		1.55	AN-17	10	20		1.55
With $\frac{1}{4}$ in. angle cap.	AP-16	10	20		1.52	AP-17	10	20		1.52
With $\frac{1}{4}$ in. angle fixture cap.	AR-16	10	20		1.52	AR-17	10	20		1.52
With $\frac{1}{4}$ in. angle fixture cap.	AS-16	10	20		1.55	AS-17	10	20		1.55
With pendant cap.	AT-16	10	20		1.38	AT-17	10	20		1.38
With strain relief cap.	AU-16	10	20		1.82	AU-17	10	20		1.82
With attachment plug.	AV-16	10	20		1.62	AV-17	10	20		1.62
With cleat base.	AW-16	10	20		1.58	AW-17	10	20		1.58
With slotted base.	AX-16	10	20		1.52	AX-17	10	20		1.52
With small concealed base.	AY-16	10	20		1.52	AY-17	10	20		1.52
With large concealed base.	AZ-16*	10	20		1.58	AZ-17*	10	20		1.58
With base for $\frac{1}{4}$ and $\frac{1}{2}$ in. conduits.	BA-16	10	20		1.58	BA-17	10	20		1.58
With base for $\frac{1}{4}$ in. conduit.	BC-16	10	20		1.58	BC-17	10	20		1.58
With base for $\frac{1}{4}$ and $\frac{1}{2}$ in. taplets.	BW-16	10	20		1.58	BW-17	10	20		1.58
With wood molding base.	BB-16	10	20		1.52	BB-17	10	20		1.52
With one way National base.	BD-16	10	20		1.52	BD-17	10	20		1.52
With two way National base.	BE-16	10	20		1.52	BE-17	10	20		1.52
With small covered base.	BH-16	10	20		1.64	BH-17	10	20		1.64
With large covered base.	BK-16	10	20		1.74	BK-17	10	20		1.74
With $3\frac{1}{4}$ in. box base.	BL-16	5	20		1.74	BL-17	5	20		1.74
With 4 in. box base.	BM-16	1	20		2.10	BM-17	1	20		2.10
With $3\frac{1}{4}$ in. pancake base.	BN-16	5	20		1.90	BN-17	5	20		1.90
With 4 in. pancake base.	BP-16	1	20		2.22	BP-17	1	20		2.22
With concealed rosette base.	BR-16	10	10		1.89	BR-17	10	10		1.89
With cleat rosette base.	BS-16	10	10		1.89	BS-17	10	10		1.89
With 2 wire molding rosette base.	BT-16	10	10		1.89	BT-17	10	10		1.89
With 3 wire molding rosette base.	BU-16	10	10		1.89	BU-17	10	10		1.89
With combination rosette base.	BV-16	10	10		1.89	BV-17	10	10		1.89

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass, when specified, will be furnished without extra charge. For special finishes, see listing elsewhere.

Sockets are regularly furnished with 8 inches of chain. For extra chain, cord instead of chain, extension chain guides, see listing elsewhere.

*This base is suitable for attachment to No. 500 Adapthoxes.

†Approved rating 2 amperes, 125 volts.



Wiring Devices

"NEW WRINKLE" SOCKETS



No. 26
3 Amperes, 250 Volts



No. 25
1 Ampere, 250 Volts
3 Ampere, 125 Volts

Rosette and Pull Switch Rosette

Schedule "H"

Description	Rosette					**Pull Switch Rosette				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
†Body, without cap or base.	26	10	20		\$0.19	25	10	50		\$0.77
With 1/4 in. cap.	AA-26	10	20		.29	AA-25	10	20		.87
With 1/2 in. cap.	AB-26	10	20		.42	AB-25	10	20		1.00
With 3/4 in. cap.	AC-26	10	20		.38	AC-25	10	20		.95
With 1 in. cap.	AD-26	10	20		.46	AD-25	10	20		1.04
With 1 1/4 in. male cap.	AE-26	10	20		.29	AE-25	10	20		.87
With 1 1/2 in. male cap.	AF-26	10	20		.42	AF-25	10	20		1.00
With 1 3/4 in. male cap.	AG-26	10	20		.42	AG-25	10	20		1.00
With 2 in. male cap.	AH-26	10	20		.51	AH-25	10	20		1.08
With 1 in. fixture cap.	AK-26	10	20		.38	AK-25	10	20		.95
With 1 1/4 in. fixture cap.	AL-26	10	20		.42	AL-25	10	20		1.00
With 1 1/2 in. angle cap.	AM-26	10	20		.36	AM-25	10	20		.94
With 1 3/4 in. angle cap.	AN-26	10	20		.49	AN-25	10	20		1.07
With 2 in. angle cap.	AP-26	10	20		.45	AP-25	10	20		1.03
With 1 1/4 in. angle fixture cap.	AR-26	10	20		.45	AR-25	10	20		1.03
With 1 1/2 in. angle fixture cap.	AS-26	10	20		.49	AS-25	10	20		1.07
With pendent cap.	AT-26	10	20		.29	AT-25	10	20		.87
With strain relief cap.	AU-26	10	20		.29	AU-25	10	20		.87
With attachment plug.	AV-26	10	20		.58	AV-25	10	20	5	1.16
With cleat base.	AW-26	10	20		.52	AW-25	10	20	18	1.10
With slotted base.	AX-26	10	20		.45	AX-25	10	20		1.03
With small concealed base.	AY-26	10	20		.45	AY-25	10	20	18	1.03
With large concealed base.	AZ-26	10	20		.52	AZ-25	10	20		1.10
With angle concealed base.	BA-26	10	20		.52	BA-25	10	20		1.10
With base for 3/4 and 1/2 in. conduits	BC-26	10	20		.52	BC-25	10	20	20	1.10
†With base for 3/4 in. conduit	BX-26	10	20		.52	BX-25	10	20	20	1.10
†With base for 1/2 and 3/4 in. taplets	BW-26	10	20		.52	BW-25	10	20		1.10
With wood molding base.	BB-26	10	20		.45	BB-25	10	20	20	1.03
With one way National base	BD-26	10	20		.45	BD-25	10	20		1.03
With two way National base	BE-26	10	20		.45	BE-25	10	20		1.03
With small covered base	BH-26	10	20		.59	BH-25	10	20		1.17
With large covered base	BK-26	10	20		.72	BK-25	10	20	25	1.30
With 3 1/4 in. box base.	BL-26	5	20		.72	BL-25	5	20		1.30
With 4 in. box base.	BM-26	1	20		1.16	BM-25	1	20		1.73
With 3 1/4 in. pancake base.	BN-26	5	20	60	.87	BN-25	5	20		1.44
With 4 in. pancake base.	BP-26	1	20	90	1.30	BP-25	1	20		1.88
With concealed rosette base	BR-26	10	10		.90	BR-25	10	20	25	1.47
With cleat rosette base.	BS-26	10	10		.90	BS-25	10	20	25	1.47
With 2 wire molding rosette base	BT-26	10	10		.90	BT-25	10	20	25	1.47
With 3 wire molding rosette base	BU-26	10	10		.90	BU-25	10	20	25	1.47
With combination rosette base.	BV-26	10	10		.90	BV-25	10	20	25	1.47

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere.

**Bodies are regularly furnished with short chain and 10 feet of best quality linen cord. Extra cord 2 cents list per foot. For extension chain guides, insulated chain, etc., see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National Electrical Code Standard.



"NEW WRINKLE" SOCKETS



No. 18
3 Amperes, 125 Volts
1 Ampere, 250 Volts



No. 19
3 Amperes, 125 Volts
1 Ampere, 250 Volts

Key and Pull Wall Switches Schedule "H"

Description	**Key Wall Switch					††Pull Wall Switch				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
Body, without cap or base.	18	10	50		\$0.38	19	10	50		\$0.77
With 1/4 in. cap.	AA-18	10	50		.48	AA-19	10	50	20	.87
With 1/2 in. cap.	AB-18	10	20		.61	AP-19	10	20		1.00
With 3/4 in. cap.	AC-18	10	20		.57	AC-19	10	20		.96
With 1 in. cap.	AD-18	10	20		.65	AD-19	10	20		1.04
With 1 1/4 in. male cap.	AE-18	10	20		.48	AE-19	10	20		.87
With 1 1/2 in. male cap.	AF-18	10	20		.61	AF-19	10	20		1.00
With 1 3/4 in. male cap.	AG-18	10	20		.81	AG-19	10	20		1.00
With 2 in. male cap.	AH-18	10	20		.70	AH-19	10	20		1.08
With 1/4 in. fixture cap.	AK-18	10	20		.57	AK-19	10	20		.96
With 1/2 in. fixture cap.	AL-18	10	20		.61	AL-19	10	20		1.00
With 3/4 in. angle cap.	AM-18	10	20		.55	AM-19	10	20		.94
With 1 in. angle cap.	AN-18	10	20		.68	AN-19	10	20		1.07
With 1 1/4 in. angle cap.	AP-18	10	20		.64	AP-19	10	20		1.03
With 1 1/2 in. angle fixture cap.	AR-18	10	20		.64	AR-19	10	20		1.03
With 1 3/4 in. angle fixture cap.	AS-18	10	20		.68	AS-19	10	20		1.07
With pendant cap.	AT-18	10	20		.48	AT-19	10	20		.87
With strain relief cap.	AU-18	10	20		.64	AU-19	10	20		.96
With attachment plug.	AV-18	10	20		.77	AV-19	10	20		1.16
With cleat base.	AW-18	10	20		.71	AW-19	10	20		1.09
With slotted base.	AX-18	10	20		.64	AX-19	10	20		1.03
With small concealed base.	AY-18	10	20		.64	AY-19	10	20	23	1.03
With large concealed base.	AZ-18†	10	20		.71	AZ-19†	10	20		1.10
With angle concealed base.	BA-18	10	20		.71	BA-19	10	20		1.10
With base for 1/2 and 3/4 in. conduits.	BC-18	10	20		.71	BC-19	10	20		1.10
With base for 1/2 and 3/4 in. conduit.	BX-18	10	20		.71	BX-19	10	20		1.10
With wood molding base.	BW-18	10	20		.71	BW-19	10	20		1.10
With one way National base.	BB-18	10	20		.64	BB-19	10	20		1.03
With two way National base.	BD-18	10	20		.64	BD-19	10	20		1.03
With small covered base.	BE-18	10	20		.64	BE-19	10	20		1.03
With large covered base.	BH-18	10	20		.75	BH-19	10	50		1.17
With 3 1/4 in. box base.	BK-18	10	20		.91	BK-19	10	20		1.30
With 4 in. box base.	BL-18	5	20		.91	BL-19	5	20		1.30
With 4 1/4 in. box base.	BM-18	1	20		1.34	BM-19	1	20		1.73
With 3 1/4 in. pancake base.	BN-18	5	20		1.06	BN-19	5	20		1.44
With 4 in. pancake base.	BP-18	1	20		1.49	BP-19	1	20		1.88
With concealed rosette base.	BR-18	10	10		1.08	BR-19	10	10		1.47
With cleat rosette base.	BS-18*	10	10		1.08	BS-19*	10	10		1.47
With 2 wire molding rosette base.	BT-18	10	10		1.08	BT-19	10	10		1.47
With 3 wire molding rosette base.	BU-18	10	10		1.08	BU-19	10	10		1.47
With combination rosette base.	BV-18	10	10		1.08	BV-19	10	10		1.47

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere.

**For long keys, metal keys, switches with threaded stems, and other special sockets see listing elsewhere.

††Bodies are regularly furnished with short chain and 10 feet of best quality linen cord. Extra cord 2 cents list per foot. For extension chain guides, insulated chain, etc. see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptboxes.

‡National Electrical Code Standard.



Wiring Devices

"NEW WRINKLE" SOCKETS



No. 20
3 Amperes, 125 Volts
1 Ampere, 250 Volts



No. 27
3 Amperes, 125 Volts
1 Ampere, 250 Volts

S. P. Pull and Electrolier Pull Ceiling Switch

Schedule "H"

Description	S. P. Pull Ceiling Switch					Electrolier Pull Ceiling Switch				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
Body, without cap or base.	20	10	50		\$0.77	27	10	50		\$1.20
With 1/2 in. cap.	AA-20	10	50		.87	AA-27	10	50		1.30
With 3/4 in. cap.	AB-20	10	20		1.00	AB-27	10	20		1.43
With 1 in. cap.	AC-20	10	20		.95	AC-27	10	20		1.39
With 1 1/4 in. cap.	AD-20	10	20		1.04	AD-27	10	20		1.47
With 1 1/2 in. male cap.	AE-20	10	20		.87	AE-27	10	20		1.30
With 1 3/4 in. male cap.	AF-20	10	20		1.00	AF-27	10	20		1.43
With 2 in. male cap.	AG-20	10	20		1.00	AG-27	10	20		1.43
With 2 1/4 in. fixture cap.	AH-20	10	20		1.08	AH-27	10	20		1.57
With 2 1/2 in. fixture cap.	AI-20	10	20		.95	AI-27	10	20		1.39
With 2 3/4 in. angle cap.	AM-20	10	20		1.00	AM-27	10	20		1.43
With 3 in. angle cap.	AN-20	10	20		.94	AN-27	10	20		1.37
With 3 1/4 in. angle cap.	AP-20	10	20		1.07	AP-27	10	20		1.50
With 3 1/2 in. angle fixture cap.	AR-20	10	20		1.03	AR-27	10	20		1.46
With 4 in. angle fixture cap.	AS-20	10	20		1.07	AS-27	10	20		1.50
With pendant cap.	AT-20	10	20		.87	AT-27	10	20		1.30
With strain relief cap.	AU-20	10	20		.87	AU-27	10	20		1.30
With attachment plug.	AV-20	10	20		1.16	AV-27	10	20		1.59
With cleat base.	AW-20	10	20		1.10	AW-27	10	20		1.53
With slotted base.	AX-20	10	20		1.03	AX-27	10	20		1.46
With small concealed base.	AY-20	10	20	28	1.03	AY-27	10	20		1.46
With large concealed base.	AZ-20†	10	20		1.10	AZ-27†	10	20		1.53
With angle concealed base.	BA-20	10	20		1.10	BA-27	10	20		1.53
With base for 1/2 and 3/4 in. condulets.	BC-20	10	20		1.10	BC-27	10	20		1.53
With base for 1/2 and 3/4 in. taplets.	BX-20	10	20		1.10	BX-27	10	20		1.53
With wood molding base.	BW-20	10	20		1.10	BW-27	10	20		1.53
With one-way National base.	BB-20	10	20		1.03	BB-27	10	20		1.46
With two-way National base.	BD-20	10	20		1.03	BD-27	10	20		1.46
With large covered base.	BE-20	10	20	28	1.03	BE-27	10	20		1.46
With 3 1/4 in. box base.	BH-20	10	20		1.17	BH-27	10	20		1.60
With 4 in. box base.	BK-20	10	20		1.30	BK-27	10	20		1.73
With 3 1/4 in. pancake base.	BL-20	5	20		1.30	BL-27	5	20		1.73
With 4 in. pancake base.	BM-20	1	20		1.73	BM-27	1	20		2.16
With concealed rosette base.	BN-20	5	20		1.44	BN-27	5	20		1.88
With 2 wire molding rosette base.	BP-20	1	20		1.88	BP-27	1	20		2.31
With 3 wire molding rosette base.	BR-20	10	10		1.47	BR-27	10	10		1.90
With combination rosette base.	BS-20*	10	10		1.47	BS-27*	10	10		1.90
	BT-20	10	10		1.47	BT-27	10	10		1.90
	BU-20	10	10		1.47	BU-27	10	10		1.90
	BV-20	10	10		1.47	BV-27	10	10		1.90

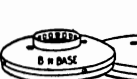
Standard finish is brush or old brass, which shall be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listings elsewhere.

Bodies are regularly furnished with short chain and 10 feet of best quality linen cord. Extra cord 2 cents list per foot. For extension chain guides, insulated chain, etc., see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National Electrical Code Standard.



"NEW WRINKLE" SOCKETS



No. 21
3 Amperes, 125 Volts
1 Ampere, 250 Volts



No. 28
3 Amperes, 125 Volts
1 Ampere, 250 Volts

S. P. and Electrolier Pull Fixture Switch

Schedule "H"

Description	S. P. Pull Fixture Switch					Electrolier Pull Fixture Switch Operating 1, 2, 1 and 2, Off				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
Body, without cap or base.	21	10	50		\$0.98	28	10	50		\$1.42
With 1/4 in. cap.	AA-21	10	50		1.08	AA-28	10	50		1.52
With 1/4 in. cap.	AB-21	10	20		1.21	AB-28	10	20		1.65
With 1/4 in. cap.	AC-21	10	20		1.17	AC-28	10	20		1.60
With 1/4 in. cap.	AD-21	10	20		1.26	AD-28	10	20		1.69
With 1/4 in. male cap.	AE-21	10	20		1.08	AE-28	10	20		1.62
With 1/4 in. male cap.	AF-21	10	20		1.21	AF-28	10	20		1.65
With 1/4 in. male cap.	AG-21	10	20		1.21	AG-28	10	20		1.65
With 1/4 in. male cap.	AH-21	10	20		1.30	AH-28	10	20		1.73
With 1/4 in. fixture cap.	AK-21	10	20		1.17	AK-28	10	20		1.60
With 1/4 in. fixture cap.	AL-21	10	20		1.21	AL-28	10	20		1.65
With 1/4 in. angle cap.	AM-21	10	20		1.16	AM-28	10	20		1.59
With 1/4 in. angle cap.	AN-21	10	20		1.29	AN-28	10	20		1.72
With 1/4 in. angle cap.	AP-21	10	20		1.24	AP-28	10	20		1.67
With 1/4 in. angle fixture cap.	AR-21	10	20		1.24	AR-28	10	20		1.67
With 1/4 in. angle fixture cap.	AS-21	10	20		1.29	AS-28	10	20		1.72
With pendant cap.	AT-21	10	20		1.08	AT-28	10	20		1.52
With strain relief cap.	AU-21	10	20		1.08	AU-28	10	20		1.52
With attachment plug.	AV-21	10	20		1.37	AV-28	10	20		1.80
With cleat base.	AW-21	10	20		1.31	AW-28	10	20		1.75
With slotted base.	AX-21	10	20		1.24	AX-28	10	20		1.67
With small concealed base.	AY-21	10	20		1.24	AY-28	10	20		1.67
With large concealed base.	AZ-21†	10	20		1.31	AZ-28†	10	20		1.75
With angle concealed base.	BA-21	10	20		1.31	BA-28	10	20		1.75
With base for 1/4 and 1/2 in. conduits.	BC-21	10	20		1.31	BC-28	10	20		1.75
With base for 1/2 in. conduit.	BN-21	10	20		1.31	BN-28	10	20		1.75
With base for 1/2 and 3/4 in. taplets.	BW-21	10	20		1.31	BW-28	10	20		1.75
With wood molding base.	BB-21	10	20		1.24	BB-28	10	20		1.67
With one way National base.	BD-21	10	20		1.24	BD-28	10	20		1.67
With two way National base.	BE-21	10	20		1.24	BE-28	10	20		1.67
With small covered base.	BH-21	10	20		1.40	BH-28	10	20		1.82
With large covered base.	BK-21	10	20		1.52	BK-28	10	20		1.95
With 3/4 in. box base.	BL-21	5	20		1.52	BL-28	5	20		1.95
With 4 in. box base.	BM-21	1	20		1.95	BM-28	1	20		2.38
With 3/4 in. pancake base.	BN-21	5	20		1.66	BN-28	5	20		2.09
With 4 in. pancake base.	BP-21	1	20		2.06	BP-28	1	20		2.52
With concealed rosette base.	BR-21	10	10		1.69	BR-28	10	10		2.12
With cleat rosette base.	BS-21*	10	10		1.69	BS-28*	10	10		2.12
With 2 wire molding rosette base.	BT-21	10	10		1.69	BT-28	10	10		2.12
With 3 wire molding rosette base.	BU-21	10	10		1.69	BU-28	10	10		2.12
With combination rosette base.	BV-21	10	10		1.69	BV-28	10	10		2.12

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere.

Bodies are regularly furnished with short chain and 10 feet of best quality linen cord. Extra cord 2 cents list per foot. For extra chain, insulated chain, etc., see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National Electrical Code Standard.



Wiring Devices

"NEW WRINKLE" SOCKETS



No. 22
3 Amperes, 125 Volts
1 Ampere, 250 Volts



No. 24
3 Amperes, 125 Volts
1 Ampere, 250 Volts

Key and Pull Candle Switches

Schedule "H"

Description	**Key Candle Switch					††Pull Candle Switch				
	List No.	Car-ton	Std Pkg.	Pkg. Wt. Lbs.	List Price Com-plete	List No.	Car-ton	Std Pkg.	Pkg. Wt. Lbs.	List Price Com-plete
Body, without cap or base.	22	10	50		\$0.38	24	10	50		\$0.77
With 1/4 in. cap.	AA-22	10	50		.48	AA-24	10	50		.87
With 1/2 in. cap.	AB-22	10	20		.61	AB-24	10	20		1.00
With 3/4 in. cap.	AC-22	10	20		.57	AC-24	10	20		.95
With 1 in. cap.	AD-22	10	20		.65	AD-24	10	20		1.04
With 1 1/4 in. male cap.	AE-22	10	20		.48	AE-24	10	20		.87
With 1 1/2 in. male cap.	AF-22	10	20		.61	AF-24	10	20		1.00
With 1 3/4 in. male cap.	AG-22	10	20		.61	AG-24	10	20		1.00
With 2 in. male cap.	AH-22	10	20		.70	AH-24	10	20		1.08
With 1/4 in. fixture cap.	AK-22	10	20		.57	AK-24	10	20		.95
With 1/2 in. fixture cap.	AL-22	10	20		.61	AL-24	10	20		1.00
With 3/4 in. angle cap.	AM-22	10	20		.55	AM-24	10	20		.85
With 1 in. angle cap.	AN-22	10	20		.68	AN-24	10	20		1.07
With 1 1/4 in. angle cap.	AP-22	10	20		.64	AP-24	10	20		1.03
With 1 1/2 in. angle fixture cap.	AR-22	10	20		.64	AR-24	10	20		1.03
With 1 3/4 in. angle fixture cap.	AS-22	10	20		.68	AS-24	10	20		1.07
With pendant cap.	AT-22	10	20		.48	AT-24	10	20		.87
With strain relief cap.	AU-22	10	20		.48	AU-24	10	20		.87
With attachment plug.	AV-22	10	20		.77	AV-24	10	20		1.16
With cleat base.	AW-22	10	20		.71	AW-24	10	20		1.10
With slotted base.	AX-22	10	20		.64	AX-24	10	20		1.03
With small concealed base.	AY-22	10	20		.64	AY-24	10	20		1.03
With large concealed base.	AZ-22†	10	20		.71	AZ-24†	10	20		1.10
With angle concealed base.	BA-22	10	20		.71	BA-24	10	20		1.10
With base for 1/4 and 1/2 in. conduits.	BC-22	10	20		.71	BC-24	10	20		1.10
†With base for 1/4 in. con- let.	BX-22	10	20		.71	BX-24	10	20		1.10
†With base for 1/4 and 1/2 in. taplets.	BW-22	10	20		.71	BW-24	10	20		1.10
With wood molding base.	BB-22	10	20		.64	BB-24	10	20		1.03
With one way National Base	BD-22	10	20		.64	BD-24	10	20		1.03
With two way National base	BE-22	10	20		.64	BE-24	10	20		1.03
With small covered base.	BH-22	10	20		.78	BH-24	10	20		1.17
With large covered base.	BK-22	10	20		.91	BK-24	10	20		1.30
With 3 1/4 in. box base.	BL-22	5	20		.91	BL-24	5	20		1.30
With 3 1/2 in. box base.	BM-22	1	20		1.34	BM-24	5	20		1.73
With 4 in. box base.	BN-22	5	20		1.06	BN-24	5	20		1.44
With 4 in. pancake base.	BP-22	1	20		1.49	BP-24	1	20		1.88
With concealed rosette base.	BR-22	10	10		1.08	BR-24	10	10		1.47
With cleat rosette base.	BS-22*	10	10		1.08	BS-24*	10	10		1.47
With 2 wire molding rosette base.	BT-22	10	10		1.08	BT-24	10	10		1.47
With 3 wire molding rosette base.	BU-22	10	10		1.08	BU-24	10	10		1.47
With combination rosette base.	BV-22	10	10		1.08	BV-24	10	10		1.47

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere.

**For long keys, metal keys, switches with threaded stems, and other special sockets, see listing elsewhere.

††Bodies are regularly furnished with 8 inches of chain. For extra chain, cord, instead of chain, extension chain guides, etc., see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptboxes.

‡National Electrical Code Standard.



"NEW WRINKLE" SOCKETS

No. 23
3 Amperes, 125 Volts
1 Ampere, 250 VoltsNo. 29
10 Amperes, 250 VoltsTurn Candle Switch and "Spartan" Plug
Receptacle Schedule "H"

Description	Turn Candle Switch					"Spartan" Plug Receptacle				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
Body, without cap or base.	23	10	30		\$0.98	29	10	20		\$0.55
With 1/4 in. cap.	AA-23	10	10		1.08	AA-29	10	20		.65
With 1/2 in. cap.	AB-23	10	10		1.21	AB-29	10	20		.74
With 3/4 in. cap.	AC-23	10	10		1.17	AC-29	10	20		.71
With 1 in. cap.	AD-23	10	10		1.20	AD-29	10	20		.82
With 1/4 in. male cap.	AE-23	10	10		1.08	AE-29	10	20		.65
With 1/2 in. male cap.	AF-23	10	10		1.21	AF-29	10	20		.78
With 3/4 in. male cap.	AG-23	10	10		1.21	AG-29	10	20		.79
With 1 in. male cap.	AH-23	10	10		1.30	AH-29	10	20		.87
With 1/4 in. fixture cap.	AK-23	10	10		1.17	AK-29	10	20		.74
With 1/2 in. fixture cap.	AL-23	10	10		1.21	AL-29	10	20		.78
With 3/4 in. angle cap.	AM-23	10	10		1.16	AM-29	10	20		.72
With 1 in. angle cap.	AN-23	10	10		1.29	AN-29	10	20		.85
With 1/4 in. angle cap.	AP-23	10	10		1.24	AP-29	10	20		.81
With 1/2 in. angle fixture cap.	AR-23	10	10		1.24	AR-29	10	20		.81
With 3/4 in. angle fixture cap.	AS-23	10	10		.29	AS-29	10	20		.85
With pendant cap.	AT-23	10	10		1.08	AT-29	10	20		.65
With strain relief cap.	AU-23	10	10		1.08	AU-29	10	20		.65
With attachment plug.	AV-23	10	10		1.36	AV-29	10	20		.94
With cleat base.	AW-23	10	10		1.31	AW-29	10	20		.88
With slotted base.	AX-23	10	10		1.24	AX-29	10	20		.81
With small concealed base.	AY-23	10	10		1.31	AY-29	10	20		.81
With large concealed base.	AZ-23†	10	10		1.31	AZ-29†	10	20		.88
With angle concealed base.	BA-23	10	10		1.31	BA-29	10	20		.88
With base for 1/2 and 3/4 in. conduits.	BC-23	10	10		1.31	BC-29	10	20		.88
With base for 1/2 in. conduit.	BX-23	10	10		1.31	BX-29	10	20		.88
With base for 1/2 and 3/4 in. taplets.	BW-23	10	10		1.31	BW-29	10	20		.88
With wood molding base.	BB-23	10	10		1.24	BB-29	10	20		.81
With one way National base.	BD-23	10	10		1.24	BD-29	10	20		.81
With two way National base.	BE-23	10	10		1.24	BE-29	10	20		.81
With small covered base.	BH-23	10	10		1.39	BH-29	10	20		.95
With large covered base.	BK-23	10	10		1.52	BK-29	10	20		1.08
With 3 1/4 in. box base.	BL-23	5	10		1.52	BL-29	5	20		1.08
With 4 in. box base.	BM-23	1	10		1.95	BM-29	1	20		1.52
With 3 1/4 in. pancake base.	BN-23	5	10		1.66	BN-29	5	20		1.23
With 4 in. pancake base.	BP-23	1	10		2.09	BP-29	1	20		1.66
With concealed rosette base.	BR-23	10	10		1.69	BR-29	10	10		1.26
With cleat rosette base.	BS-23*	10	10		1.69	BS-29*	10	10		1.26
With 2 wire molding rosette base.	BT-23	10	10		1.69	BT-29	10	10		1.26
With 3 wire molding rosette base.	BU-23	10	10		1.69	BU-29	10	10		1.26
With combination rosette base.	BV-23	10	10		1.69	BV-29	10	10		1.26

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere.

*Approved rating 2 amperes, 125 volts.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National Electrical Standard Code.



Wiring Devices

"WRINKLET" FIXTURE SOCKETS



WA



WB



WC



WE



WF



WG



WK



WL



WM



WN



WP



WR



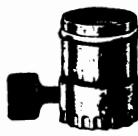
WS



WT



No. 81
660 W., 250 V.



No. 80
250 W., 250 V.



No. 82
660 W., 250 V.



No. 83
660 W., 250 V.



No. 95
660 W., 250 V.



No. 85
250 W., 250 V.



No. 84
250 W., 250 V.



No. 86
6 Amp., 125 V.
3 Amp., 250 V.



No. 92
3 Amp., 125 V.
1 Amp., 250 V.

Bryant Sockets and Switches

**S.P. Push Button Socket
Schedule "B"**

**S.P. Key Socket
Schedule "B"**

**Q.T. Key Socket
Schedule "B"**

Description	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete
Body, without cap.....	81	500	\$0.32	80	500	\$0.32	82	500	\$0.35
With 1/4 in. cap.....	WA-81	500	.40	WA-80	500	.40	WA-82	500	.44
With 1/2 in. cap.....	WB-81	250	.51	WB-80	250	.51	WB-82	250	.54
With 3/4 in. cap.....	WC-81	250	.47	WC-80	250	.47	WC-82	250	.51
With 1 in. male cap.....	WE-81	500	.40	WE-80	500	.40	WE-82	500	.44
With 1 1/4 in. male cap.....	WF-81	250	.51	WF-80	250	.51	WF-82	250	.54
With 1 1/2 in. male cap.....	WG-81	250	.51	WG-80	250	.51	WG-82	250	.54
With 1 3/4 in. fixture cap.....	WK-81	250	.47	WK-80	250	.47	WK-82	250	.51
With 2 in. fixture cap.....	WL-81	250	.51	WL-80	250	.51	WL-82	250	.54
With 2 1/4 in. angle cap.....	WM-81	100	.46	WM-80	100	.46	WM-82	100	.50
With 2 1/2 in. angle cap.....	WN-81	100	.57	WN-80	100	.57	WN-82	100	.60
With 2 3/4 in. angle cap.....	WP-81	100	.53	WP-80	100	.53	WP-82	100	.57
With 3 in. angle fixture cap.....	WR-81	100	.53	WR-80	100	.53	WR-82	100	.57
With 3 1/4 in. angle fixture cap.....	WS-81	100	.57	WS-80	100	.57	WS-82	100	.60
With pendent cap.....	WT-81	500	.40	WT-80	500	.40	WT-82	500	.44

**Std. Keyless Socket
Schedule "B"**

**Short Keyless Socket
Schedule "B"**

**Pull Socket
Schedule "B"**

Description	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete
Body, without cap.....	83	500	\$0.28	95	500	\$0.28	85	250	\$0.64
With 1/4 in. cap.....	WA-83	500	.36	WA-95	500	.36	WA-85	250	.72
With 1/2 in. cap.....	WB-83	250	.47	WB-95	250	.47	WB-85	100	.83
With 3/4 in. cap.....	WC-83	250	.44	WC-95	250	.44	WC-85	100	.80
With 1 in. male cap.....	WE-83	500	.36	WE-95	500	.36	WE-85	100	.72
With 1 1/4 in. male cap.....	WF-83	250	.47	WF-95	250	.47	WF-85	100	.83
With 1 1/2 in. male cap.....	WG-83	250	.47	WG-95	250	.47	WG-85	100	.83
With 1 3/4 in. fixture cap.....	WK-83	250	.44	WK-95	250	.44	WK-85	100	.80
With 2 in. fixture cap.....	WL-83	250	.47	WL-95	250	.47	WL-85	100	.83
With 2 1/4 in. angle cap.....	WM-83	100	.42	WM-95	100	.42	WM-85	50	.78
With 2 1/2 in. angle cap.....	WN-83	100	.53	WN-95	100	.53	WN-85	50	.89
With 2 3/4 in. angle cap.....	WP-83	100	.50	WP-95	100	.50	WP-85	50	.86
With 3 in. angle fixture cap.....	WR-83	100	.50	WR-95	100	.50	WR-85	50	.86
With 3 1/4 in. angle fixture cap.....	WS-83	100	.53	WS-95	100	.53	WS-85	50	.89
With pendent cap.....	WT-83	500	.36	WT-95	500	.36	WT-85	250	.72

**Turn Socket
Schedule "H"**

**Push Button Candle Sw.
Schedule "H"**

**Key Candle Sw.
Schedule "H"**

Description	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete
Body, without cap.....	84	100	\$0.64	96	50	\$0.38	92	50	\$0.38
With 1/4 in. cap.....	WA-84	100	.72	WA-96	50	.48	WA-92	50	.48
With 1/2 in. cap.....	WB-84	50	.83	WB-96	20	.61	WB-92	20	.61
With 3/4 in. cap.....	WC-84	50	.80	WC-96	20	.57	WC-92	20	.57
With 1 in. male cap.....	WD-84	50	.72	WD-96	20	.48	WD-92	20	.48
With 1 1/4 in. male cap.....	WE-84	50	.83	WE-96	20	.61	WE-92	20	.61
With 1 1/2 in. male cap.....	WF-84	50	.83	WF-96	20	.61	WF-92	20	.61
With 1 3/4 in. fixture cap.....	WG-84	50	.80	WG-96	20	.57	WG-92	20	.57
With 2 in. fixture cap.....	WL-84	50	.83	WL-96	20	.61	WL-92	20	.61
With 2 1/4 in. angle cap.....	WM-84	50	.78	WM-96	20	.55	WM-92	20	.55
With 2 1/2 in. angle cap.....	WN-84	50	.89	WN-96	20	.68	WN-92	20	.68
With 2 3/4 in. angle cap.....	WP-84	50	.86	WP-96	20	.64	WP-92	20	.64
With 3 in. angle fixture cap.....	WR-84	50	.86	WR-96	20	.64	WR-92	20	.64
With 3 1/4 in. angle fixture cap.....	WS-84	50	.89	WS-96	20	.68	WS-92	20	.68
With pendent cap.....	WT-84	100	.72	WT-96	50	.48	WT-92	50	.48

NOTE: Carton quantity of 25, except the Nos. 96, 92, 93 and 90 groups which are 10.
Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere.
† National Electrical Code Standard.

"WRINKLET" FIXTURE SOCKETS



WA



WB



WC



WE



WF



WG



WK



WL



WM



WN



WR



WS



WT

No. 94
3 Amp., 125 V.
1 Amp., 250 V.No. 93
3 Amp., 125 V.
1 Amp., 250 V.No. 90
3 Amp., 125 V.
1 Amp., 250 V.

No. 91

Bryant Sockets and Switches

Description	Schedule "H" Pull Candle Switch			Schedule "H" Turn Candle Switch			Schedule "H" S.P. Pull Switch		
	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete	List No.	Std. Pkg.	List Price Complete
†Body, without cap.	94	50	\$0.77	93	30	\$0.98	90	50	\$0.77
With 1/4 in. cap.	WA-94	50	.87	WA-93	10	1.08	WA-90	50	.87
With 1/2 in. cap.	WB-94	20	1.00	WB-93	10	1.21	WB-90	20	1.00
With 3/4 in. cap.	WC-94	20	.96	WC-93	10	1.17	WC-90	20	.96
With 1/2 in. male cap.	WE-94	20	.87	WE-93	10	1.08	WE-90	20	.87
With 3/4 in. male cap.	WF-94	20	1.00	WF-93	10	1.21	WF-90	20	1.00
With 1/2 in. male cap.	WG-94	20	1.00	WG-93	10	1.21	WG-90	20	1.00
With 3/4 in. fixture cap.	WK-94	20	.96	WK-93	10	1.17	WK-90	20	.96
With 1/2 in. fixture cap.	WL-94	20	1.00	WL-93	10	1.21	WL-90	20	1.00
With 3/4 in. angle cap.	WM-94	20	.94	WM-93	10	1.15	WM-90	20	.94
With 1/2 in. angle cap.	WN-94	20	1.07	WN-93	10	1.29	WN-90	20	1.07
With 3/4 in. angle cap.	WP-94	20	1.03	WP-93	10	1.24	WP-90	20	1.03
With 1/2 in. angle fixture cap.	WR-94	20	1.03	WR-93	10	1.24	WR-90	20	1.03
With 3/4 in. angle fixture cap.	WS-94	20	1.07	WS-93	10	1.29	WS-90	20	1.07
With pendent cap.	WT-94	50	.87	WT-93	10	1.08	WT-90	50	.87

NOTE: Carton quantity of 25, except the Nos. 96, 92, 93 and 90 groups which are 10.

Single Pole Pull Fixture Switches

3 AMPERES, 125 VOLTS—1 AMPERE, 250 VOLTS Schedule "H"

List No.	Description	Carton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
91	†Body, without cap.	10	50	..	\$0.98
WA-91	With 1/4 inch cap.	10	50	..	1.08
WB-91	With 1/2 inch cap.	10	20	..	1.21
WC-91	With 3/4 inch cap.	10	20	..	1.17
WE-91	With 1/2 inch male cap.	10	20	..	1.08
WF-91	With 3/4 inch male cap.	10	20	..	1.21
WG-91	With 1/2 inch male cap.	10	20	..	1.21
WK-91	With 3/4 inch fixture cap.	10	20	..	1.17
WL-91	With 1/2 inch fixture cap.	10	20	..	1.21
WM-91	With 3/4 inch angle cap.	10	20	..	1.20
WN-91	With 1/2 inch angle cap.	10	20	..	1.24
WP-91	With 3/4 inch angle cap.	10	20	..	1.24
WR-91	With 1/2 inch angle fixture cap.	10	20	..	1.29
WS-91	With 3/4 inch angle fixture cap.	10	20	..	1.29
WT-91	With pendent cap.	10	50	..	1.08

"WRINKLET" FIXTURE CAPS

List No.	Description	Carton	Std. Pkg.	Wt. Lbs.	List Price Each
WA	1/4 inch cap.	25	500	..	\$0.10
WB	1/2 inch cap.	25	100	..	.73
WC	3/4 inch cap.	25	250	..	.19
WE	1/2 inch male cap.	25	50	..	.21
WF	3/4 inch male cap.	25	50	..	.23
WG	1/2 inch male cap.	25	50	..	.19
WK	3/4 inch fixture cap.	25	50	..	.23
WL	1/2 inch fixture cap.	25	50	..	.18
WM	3/4 inch angle cap.	25	100	..	.26
WN	1/2 inch angle cap.	25	50	..	.26
WP	3/4 inch angle cap.	25	50	..	.31
WR	1/2 inch angle fixture cap.	25	50	..	.31
WS	3/4 inch angle fixture cap.	25	50	..	.10
WT	Pendent cap.	25	500	..	..

Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. For special finishes, see listing elsewhere. Bodies are regularly furnished with short chain and 10 feet of best quality linen cord. Extra cord, 25 cent list per foot. For insulated chain, etc., see listing elsewhere.

†National Electrical Code Standard.

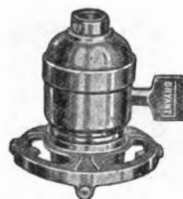
BRYANT SHADE HOLDER SOCKETS

Key and Pull Sockets, 250 Watts, 250 Volts

Keyless Sockets, 660 Watts, 250 Volts



No. 7540



No. 27740

"New Wrinkle" Sockets

WITH 2 1/4 INCH "NEW WRINKLE" SHADE HOLDER

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
7540 ^A	Key, Single Pole—1/8 inch cap.	25	500	170	\$0.50
4540 ^A	Key, Double Pole—1/8 inch cap.	25	500	170	.50
7541 ^A	Keyless—1/8 inch cap.	25	500	160	.46
4541 ^A	Pull—1/8 inch cap.	25	250	166	.82

WITH FORM "H" "NEW WRINKLE" SHADE HOLDER

Schedule "B"

7542 ^A	Key, Single Pole—1/8 inch cap.	25	500	200	\$0.54
4542 ^A	Key, Double Pole—1/8 inch cap.	25	500	200	.54
7543 ^A	Keyless—1/8 inch cap.	25	500	180	.51
4543 ^A	Pull—1/8 inch cap.	25	250	75	.87

WITH 3/4 INCH "NEW WRINKLE" SHADE HOLDER

Schedule "B"

5544 ^A	Key, Single Pole—1/8 inch cap.	10	100	50	\$0.59
4544 ^A	Key, Double Pole—1/8 inch cap.	10	100	50	.59
7545 ^A	Keyless—1/8 inch cap.	10	100	45	.56
4545 ^A	Pull—1/8 inch cap.	10	100	48	.92

WITH 2 1/4 INCH 3-SCREW SHADE HOLDER

Schedule "B"

59488 ^A	Key, Single Pole—1/8 inch cap.	25	500	140	\$0.47
4493 ^A	Key, Double Pole—1/8 inch cap.	25	500	140	.47
59490 ^A	Keyless—1/8 inch cap.	25	500	130	.44
65253 ^A	Pull—1/8 inch cap.	25	250	70	.80

WITH FORM "H" 3-SCREW SHADE HOLDER

Schedule "B"

7520 ^A	Key, Single Pole—1/8 inch cap.	25	500	190	\$0.52
4520 ^A	Key, Double Pole—1/8 inch cap.	25	500	190	.52
7521 ^A	Keyless—1/8 inch cap.	25	500	180	.48
4521 ^A	Pull—1/8 inch cap.	25	250	90	.84

WITH 3/4 INCH 3-SCREW SHADE HOLDER

Schedule "B"

59494 ^A	Key, Single Pole—1/8 inch cap.	10	100	50	\$0.57
4496 ^A	Key, Double Pole—1/8 inch cap.	10	100	50	.57
59496 ^A	Keyless—1/8 inch cap.	10	100	45	.53
65256 ^A	Pull—1/8 inch cap.	10	100	30	.89

Bayonet Sockets

WITH 2 1/4 INCH 3-SCREW SHADE HOLDER

Schedule "B"

27740 ^A	Key—1/8 inch cap.	25	500	150	\$0.47
27741 ^A	Keyless—1/8 inch cap.	25	500	140	.44

WITH 3/4 INCH 3-SCREW SHADE HOLDER

29400 ^A	Key—1/8 inch cap.	10	100	40	\$0.57
29402 ^A	Keyless—1/8 inch cap.	10	100	40	.53

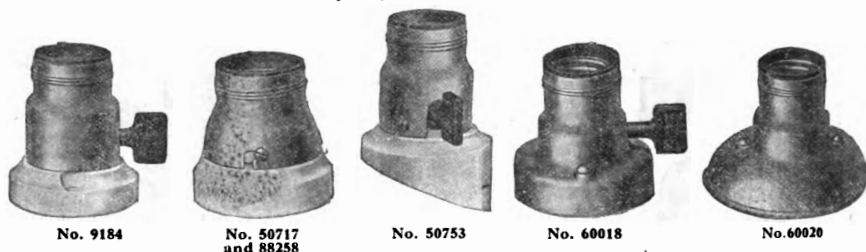
Standard finish is brush brass. For other finishes see listing on socket finishes.

^ANational Electrical Code Standard.

BRYANT WALL SOCKETS

Key Sockets, 250 Watts, 250 Volts

Keyless, 660 Watts, 250 Volts



No. 9184

No. 50717
and 88258

No. 50753

No. 60018

No. 60020

SOCKETS WITH STANDARD WALL BASE

Schedule "B"

List No.	Description	Diam. of Base, Inches	Screws Spaced on Centers, Inches	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
9184*	Key, concealed	2 $\frac{1}{8}$	1 $\frac{5}{8}$	10	250	85	\$0.53
9185*	Keyless, concealed	2 $\frac{1}{8}$	1 $\frac{5}{8}$	10	250	80	.50
50717*	Keyless, wall socket	2	1 $\frac{3}{4}$	10	250	63	.30
88258	Keyless Wall Socket	2	1 $\frac{3}{4}$	10	250	..	.30

SOCKETS WITH ANGLE BASE

Schedule "B"

50753*	Key, concealed	...	...	10	100	50	\$0.59
50755*	Keyless, concealed	...	...	10	100	45	.56

SOCKETS WITH BRASS COVERED BASE

Schedule "B"

60018*	Key, small, concealed	2 $\frac{1}{8}$	1 $\frac{5}{8}$	10	250	100	\$0.53
60019*	Keyless, small, concealed	2 $\frac{1}{8}$	1 $\frac{5}{8}$	10	250	95	.50
60020	Keyless, large, concealed	3 $\frac{1}{8}$	1 $\frac{5}{8}$ & 2	10	100	65	.54

*See listing on "brass conduit box covers" for 60020 socket.



No. 50783

No. 50747

No. 50748

No. 50785

SOCKETS WITH REMOVABLE RINGS

Schedule "B"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
†50783	Key, with D. P. fuse	2 $\frac{3}{4}$ ins.	2 ins.	10	250	150	\$0.72
†50784	Keyless, with D. P. fuse	2 $\frac{3}{4}$ ins.	2 ins.	10	250	140	.69
50747	Key	2 $\frac{3}{4}$ ins.	1 $\frac{5}{8}$ ins.	10	250	85	.53
50723	Keyless, solid white base	2 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	100	25	.36
50745	Keyless, slotted white base	2 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	250	60	.36
29176	Keyless, solid brown base	2 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	100	25	.36
50786	Keyless, slotted brown base	2 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	250	60	.36
50748	Key, small covered base	2 ins.	1 $\frac{1}{2}$ ins.	10	250	85	.48
50746	Keyless, small covered base	2 ins.	1 $\frac{1}{4}$ ins.	10	250	60	.48
†50785	Keyless, large covered base	3 $\frac{1}{8}$ ins.	2 ins.	10	100	55	.54
24998	Keyless, for switchboard	2 $\frac{3}{4}$ ins.	...	10	100	20	.36

No. 24998 is for switchboard work. Has studs for rear connections.

†See listing on "brass conduit box covers" for 50783 socket.

Standard finish is brush brass.

For other finishes see listing on socket finishes.

* National Electrical Code Standard.

BRYANT SOCKETS

Rosette Sockets



No. 50729



No. 24992

SOCKETS WITH K.-W. CONCEALED ROSETTE BASE

Schedule "B"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
50729 ^a	Key	2 $\frac{1}{8}$ ins.	1 $\frac{5}{8}$ ins.	10	100	81	\$0.90
50732 ^a	Keyless	2 $\frac{1}{8}$ ins.	1 $\frac{5}{8}$ ins.	10	50	50	.87

SOCKETS WITH K.-W. CLEAT ROSETTE BASE

Schedule "B"

50730 ^a	Key		1 $\frac{5}{8}$ ins.	10	100	84	\$0.90
50733 ^a	Keyless		1 $\frac{5}{8}$ ins.	10	50	50	.87

SOCKETS WITH K.-W. TWO-WIRE MOLDING ROSETTE BASE

Schedule "B"

50731	Key		1 $\frac{5}{8}$ ins.	10	100	84	\$0.90
50734	Keyless		1 $\frac{5}{8}$ ins.	10	50	45	.87

SOCKETS WITH K.-W. THREE-WIRE MOLDING ROSETTE BASE

Schedule "B"

45361	Key		2 $\frac{3}{8}$ ins.	10	100	90	\$0.90
45362	Keyless		2 $\frac{3}{8}$ ins.	10	50	45	.87

SOCKETS WITH K.-W. COMBINATION ROSETTE BASE

Schedule "B"

28727	Key		1 $\frac{5}{8}$ ins.	10	100	90	\$0.90
28732	Keyless		1 $\frac{5}{8}$ ins.	10	50	45	.87

SOCKETS WITH THOMAS CONCEALED ROSETTE BASE

Schedule "B"

24990 ^a	Key	2 $\frac{1}{8}$ ins.	1 $\frac{5}{8}$ ins.	10	100	95	\$0.90
24993 ^a	Keyless	2 $\frac{1}{8}$ ins.	1 $\frac{5}{8}$ ins.	10	50	47	.87

SOCKETS WITH THOMAS CLEAT ROSETTE BASE

Schedule "B"

24991 ^a	Key		1 $\frac{5}{8}$ ins.	10	100	95	\$0.90
24994 ^a	Keyless		1 $\frac{5}{8}$ ins.	10	50	47	.87

SOCKETS WITH THOMAS TWO-WIRE MOLDING ROSETTE BASE

Schedule "B"

24992	Key		1 $\frac{5}{8}$ ins.	10	100	90	\$0.90
24995	Keyless		1 $\frac{5}{8}$ ins.	10	50	43	.87

Standard finish is brush brass.

For other finishes see listing on socket finishes.

^a National Electrical Code Standard.

BRYANT INTERCHANGEABLE PORCELAIN
LINE

Wiring Devices

No. 70
Key Socket
250 Watts, 250 VoltsNo. 73
Keyless Socket
660 Watts, 250 VoltsNo. 79
Receptacle
10 Amp, 250 VoltsNo. 75
Pull Socket
250 Watts, 250 Volts

Schedule B

Description	S.P. Key Socket					Keyless Socket				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
†Body, without cap or base	70	10	250	..	\$0.30	73	10	250	..	\$0.24
†With pendent cap.....	PT-70	10	250	105	..36	PT-73	10	250	80	..30
†With 1/2 in. cap.....	PA-70	10	100	50	..42	PA-73	10	100	45	..36
†With 1/2 in. cap.....	PB-70	10	100	55	..42	PB-73	10	100	35	..36
†With 1/2 in. cap.....	PC-70	10	100	55	..42	PC-73	10	100	35	..36
†With 1/2 in. cap (aluminum)	PD-70	10	100	50	..60	PD-73	10	100	40	..54
†With 1/2 in. angle cap.....	PP-70	10	100	..	..48	PP-73	10	100	..	..42
†With 1/2 in. angle cap (aluminum)	RW-70	10	100	..	..66	RW-73	10	100	..	..60
†With cleat base.....	PW-70	10	100	55	..42	PW-73	10	100	55	..36
†With large concealed base	PZ-70	10	100	55	..42	PZ-73	10	100	55	..36
†With wood molding base.....	RB-70	10	100	55	..42	RB-73	10	100	55	..36
†With 3/4 in. box base.....	RL-70	10	100	85	..54	RL-73	10	100	75	..48
†With 4 in. box base.....	RM-70	1	100	136	..60	RM-73	1	100	132	..54

Schedule H

Schedule B

Description	Spartan Receptacle					Pull Socket				
	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete	List No.	Car-ton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
†Body, without cap or base	79	10	50	..	\$0.29	75	10	100	..	\$0.90
†With pendent cap.....	PT-79	10	50	..	..36	PT-75	10	100	55	..96
†With 1/2 in. cap.....	PA-79	10	50	..	..44	PA-75	10	50	30	1.02
†With 1/2 in. cap.....	PB-79	10	50	..	..44	PB-75	10	50	30	1.02
†With 1/2 in. cap.....	PC-79	10	50	..	..44	PC-75	10	50	30	1.02
†With 1/2 in. cap (aluminum)	PD-79	10	20	..	..65	PD-75	10	50	32	1.20
†With 1/2 in. angle cap.....	PP-79	10	20	..	..51	PP-75	10	50	..	1.08
†With 1/2 in. angle cap (aluminum)	RW-79	10	20	..	..72	RW-75	10	50	..	1.26
†With cleat base.....	PW-79	10	20	..	..44	PW-75	10	50	30	1.02
†With large concealed base	PZ-79	10	20	..	..44	PZ-75	10	50	30	1.02
†With wood molding base.....	RB-79	10	20	..	..44	RB-75	10	50	30	1.14
†With 3/4 in. box base.....	RL-79	10	20	..	..58	RL-75	10	50	30	1.20
†With 4 in. box base.....	RM-79	1	20	..	..63	RM-75	1	50	50	1.20

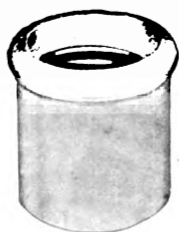
Standard finish of brass caps is brush or old brass, which will be shipped when no finish is specified. Polished brass when specified will be furnished without extra charge. Special finishes will be supplied at one-half the list prices given elsewhere.

*This cap can be furnished in aluminum at 18 cents list extra, Spartan Receptacle 22 cents list.

†This base is suitable for attachment to No. 500 Adaptiboxes.

‡National Electrical Code Standard.

MOGUL PORCELAIN SOCKETS



No. 4069



No. 4078



No. 4062



No. 4073

Keyless Mogul Porcelain Sockets
1500 Watts, 600 Volts—With Aluminum Caps

Schedule "B"

List No.		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4077	Without cap or yoke.....	1	50	..	\$0.84
4069	With $\frac{3}{8}$ inch cap.....	1	50	..	1.20
4070	With $\frac{1}{2}$ inch cap.....	1	50	..	1.20
4071	With $\frac{3}{4}$ inch cap.....	1	50	..	1.20

WITH CAST IRON YOKES

Schedule "B"

4078	With $\frac{3}{8}$ inch yoke.....	1	50	..	\$1.02
4079	With $\frac{1}{2}$ inch yoke.....	1	50	..	1.02
4080	With $\frac{3}{4}$ inch yoke.....	1	50	..	1.02

Holes for supporting screws of No. 4077 are spaced $1\frac{1}{2}$ inches on centers.

4062	For fixtures work.....	5	20	..	.66
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Holes for supporting screws are spaced $1\frac{3}{8}$ inches on centers.

KEYLESS MOGUL RECEPTACLES—1500 Watts, 250 Volts

Schedule "B"

4073	Cleat Receptacle.....	10	50	50	\$0.90
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Holes for supporting screws are spaced $2\frac{1}{8}$ inches on centers.



No. 4081



No. 4082



No. 4083

Weatherproof Keyless Mogul Porcelain Sockets

WITHOUT CAP OR YOKE

Schedule "B"

*4081	With 15 inch wires.....	1	50	..	\$0.84
†4088	No wires.....	1	50	..	.66

Holes for supporting screws are spaced $1\frac{1}{2}$ inches on centers.

WITH ALUMINUM CAPS

Schedule "B"

*4082	With 15 inch wires, $\frac{3}{8}$ inch cap.....	1	50	..	\$1.20
*4083	With 15 inch wires, $\frac{1}{2}$ inch cap.....	1	50	..	1.20
*4084	With 15 inch wires, $\frac{3}{4}$ inch cap.....	1	50	..	1.20
†4089	No wires, $\frac{3}{8}$ inch cap.....	1	50	..	1.02
†4090	No wires, $\frac{1}{2}$ inch cap.....	1	50	..	1.02
†4091	No wires, $\frac{3}{4}$ inch cap.....	1	50	..	1.02

WITH CAST IRON YOKES

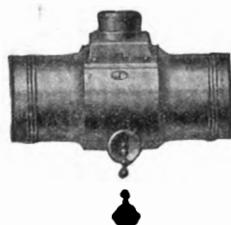
Schedule "B"

*4085	With 15 inch wires, $\frac{3}{8}$ inch cap.....	1	50	..	\$1.02
*4086	With 15 inch wires, $\frac{1}{2}$ inch cap.....	1	50	..	1.02
*4087	With 15 inch wires, $\frac{3}{4}$ inch cap.....	1	50	..	1.02
†4092	No wires, $\frac{3}{8}$ inch cap.....	1	50	..	.84
†4093	No wires, $\frac{1}{2}$ inch cap.....	1	50	..	.84
*4094	No wires, $\frac{3}{4}$ inch cap.....	1	50	..	.84

*Longer wires furnished at 5 cents list per foot per conductor.

†Preferable where wires of various lengths are wanted at short notice. Equipped with loop terminal, into which wires provided by customer may be hooked and soldered.

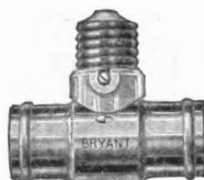
BRYANT AND PERKINS SOCKETS



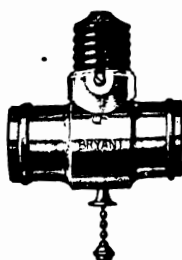
No. 4051



No. 46751



No. 4061



No. 4029

Twin Sockets

Keyless Sockets, 660 Watts, 250 Volts

Pull Sockets, 250 Watts, 250 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
46750 [▲]	Keyless— $\frac{1}{8}$ inch cap.	25	50	10	\$0.78
46751 [▲]	Keyless— $\frac{3}{8}$ inch cap.	25	50	10	.84
4061 [▲]	Keyless—with Edison plug.	10	50	30	1.20
*4051	Pull— $\frac{1}{8}$ inch cap.	10	50	20	1.20
*4052	Pull— $\frac{3}{8}$ inch cap.	10	50	20	1.28
†4005 [▲]	Pull— $\frac{1}{8}$ inch cap.	10	50	20	1.20
†4006 [▲]	Pull— $\frac{3}{8}$ inch cap.	10	50	20	1.28
†4053 [▲]	Pull— $\frac{1}{8}$ inch cap.	10	50	20	1.20
†4054 [▲]	Pull— $\frac{3}{8}$ inch cap.	10	50	20	1.28
*4029	Pull—with Edison plug.	5	50	30	1.62
†4039 [▲]	Pull—with Edison plug.	5	50	30	1.62
†4040 [▲]	Pull—with Edison plug.	5	50	30	1.62

Aluminum Shell Sockets

660 WATTS, 250 VOLTS

Schedule "B"



No. 4106

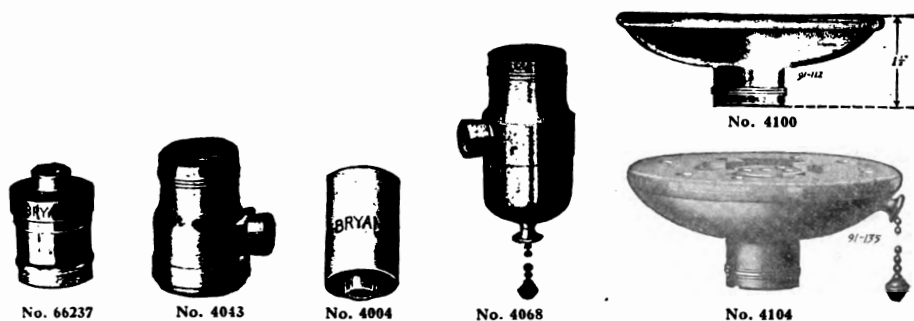
These sockets having aluminum shells are suitable for outdoor work. The shells are lined with porcelain and the sockets are therefore suitable for show window work and conform to the specifications of the National Board of Fire Underwriters as to the conditions under which insulating joints may be omitted.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4106 [▲]	Keyless, $\frac{3}{8}$ inch cap.	10	50	23	\$0.60
4107 [▲]	Keyless, $\frac{1}{2}$ inch cap.	10	50	22	.60

[▲]National Electrical Code Standard.

Wiring Devices

BRYANT AND PERKINS SOCKETS



Perkins Electrolier Sockets

660 Watts, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
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BRYANT ELECTROLIER SOCKET

Schedule "B"

66237 ^A	Keyless— $\frac{1}{8}$ inch cap.	50	250	45	\$0.48
50766	Keyless— $\frac{3}{8}$ inch cap.	10	100	20	.56

BRYANT ANGLE SOCKETS

Schedule "B"

4043 ^A	Keyless— $\frac{1}{8}$ inch cap.	25	100	25	\$0.42
4044 ^A	Keyless— $\frac{3}{8}$ inch cap.	25	100	28	.50

SOCKET FOR CANDLE FIXTURES

Schedule "B"

4004	Keyless— $\frac{1}{8}$ inch nipple.	25	250	15	\$0.36
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SOCKET FOR INDIRECT LIGHTING FIXTURES

4068	Pull, with bottom chain guide, and $\frac{1}{8}$ inch nozzle.	10	50	22	\$0.90
4116	Pull, with bottom chain guide, and $\frac{1}{8}$ inch 3 step nozzle.	10	50	22	.96

WALL SOCKETS FOR $3\frac{1}{4}$ INCH OUTLET BOXES

Schedule "B"

4102	Keyless Wall Socket.	..	100	..	\$0.54
4103	Keyless Wall Socket, with 6 inch wire leads.	..	100	..	.60

Outside diameter of base is $3\frac{1}{4}$ inches.

Holes for supporting screws are spaced $2\frac{3}{4}$ inches on centers.

WALL SOCKETS FOR $3\frac{1}{4}$ AND 4 INCH OUTLET BOXES

Schedule "B"

4100	Keyless Wall Socket.	1	100	..	\$0.72
4101	Keyless Wall Socket, with 6 inch wire leads.	1	100	..	.78
4104	Pull Wall Socket, with flat back.	..	50	..	1.56
4105	Pull Wall Socket, with flat back with 6 inch wire leads.	..	50	..	1.62

Outside diameter of base is $4\frac{5}{8}$ inches.

Holes for supporting screws are spaced $2\frac{3}{4}$ and $3\frac{1}{2}$ inches on centers.

Standard finishes are brush brass, old brass, polished brass.

For other finishes see listing on socket finishes.

^ANational Electrical Code Standard.

SOCKETS AND CONDUIT BOX COVERS



No. 4055



No. 4030*

Attached to 4 Inch "Pancake" Box



No. 4030

Attached to 4 Inch Deep Box

Sockets for "Pancake" Boxes

Schedule "B"

660 Watts, 250 Volts

These Sockets may be installed in most $3\frac{1}{4}$ and 4 inch round and octagonal outlet boxes having lugs and in all 4 inch "pancake" boxes whether with or without lugs. When the socket is installed in a "pancake" box, the supporting steel bridges are discarded and two expansion bolts, which form a part of the socket, are inserted in the holes in the bottom of the box.

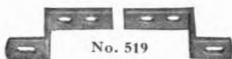
List No.	Description	Diam. of Covers, Inches	Screws Spaced on Centers, Inches	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4055 [▲]	With stranded wires, no cover.....		$2\frac{3}{4}$ & $3\frac{1}{2}$	10	100	...	\$0.42
4030 [▲]	With binding screws, no cover.....		$2\frac{3}{4}$ & $3\frac{1}{2}$	10	100	45	.36
4031 [▲]	Brass cover for $3\frac{1}{4}$ inch box.....	$3\frac{3}{4}$		10	100	20	.30
4032 [▲]	Brass cover for 4 inch box.....	$4\frac{3}{4}$		10	100	25	.48

Expansion bolts are spaced $1\frac{1}{4}$ inches on centers.

No. 4055 is fitted with 6 inches of No. 14 B. & S. Stranded Rubber-covered Wire. Longer wires on special order. Extra charge, 6 cents net per foot. (3 cents each conductor.)



No. 537



No. 519



No. 538

BRIDGES FOR PANCAKE RECEPTACLES



No. 374

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
519	For $3\frac{1}{4}$ inch and 4 inch round boxes (per pair).....	50 pr.	50 pr.	3	\$0.06
537	For 4 inch square boxes with open covers.....	50 pr.	50 pr.	4	.06
538	With $\frac{3}{8}$ inch female thread for attachment to fixture stud or iron pipe.....	50 pr.	50 pr.	4	.06

Brass Conduit Box Covers

For Attaching Large Base Wall Sockets

Schedule "H"

*374 [▲]	For $3\frac{1}{4}$ inch box.....	25	100	12	\$0.26
*377 [▲]	For 4 inch box.....	25	100	22	.34
For Attaching Receptacle No. 59107 and 4074					
364 [▲]	For $3\frac{1}{4}$ inch box.....	25	100	12	\$0.26
365 [▲]	For 4 inch box.....	25	100	22	.34
For Attaching Receptacles Nos. 4014 and 4057					
409 [▲]	For $3\frac{1}{4}$ inch box.....	25	100	12	\$0.26
410 [▲]	For 4 inch box.....	25	100	22	.34
For Attaching Receptacles Nos. 61988, 4035, 4003, 4072, 4099, 59108, 4036, 4109 and 4023					
459 [▲]	For $3\frac{1}{4}$ inch box.....	25	100	12	\$0.26
460 [▲]	For 4 inch box.....	25	100	22	.34

*For attaching all BK "New Wrinkle" Bases and also the following List Nos.: 60020, 50785, 50783, 50784. Standard finish is brush brass. For other finishes see listing on socket finishes.

[▲]National Electrical Code Standard.
Wiring Devices

BRYANT SOCKETS



No. 25706



No. 25707

Street Hood Sockets

660 Watts, 250 Volts

Schedule "B"

The malleable iron yoke is threaded for $\frac{3}{8}$ inch iron pipe.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
25706 ^a	With side lugs.	10	100	75	\$0.33

660 Watts, 600 Volts

Schedule "B"

25707 ^a	With wire leads.	10	100	80	\$0.53
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No. 25707 is fitted with 6 inches of No. 14 B. & S. Stranded Rubber-covered Wire. Longer wire on special order. Extra charge, 6 cents per foot (3 cents each conductor).



No. 4021



No. 4095



No. 4097

Sockets for Mogul Base Lamps

660 Watts, 600 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4021 ^a	Keyless— $\frac{3}{8}$ inch cap.	10	50	35	\$1.20
4022 ^a	Keyless— $\frac{1}{2}$ inch cap.	10	50	35	1.20

With $\frac{3}{4}$ inch Shade Holder Attached

Schedule "B"

4027 ^a	Keyless— $\frac{3}{8}$ inch cap.	1	50	50	\$1.56
4028 ^a	Keyless— $\frac{1}{2}$ inch cap.	1	50	55	1.56

MOGUL WALL SOCKETS

Porcelain Base for $\frac{3}{4}$ and 4 Inch Outlet Boxes

4095	Keyless. ....	..	50	..	\$1.20
4096	Keyless, with $\frac{3}{4}$ inch shade holder. ....	..	50	..	1.56

Holes for supporting screws are spaced $2\frac{3}{4}$ and $3\frac{1}{2}$ inches on centers.

BRASS COVERED BASE

4097	Keyless. ....	..	50	..	\$1.50
4098	Keyless, with $\frac{3}{4}$ inch shade holder. ....	..	50	..	1.86

Holes for supporting screws are spaced $2\frac{3}{4}$ and $3\frac{1}{2}$ inches on centers.

Standard finish is brush brass.

For other finishes see listing on socket finishes.

^aNational Electrical Code Standard.

BRYANT PORCELAIN RECEPTACLES

660 Watts, 250 Volts



No. 50715



No. 59275



No. 9171



No. 9394

With Exposed Terminals

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
50715 ^A	Pony Cleat	1 $\frac{1}{8}$ ins.	10	250	155	\$0.18
59275 ^A	Cleat, base 1 inch high	2 ins.	10	250	220	.22
9171	Cleat Receptacle		10	500	165	.12
50757	Cleat, with copper fittings and screws		10	250	70	.24
9394	Cleat, removable ring		10	250	70	.24

Nos. 9171, 50757, and 9394 supported by one screw in the center.



No. 9402



No. 4013



No. 9403



No. 28795

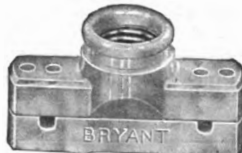
With Exposed Terminals

Schedule "B"

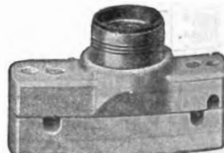
List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
9402 ^A	Cleat Receptacle	2 $\frac{3}{8}$ ins.	10	250	230	\$0.18
4013 ^A	Cleat, for W. P. Shade Holder	2 $\frac{3}{8}$ ins.	10	250	110	.24
9403 ^A	Cleat, with brass ring for strd. shade holder	2 $\frac{3}{8}$ ins.	10	250	100	.30
28795 ^A	Cleat Receptacle	1 $\frac{1}{2}$ ins.	10	250	95	.18



No. 58301



No. 58300



No. 58949

With Enclosed Terminals

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
58301 ^A	Cleat	1 $\frac{1}{8}$ ins.	5	250	165	\$0.30
58300 ^A	Cleat, for W. P. Shade Holder	1 $\frac{1}{8}$ ins.	5	250	165	.36
58949 ^A	Cleat, with brass ring for strd. shade holder	1 $\frac{1}{8}$ ins.	5	250	160	.42

^ANational Electrical Code Standard,
Wiring Devices

BRYANT PORCELAIN RECEPTACLES

600 Watts, 250 Volts



No. 4000



No. 4001



No. 4002



No. 50744 and 9447



No. 9401

Concealed Base Receptacles

Schedule "B"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4000 ^A	Concealed	2 $\frac{1}{8}$ ins.	1 $\frac{5}{8}$ ins.	10	250	95	\$0.30
4001 ^A	Concealed, for W. P. Shade Holder	2 $\frac{1}{8}$ ins.	1 $\frac{5}{8}$ ins.	10	250	95	.36
4002 ^A	Concealed, with brass ring for standard shade holder	2 $\frac{1}{8}$ ins.	1 $\frac{5}{8}$ ins.	10	250	90	.42
50744 ^A	Concealed, with removable ring	2 $\frac{3}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	100	45	.36
9447 ^A	Concealed, with removable ring and D. P. Fuse	2 $\frac{1}{2}$ ins.	1 $\frac{5}{8}$ ins.	10	100	60	.54
9401	Slotted base, with S. P. Fuse	2 $\frac{3}{4}$ ins.	1 $\frac{1}{8}$ ins.	10	100	55	.48



No. 4024



No. 4026



No. 4025



No. 42453



No. 58950

Molding Base Receptacles

Schedule "B"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4024 ^A	Molding .....	.....	2 $\frac{3}{8}$ ins.	10	250	85	\$0.30
4026 ^A	Molding, for W. P. Shade Holder .....	.....	2 $\frac{3}{8}$ ins.	10	250	90	.36
4025 ^A	Molding, with brass ring for standard shade holder .....	.....	2 $\frac{3}{8}$ ins.	10	250	85	.42
	The above may also be used on $\frac{1}{2}$ and $\frac{3}{4}$ inch pipe taplets.						
42453 ^A	Molding .....	.....	1 $\frac{1}{8}$ ins.	10	250	128	.30
58302 ^A	Molding, for W. P. Shade Holder .....	.....	1 $\frac{1}{8}$ ins.	10	250	130	.36
58950 ^A	Molding, with brass ring for standard shade holder .....	.....	1 $\frac{1}{8}$ ins.	10	250	123	.42

^ANational Electrical Code Standard.

BRYANT RECEPTACLES

Conduit Box and Sign Receptacles



No. 61988



No. 59108



No. 4072



No. 61777



No. 40488

FOR CONDUIT BOXES AND METAL SIGNS

660 Watts, 250 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
61988 [*]	With screw ring, 1 inch back.....	10	250	75	\$0.24
	The hole required for this receptacle is $1\frac{1}{2}$ inches in diameter.				
4099	Same as No. 61988, with covered terminal.....	10	250	85	.30
59108 [*]	With screw ring, $\frac{1}{2}$ inch back.....	10	250	80	.24
	The hole required for this receptacle is $1\frac{1}{8}$ inches in diameter.				
4109	Same as 59108, less wire, 1 inch back.....	10	250	82	.30
4072	Sign Receptacle, 1 inch back.....	10	250	...	.24
	The hole required for this receptacle is $1\frac{3}{8}$ inches in diameter.				
61777 [*]	Sign Receptacle.....	10	250	83	.21
	The hole required for this receptacle is $1\frac{3}{8}$ inches in diameter.				
	Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers.				
40488 [*]	Pony Sign Receptacle.....	10	250	60	.21
	The hole required for this receptacle is $1\frac{3}{8}$ inches in diameter.				
	Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers.				

See listing on "brass conduit box covers" for receptacles Nos. 61988 and 59108.



No. 4035



No. 4003



No. 4057



No. 59107



No. 4099

FOR CONDUIT BOXES AND METAL SIGNS

660 Watts, 250 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4035 [*]	With stranded wires, 1 inch back.....	10	250	95	\$0.34
4036 []	Without wires, 1 inch back.....	10	250	80	.24
4003 [*]	Weatherproof, with ring, $\frac{1}{2}$ inch back.....	10	250	100	.34
	The hole required for the above receptacles is $1\frac{1}{2}$ inches in diameter				
4057 [*]	With stranded wires.....	10	250	75	.30
	The hole required for this receptacle is $1\frac{3}{8}$ inches in diameter.				
†59107 [*]	Conduit Box Receptacles.....	10	250	100	.27
	The hole required for this receptacle is $1\frac{1}{4}$ inches in diameter.				
*4074	Without wires.....	10	250	...	.21
	The hole required for this receptacle is $1\frac{1}{4}$ inches in diameter.				
4099	Removable porc. ring sign receptacle with closed back.....	...	250	...	.30

All of the above receptacles except 4036 are fitted with 6 inches of No. 14 B. & S. Stranded Rubber-covered Wire. Longer wires on special order. Extra charge, 6 cents per foot (3 cents each conductor).

*These receptacles are the same as No. 4035 and 59107 receptacles except that the wires are omitted. Terminal plates to which conductors may readily be soldered are provided.

See listing on "brass conduit box covers" for the above.

†This receptacle is approved for 660 watts, 600 volts.

*National Electrical Code Standard.

BRYANT RECEPTACLES

660 Watts, 250 Volts



No. 4014



No. 4023



No. 4063



No. 1700

Sign Receptacles

Schedule "B"

List No.	Description	Diam. of Hole Required	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*4014 ^a	"Ruby" Sign, with binding screws.....	1 5/8 ins.	.....	10	250	65	\$0.24
*4023 ^a	Universal Sign Receptacle.....	1 1/2 ins.	.....	10	250	85	.24
*4063 ^a	Sign Receptacle.....	1 3/8 ins.	1 1/4 ins.	10	250	75	.17
†1700 ^a	Pony Sign Receptacle.....	1 1/8 ins.	1 1/8 ins.	10	250	145	.17
†50899	Sign Receptacle, short skirt.....	1 1/8 ins.	1 1/8 ins.	10	100	30	.30
†50782	Sign Receptacle, long skirt.....	1 1/8 ins.	1 1/8 ins.	10	100	50	.30

See listing on "brass conduit box covers" for receptacles Nos. 4014 and 4023.

*For metal signs. †For wooden signs.



No. 62357



No. 9514



No. 4033



No. 62355



No. 4110



No. 4113

Receptacles for Conduit Boxes

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
62357 ^a	For use with 3 1/4 inch boxes.....	2 3/4 ins.	5	100	200	\$0.42
	Outside diameter of base 3 1/2 inches.					
4064	For use with 4 inch round box.....	3 1/2 ins.	5	100	120	.54
	Outside diameter of base 4 1/4 inches.					
9514 ^a	Flush Receptacle (two piece).....	1 7/8 ins.	10	250	100	.36
4033 ^a	Flush Receptacles (one piece).....	1 7/8 ins.	10	250	100	.24
	The hole required for these receptacles is 1 1/8 inches in diameter.					
*4110	For use with 3 1/4 inch boxes, with black japanned cover	2 3/4 ins.	1	100	70	.36
*4111	For use with 3 1/4 inch boxes, with sherardized cover...	2 3/4 ins.	1	100	70	.38
*4112	For use with 3 1/4 inch boxes, with brush brass cover...	2 3/4 ins.	1	100	70	.48
†4113	For use with 4 inch boxes, with black japanned cover...	3 1/2 ins.	1	100	96	.39
†4114	For use with 4 inch boxes, with sherardized cover.....	3 1/2 ins.	1	100	96	.41
†4115	For use with 4 inch boxes, with brush brass cover.....	3 1/2 ins.	1	100	96	.53

^aOutside diameter 3 1/4 inches. †Outside diameter 4 1/8 inches.

Receptacles for Condulets and Adaptiboxes Schedule "B"

62355 ^a	Condulet Receptacle.....	.....	10	250	103	\$0.30
62356 ^a	Condulet Receptacle, for W. P. shade holder.....	.....	10	250	110	.36
4076	Adaptibox Receptacle for shade holder.....	2 1/8 ins.	10	250	...	.36

^aNational Electrical Code Standard.

BRYANT RECEPTACLES FOR DECORATIVE LIGHTING

660 WATTS, 250 VOLTS



Porcelain Decorative Receptacle

Mica Decorative Receptacle

Decorative Cleat Receptacle

Ready-wired Receptacles

These receptacles will be furnished "ready-wired," that is, supplied with approved stranded single braid rubber covered wire, connections soldered, and then filled with insulating compound, making the receptacles absolutely weatherproof.

We carry at all times a large stock of parts and can usually ship orders of reasonable size the same day that they are received at the factory.

These receptacles are put up in lengths of about 500 feet and will be so shipped, unless otherwise specified.

Additional lengths of wire can be supplied on either end of the streamers. Add 13 cents list per foot (7 cents each conductor) for No. 14 wire and 15 cents list per foot (8 cents each conductor) for No. 12 wire.

The list price of receptacles spaced more than 30 inches apart is obtained by adding \$1.05 per 100 receptacles per inch to the list of No. 4041Z and 4042Z for No. 14 wire and \$1.23 per 100 receptacles per inch to the list of No. 124034Z, 124041Z and 124042Z for No. 12 wire.

List Prices and Data

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4034	Porcelain decorative receptacle.....	10	250	60	\$0.29
4041	Mica decorative receptacle.....	10	250	75	.36
4042	Decorative cleat receptacle.....	10	250	100	.41

WIRED WITH NO. 14 WIRE

Centers	Porcelain Decorative Receptacle		Mica Decorative Receptacle		Decorative Cleat Receptacle	
	List No.	List Price per 100 Receptacles	List No.	List Price per 100 Receptacles	List No.	List Price per 100 Receptacles
4 ins.	4034A	\$31.20	4041A	\$37.20	4042A	\$41.40
5 ins.	4034B	32.10	4041B	38.10	4042B	42.30
6 ins.	4034C	33.00	4041C	39.00	4042C	43.20
7 ins.	4034D	33.90	4041D	40.20	4042D	44.10
8 ins.	4034E	34.80	4041E	40.80	4042E	45.00
9 ins.	4034F	35.70	4041F	41.70	4042F	45.90
10 ins.	4034G	36.60	4041G	42.60	4042G	46.80
11 ins.	4034H	37.50	4041H	43.50	4042H	47.70
12 ins.	4034J	38.40	4041J	44.40	4042J	48.60
14 ins.	4034K	40.20	4041K	46.20	4042K	50.40
15 ins.	4034M	41.10	4041M	47.10	4042M	51.30
16 ins.	4034N	42.00	4041N	48.00	4042N	52.20
17 ins.	4034P	42.90	4041P	48.90	4042P	53.10
18 ins.	4034Q	43.80	4041Q	49.80	4042Q	54.00
20 ins.	4034R	45.54	4041R	51.66	4042R	55.80
21 ins.	4034S	46.50	4041S	52.80	4042S	56.70
23 ins.	4034T	47.40	4041T	53.40	4042T	57.60
24 ins.	4034U	49.20	4041U	55.50	4042U	59.40
25 ins.	4034V	50.10	4041V	56.10	4042V	60.30
26 ins.	4034W	51.00	4041W	57.00	4042W	61.20
27 ins.	4034X	51.90	4041X	57.90	4042X	62.10
28 ins.	4034Y	52.80	4041Y	58.80	4042Y	63.00
36 ins.	4034Z	54.60	4041Z	60.60	4042Z	64.80

WIRED WITH NO. 12 WIRE

Centers	Porcelain Decorative Receptacles		Mica Decorative Receptacles		Decorative Cleat Receptacles	
	List No.	List Price per 100 Receptacles	List No.	List Price per 100 Receptacles	List No.	List Price per 100 Receptacles
4 ins.	124034A	\$34.32	124041A	\$40.32	124042A	\$44.52
5 ins.	124034B	35.34	124041B	41.34	124042B	45.54
6 ins.	124034C	36.60	124041C	42.60	124042C	46.80
7 ins.	124034D	37.32	124041D	43.32	124042D	47.32
8 ins.	124034E	37.80	124041E	43.80	124042E	48.00
9 ins.	124034F	39.30	124041F	41.30	124042F	49.50
10 ins.	124034G	40.26	124041G	46.26	124042G	50.46
11 ins.	124034H	41.28	124041H	47.28	124042H	51.48
12 ins.	124034J	42.24	124041J	48.24	124042J	52.44
14 ins.	124034K	44.22	124041K	50.22	124042K	54.42
15 ins.	124034M	45.24	124041M	51.24	124042M	55.44
16 ins.	124034N	41.20	124041N	52.20	124042N	56.40
17 ins.	124034P	47.22	124041P	53.22	124042P	57.42
18 ins.	124034Q	48.18	124041Q	54.18	124042Q	58.38
20 ins.	124034R	50.16	124041R	56.16	124042R	60.36
21 ins.	124034S	51.18	124041S	57.18	124042S	61.38
22 ins.	124034T	52.14	124041T	58.14	124042T	62.34
24 ins.	124034U	54.12	124041U	60.12	124042U	64.32
25 ins.	124034V	55.20	124041V	61.20	124042V	65.40
26 ins.	124034W	56.10	124041W	62.10	124042W	66.30
27 ins.	124034X	57.12	124041X	63.12	124042X	67.32
28 ins.	124034Y	58.08	124041Y	64.08	124042Y	68.28
30 ins.	124034Z	61.20	124041Z	66.12	124042Z	70.32

National Electrical Code Standard.

Wiring Devices

BRYANT MISCELLANEOUS RECEPTACLES

660 Watts, 250 Volts



No. 9397



No. 40507



No. 4038

Receptacles for Conduit Boxes

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
9397 ^A	Conduit Box Receptacle.....	1½ ins.	10	250	40	\$0.24
40507 ^A	Conduit Box Receptacle, round base..... Outside diameter of base 1½ inches.	1¼ ins.	10	250	40	.21

Receptacles for Temporary and Decorative Lighting

Schedule "B"

4038 ^A	Temporary Decorative Cleat Receptacle.....	1½ ins.	10	250	103	\$0.22
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No. 4038 Receptacle is provided with pointed binding screws designed to pierce the insulation, making it unnecessary to strip the wires. Stranded wire is preferable for this use.



No. 4034



No. 4041



No. 4037



No. 4056

Receptacles for Temporary and Decorative Lighting

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4037 ^A	Porcelain Temporary Decorative Receptacle.....	10	250	82	\$0.29
4056 ^A	Mica Temporary Decorative Receptacle.....	10	250	100	.36

Nos. 4037 and 4056 Receptacles are provided with pointed binding screws designed to pierce the insulation, making it unnecessary to strip the wires. Stranded wire is preferable for this use.

^ANational Electrical Code Standard.

BRYANT SOCKETS



No. 9366



No. 399



No. 43310



No. 60666

Weatherproof Sockets

660 Watts, 600 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
9366*	Porcelain, for W. P. Shade Holder.....	10	250	80	\$0.24
399*	Porcelain W. P. Socket.....	10	250	75	.15
43310*	Molded W. P. Socket.....	10	250	60	.27
60666*	Composition W. P. Socket.....	10	250	85	.29
50788*	Hard Rubber W. P. Socket.....	10	250	60	1.20

The above sockets are fitted with 6 inches of No. 14 B. & S. Stranded Rubber-covered Wire. Sockets with longer wires furnished on special order. Extra charge, 6 cents per foot (3 cents each conductor).



No. 43311



No. 43314



No. 9448

Weatherproof Bracket Sockets

660 Watts, 250 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
43311*	Molded, $\frac{1}{8}$ inch, wires inside of pipe.....	10	100	30	\$0.72
43312*	Molded, $\frac{3}{8}$ inch, wires inside of pipe.....	10	100	30	.72
43313	Molded, $\frac{1}{8}$ inch, wires outside of pipe.....	10	100	30	.72
43314	Molded, $\frac{3}{8}$ inch, wires outside of pipe.....	10	100	30	.72
9448*	Porcelain, $\frac{1}{8}$ inch, brass cap, polished and lacquered.....	10	100	40	.72
9496*	Porcelain, $\frac{3}{8}$ inch, brass cap, polished and lacquered.....	10	100	45	.72

The above sockets are fitted with 6 inches of No. 18 B. & S. Solid Rubber-covered Fixture Wire. Sockets with longer wires will be furnished on special order. Extra charge, 6 cents per foot (3 cents each conductor).

* These sockets are approved for 660 watts, 600 volts.

▲ National Electrical Code Standard.

Wiring Devices

BRYANT SOCKETS AND RECEPTACLES

660 Watts, 600 Volts



No. 50997



No. 9407



No. 44912

Bragdon Weatherproof Sockets

Schedule "B"

Extension edge carries the drip away from the lamp and socket. Method of wiring at the top removes the strain from the socket itself and places it on the porcelain. Extra hole in porcelain at top allows for independent suspension, if desired.

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
50997 ^A	Weatherproof Socket.....	.....	10	250	165	\$0.60

Weatherproof Receptacles

Schedule "B"

9407 ^A	With side wires.....	2 $\frac{3}{16}$ ins.	10	100	79	\$0.48
44912 ^A	Outside diameter of base is 2 $\frac{3}{4}$ inches. Pony, with side wires.....	2 ins.	10	100	55	.42
	Outside diameter of base 1 $\frac{1}{2}$ inches.					



No. 9408



No. 9411



No. 30000

Weatherproof Receptacles

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
9408 ^A	With bottom wires.....	2 $\frac{1}{4}$ ins.	10	100	80	\$0.48
	Outside diameter of base is 2 $\frac{1}{4}$ inches.					
9411 ^A	Pony, with bottom wires.....	2 $\frac{3}{8}$ ins.	10	100	57	.42
	Outside diameter of base is 2 $\frac{3}{8}$ inches.					
30000 ^A	Angle, with side wires.....	.....	10	100	85	.54

The above sockets and receptacles are fitted with 6 inches of No. 14 B. & S. Stranded Rubber-covered Wire. Sockets and receptacles with longer wires furnished on special order. Extra charge, 6 cents per foot (3 cents each conductor).

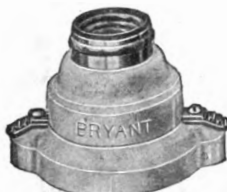
^A National Electrical Code Standard.

BRYANT AND PERKINS RECEPTACLES

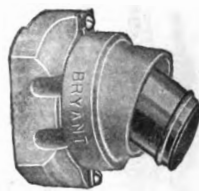
250 Watts, 125 Volts



No. 9404



No. 9436



No. 9439

K.-W. Rosette Receptacles

Schedule "B"

Caps are interchangeable and will fit any K W Rosette Base.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*9404 ^A	Receptacle, concealed base	10	50	45	\$0.48
9434 ^A	Receptacle, cleat base	10	50	45	.48
9435	Receptacle, 2-wire molding base	10	50	45	.48
45364	Receptacle, 3-wire molding base	10	50	45	.48
29173	Receptacle, combination base	10	50	45	.48

FOR SHADE HOLDER

Schedule "B"

*9405 ^A	Receptacle, concealed base	10	50	45	\$0.60
9436 ^A	Receptacle, cleat base	10	50	45	.60
9437	Receptacle, 2-wire molding base	10	50	45	.60
45365	Receptacle, 3-wire molding base	10	50	45	.60
29174	Receptacle, combination base	10	50	45	.60

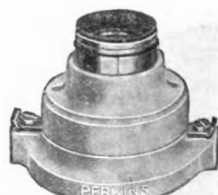
ANGLE—FOR SHADE HOLDER

Schedule "B"

*9406 ^A	Receptacle, concealed base	10	50	45	\$0.96
9438 ^A	Receptacle, cleat base	10	50	45	.96
9439	Receptacle, 2-wire molding base	10	50	45	.96
45366	Receptacle, 3-wire molding base	10	50	45	.96
29175	Receptacle, combination base	10	50	45	.96



No. 25094



No. 25091

Thomas Rosette Receptacles

Schedule "B"

Caps are interchangeable and will fit any Thomas 125-volt Rosette Base.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*25094 ^A	Receptacle, concealed base	10	50	40	\$0.48
25092 ^A	Receptacle, cleat base	10	50	40	.48
25096	Receptacle, 2-wire molding base	10	50	40	.48

FOR SHADE HOLDER

Schedule "B"

*25093 ^A	Receptacle, concealed base	10	50	40	\$0.60
25091 ^A	Receptacle, cleat base	10	50	40	.60
25095	Receptacle, 2-wire molding base	10	50	40	.60

*Outside diameter of base is 2 7/8 inches.

*National Electrical Code Standard. Holes for supporting screws are spaced 1 1/2 inches.

BRYANT SOCKETS AND RECEPTACLES

75 Watts, 125 Volts



No. 434



No. 321



No. 386



No. 474



No. 328



No. 347

Miniature and Candelabra Sockets

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
433 ^A	Miniature Key, $\frac{1}{8}$ inch cap.	25	100	20	\$0.48
434 ^A	Candelabra Key, $\frac{1}{8}$ inch cap.	25	100	23	.48
320 ^A	Miniature Keyless, $\frac{1}{8}$ inch cap.	50	200	17	.33
321 ^A	Candelabra Keyless, $\frac{1}{8}$ inch cap.	50	200	19	.34
470	Miniature Keyless, snap shell, $\frac{1}{8}$ inch cap.	50	200	15	.33
471	Candelabra Keyless, snap shell, $\frac{1}{8}$ inch cap.	50	200	17	.34
385 ^A	Miniature Pull, $\frac{1}{8}$ inch cap.	10	50	10	.87
386 ^A	Candelabra Pull, $\frac{1}{8}$ inch cap.	10	50	12	.87
473	Miniature Turn Socket, $\frac{1}{8}$ inch cap.	10	50	7	.87
474	Candelabra Turn Socket, $\frac{1}{8}$ inch cap.	10	50	8	.87
*327 ^A	Miniature, for candle fixture.	50	200	9	.18
*328 ^A	Candelabra, for candle fixture.	50	200	10	.18
†346 ^A	Miniature, for candle fixture.	50	200	10	.18
†347 ^A	Candelabra, for candle fixture.	50	200	11	.18
540	Candelabra base candle Pull Socket.	25	50	11	1.08

*The supporting studs are threaded .312 inch, 27 threads per inch.

†The nipples are $\frac{1}{8}$ inch for pipe, .405 inch outside diameter, 27 threads per inch.



No. 323



No. 367



No. 9445



No. 325

Weatherproof Pendant Sockets

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
322 ^A	Miniature, Pendant Socket.	25	200	9	\$0.18
323 ^A	Candelabra, Pendant Socket. Made in green glazed porcelain.	25	200	10	.20

Each socket fitted with 6 inches of No. 18 B. & S. Stranded Rubber-covered Wire. Sockets with longer wires furnished on special order. Extra charge, 6 cents per foot (3 cents each conductor).

Miniature and Candelabra Receptacles

Schedule "H"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
366 ^A	Miniature Receptacle.	1 $\frac{1}{8}$ ins.	25	200	30	\$0.11
367 ^A	Candelabra Receptacle.	1 $\frac{1}{8}$ ins.	25	200	30	.13
	Outside diameter of base 1 $\frac{1}{8}$ inches.					
9445	Miniature Receptacle.	1 $\frac{1}{8}$ ins.	25	500	30	.10
	Outside diameter of base 1 $\frac{1}{8}$ inches.					
9446	Candelabra Receptacles.	1 $\frac{1}{8}$ ins.	25	500	30	.10 $\frac{1}{2}$
	Outside diameter of base 1 $\frac{1}{8}$ inches.					
324	Miniature, oblong base.	1 $\frac{3}{8}$ ins.	25	200	24	.15
325	Candelabra, oblong base.	1 $\frac{3}{8}$ ins.	25	200	26	.15
326	Candelabra, oblong base, with spring screwshell.	1 $\frac{3}{8}$ ins.	25	200	28	.22

Standard finish is brush brass.

For other finishes see listing on socket finishes.

^ANational Electrical Code Standard.

BRYANT RECEPTACLES AND SPECIALTIES



No. 388



No. 390



No. 25705



No. 493

Sign Receptacles

75 Watts, 125 Volts

Schedule "H"

List No.	Description	Diam. of Hole	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
387 [▲]	Miniature Receptacle.....	$\frac{3}{16}$ in.	$1\frac{1}{8}$ ins.	10	250	30	\$0.18
388 [▲]	Candelabra Receptacle.....	$\frac{3}{16}$ in.	$1\frac{1}{8}$ ins.	10	250	32	.23
389 [▲]	Miniature, with removable ring.....	$\frac{3}{16}$ in.	.....	25	250	30	.25
390 [▲]	Candelabra, with removable ring.....	$\frac{3}{16}$ in.	.....	25	250	32	.25
279 [▲]	Miniature, for wood signs.....	$\frac{1}{8}$ in.	$1\frac{1}{2}$ ins.	10	100	12	.35
25705 [▲]	Candelabra, for wood signs.....	$\frac{1}{8}$ in.	$1\frac{1}{2}$ ins.	10	100	12	.35

Candelabra Candle Switch

 $\frac{1}{2}$ Ampere, 125 Volts

493	Key Candle Switch.....	.....	.....	25	50	7	\$0.48
420	Pull Candle Switch.....	.....	.....	10	50	7	.87



No. 1274



No. 9357



No. 392



No. 451



No. 2424

Socket Rings

Schedule "H"

1273	Single Petticoat Composition Ring.....	100	100	2	\$0.05
1274	Double Petticoat Composition Ring.....	100	100	2	.06
1435	Single Petticoat Porcelain Ring.....	100	100	4	.08

Socket Adapters

Schedule "H"

9357 [▲]	For T. H. Sockets.....	100	500	20	\$0.06
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Socket Reducers

Schedule "H"

421 [▲]	Mogul to Medium.....	10	100	22	\$0.36
392 [▲]	Medium to Candelabra.....	25	100	6	.15
391 [▲]	Candelabra to Miniature.....	100	100	1	.09

Canopy and Key Arm Switches

3 Amperes, 125 Volts; 1 Ampere, 250 Volts

Schedule "H"

†451 [▲]	Switch for Spun Canopy.....	10	100*	.....	\$1.08
455	Turn Candle Switch.....	10	50	7	1.08
†452 [▲]	Switch for Cast Canopy.....	10	100*	.....	1.16
491	Switch with pig-tail for Spun Canopy.....	10	100	12	1.08
492	Switch with pig-tail for Cast Canopy.....	10	100	11	1.16
540	Candelabra Base Candle Pull Socket.....	25	50	.....	1.08
†2424 [▲]	Key Arm Switch.....	10	100	20	1.44
541	"Junior" Switch, with leads for spun canopy ($\frac{1}{2}$ ampere, 125 volts).....	10	100	14	1.08
542	Junior Switch, with lead for cast canopy ($\frac{1}{2}$ ampere, 125 volts).....	10	100	15	1.16

†The stem on No. 451 is long enough for a canopy not more than $\frac{1}{8}$ inch thick. No. 452 may be used on canopies up to $\frac{1}{4}$ inch. The key stems are threaded $\frac{3}{8}$ inch, 26 threads per inch.

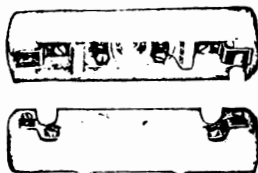
* Mfr. Nos. 451 and 452 may be assorted to make up standard package quantity of 100.

†† The casing of this switch is threaded to receive standard $\frac{1}{8}$ -inch pipe at each end. Keys are not supplied with switches, as these are usually furnished by the fixture manufacturer in a design to harmonize with the fixture. The stem is threaded $\frac{3}{8}$ inch, 26 threads per inch.

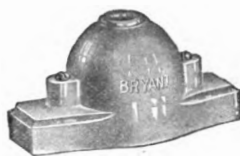
▲National Electrical Code Standard.

Wiring Devices

BRYANT PORCELAIN ROSETTES



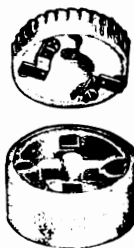
No. 965



No. 370



No. 1501



No. 298

Bryant Fusible Cleat Rosette

WITH COVERED CONNECTIONS—2 Amperes, 125 Volts

Schedule "H"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
965 ^A	Cleat Rosette.....	1½ ins.	20	250	125	\$0.38

Fuseless Rosette for Condulets

3 Amperes, 250 Volts

Schedule "H"

370 ^A	Condulet Rosette.....	1¾ ins.	10	250	150	\$0.29
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Bryant Junior Rosettes

FUSIBLE, 2 AMPERES, 125 VOLTS

Schedule "H"

Caps are interchangeable and will fit any Bryant "Junior" Rosette Base.

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1501 ^A	"Junior" Rosette, cleat.....	1½ ins.	10	250	115	\$0.23
*1502 ^A	"Junior" Rosette, concealed.....	1½ ins.	10	250	130	.23
1503	"Junior" Rosette, molding.....	1½ ins.	10	250	125	.23

FUSELESS, TWO PIECE, 3 AMPERES, 250 VOLTS

Schedule "H"

297 ^A	"Junior" Rosette, cleat.....	1½ ins.	10	250	115	\$0.22
*298 ^A	"Junior" Rosette, concealed.....	1½ ins.	10	250	130	.22
299 ^A	"Junior" Rosette, molding.....	1½ ins.	10	250	125	.22



No. 1999



No. 368



No. 1499

FUSELESS, ONE PIECE, 3 AMPERES, 250 VOLTS

Schedule "H"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1999 ^A	"Junior" Rosette, cleat and concealed combined....	1½ ins.	10	250	70	\$0.12
384 ^A	"Junior" Rosette, 2-wire molding.....	1½ ins.	10	250	145	.12

WITH BASE FOR ¾ INCH CONDUIT BOX

Schedule "H"

†368 ^A	"Junior" Rosette, fusible.....	2¾ ins.	1	100	220	\$0.46
†369 ^A	"Junior" Rosette, fuseless.....	2¾ ins.	1	100	210	.44

Outside diameter of base is 3½ inches.

K.-P. Fuseless Rosettes

3 Amperes, 250 Volts

Schedule "H"

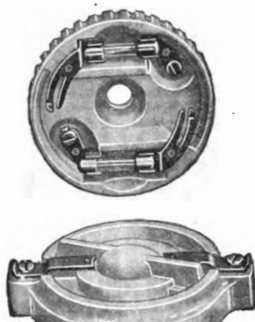
1499 ^A	K.-P. Rosette, cleat.....	2½ ins.	10	250	310	\$0.23
1710 ^A	K.-P. Rosette, concealed.....	2½ ins.	10	250	290	.23

Outside diameter of base is 3½ inches. *Outside diameter of base is 2¾ inches. †Rating: 2 amperes, 125 volts. †Rating: 3 amperes, 250 volts. *National Electrical Code Standard.

PERKINS PORCELAIN ROSETTES



No. 3414



No. 3423



No. 3421

Thomas 125-Volt Rosettes

Fusible, 2 Amperes, 125 Volts

Schedule "H"

Caps are interchangeable and will fit any Thomas 125-Volt Rosette Base.

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3414 ^a	Thomas Rosette, cleat	1 $\frac{5}{8}$ ins.	10	250	182	\$0.38
*3415 ^a	Thomas Rosette, concealed	1 $\frac{5}{8}$ ins.	10	250	170	.38
3416	Thomas Rosette, 2-wire molding	1 $\frac{5}{8}$ ins.	10	250	172	.38

*Outside diameter of base is 2 $\frac{3}{4}$ inches.

Thomas 250-Volt Rosettes

Fusible, 3 Amperes, 250 Volts

Schedule "H"

With connections for enclosed (glass tube) fuses.

Caps are interchangeable and will fit any Thomas 250-Volt Rosette Base.

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
†3423 ^a	Thomas Rosette, cleat	2 $\frac{3}{8}$ ins.	10	250	260	\$0.44
†3424 ^a	Thomas Rosette, concealed	2 $\frac{3}{8}$ ins.	10	250	250	.44
	Outside diameter of base is 3 $\frac{1}{8}$ inches.					
†3425 ^a	Thomas Rosette, 2-wire molding	1 $\frac{5}{8}$ ins.	10	250	245	.44

With Connections for Open Link Fuses

Schedule "H"

3420	Thomas Rosette, cleat	2 $\frac{3}{8}$ ins.	10	250	250	\$0.44
3421	Thomas Rosette, concealed	2 $\frac{3}{8}$ ins.	10	250	240	.44
	Outside diameter of base is 3 $\frac{1}{8}$ inches.					
3422	Thomas Rosette, 2-wire molding	1 $\frac{5}{8}$ ins.	10	250	245	.44

Thomas Bracket Rosettes

Fusible, 2 Amperes, 125 Volts

Schedule "H"



No. 3418

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3417 ^a	Bracket Rosette, cleat	1 $\frac{5}{8}$ ins.	10	100	80	\$0.52
*3418 ^a	Bracket Rosette, concealed	1 $\frac{5}{8}$ ins.	10	100	75	.52
3419	Bracket Rosette 2-wire molding	1 $\frac{5}{8}$ ins.	10	100	70	.52

*Outside diameter of base 2 $\frac{3}{4}$ inches.

†Fuses are not included in the price of the Rosette and will not be sent unless ordered separately.

^aNational Electrical Code Standard.

BRYANT PORCELAIN ROSETTES



No. 950



No. 873



No. 1179

Bryant K.-W. Rosettes

Fusible, 2 Amperes, 125 Volts

Schedule "H"

Caps are interchangeable and will fit any K.-W. Rosette base.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
950 ^A	Cleat Rosette, with stamped lugs	10	250	165	\$0.38
870	Cleat Rosette, with cast lugs	10	250	170	.38
1871 ^A	Concealed Rosette	10	250	155	.38
926	Rosette for two-wire molding	10	250	155	.38
1426	Rosette for three-wire molding	10	250	205	.38
872	Combination Rosette	10	250	160	.38

†Outside diameter of base is 2 $\frac{1}{8}$ inches. Holes for supporting screws are spaced 1 $\frac{1}{2}$ inches on centers.

Bryant K.-W. Bracket Rosettes

Fusible, 2 Amperes, 125 Volts

Schedule "H"

With Brass Face Plate

Caps are interchangeable and will fit any K.-W. Rosette base.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*873 ^A	Bracket Rosette, concealed	10	100	72	\$0.52
1176 ^A	Bracket Rosette, cleat	10	100	75	.52
1177	Bracket Rosette, 2-wire molding	10	100	71	.52
287	Bracket Rosette, 3-wire molding	10	100	80	.52
1402	Bracket Rosette, combination	10	100	72	.52

With Brass Thimble

Schedule "H"

*1073 ^A	Bracket Rosette, concealed	10	100	72	\$0.52
1178 ^A	Bracket Rosette, cleat	10	100	72	.52
1179	Bracket Rosette, 2-wire molding	10	100	75	.52
288	Bracket Rosette, 3-wire molding	10	100	80	.52
1403	Bracket Rosette, combination	10	100	75	.52

* Outside diameter of base is 2 $\frac{1}{8}$ inches. Holes for supporting screws are spaced 1 $\frac{1}{2}$ inches on centers.

^A National Electrical Code Standard.

"SPARTAN" INTERCHANGEABLE PLUGS AND RECEPTACLES

KA



KB



KC



KD



KE



KF

**"SPARTAN" INTERCHANGEABLE PLUGS AND RECEPTACLES
"SPARTAN" PLUG CAPS—10 AMPERES, 250 VOLTS**

Schedule "H"
Any of these caps can be furnished "polarity" (non-reversible) without extra charge. To specify polarity caps, change the first letter to M, as: MA, MB, MC, etc. Any of these caps can be furnished with the blades set tandem (— —) instead of parallel (||) without extra charge. To specify caps with tandem blades, change the first letter to L, as LA, LB, LC, etc.

List No.	Description	Carton Qty.	Std. Pkg.	Pkg. Wt.	List Price Complete
KA†	Standard plug cap	10	50	8	\$0.22
KB†	Brass covered cap	10	50	8	\$0.36

The standard finish on the cap is brush brass or old brass, which will be shipped when no finish is specified. Polished brass, when specified, will be shipped without extra charge. For other finishes add to list 5 cents.

KC†	Brass covered cap with finger grip	10	50	10	\$0.51
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This cap is offered in response to the demand from certain engineers and others for a cap that provides some means of detaching the cap from its base other than pulling on the conducting cord. Finishes are the same as for KB cap listed above.

KD†	Elongated cap	10	50	9	\$0.36
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This cap is particularly for use in connection with No. 48 Conduit Box Receptacle when the two are installed in a watertight floor box.

KE†	Pilot cap (125 volts)	10	30	12	\$1.37
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The 2 C.P. 125 volt candelabra base lamp, which forms a part of this device, is connected in multiple with the current consuming device which is connected to the cap.

KF†	Edison adapter cap (660 watts)	10	30	6	\$0.44
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This device permits the insertion of a medium base lamp in any "Spartan" base, or it may be used as an adapter to connect other makes of Edison attachment plugs into "Spartan" bases.

"SPARTAN" ATTACHMENT PLUGS—660 WATTS, 250 VOLTS

100	Edison screw body	10	100	15	\$0.15
700	Body with Standard cap	10	100	25	.36
KB-100	Body with brass covered cap	10	100	25	.51
KC-100	Body with finger grip cap	10	50	25	.65
KD-100	Body with elongated cap	10	50	30	.51
KE-100	Body with pilot cap (125 volts)	10	30	..	1.52
KF-100	Body with Edison adapter cap	10	30	..	.44

For special finishes on brass covered caps, see listing of KB caps above.

"SPARTAN" CORD CONNECTORS—10 AMPERES, 250 VOLTS

103	Cord connector body	10	50	10	\$0.44
KA-103	Body with Standard cap	10	50	10	.65
KB-103	Body with brass covered cap	10	50	15	.80
KC-103	Body with finger grip cap	10	50	15	.94
KD-103	Body with elongated cap	10	50	15	.80
KE-103	Body with pilot cap (125 volts)	10	30	..	1.50
KF-103	Body with Edison adapter cap (660 watts)	10	30	..	.72

"SPARTAN" MULTIPLE CURRENT TAPS—660 WATTS, 250 VOLTS

101	Multiple current tap body	10	50	..	\$0.51
KA-101	Body with Standard cap	10	50	..	.72
KB-101	Body with brass covered cap	10	50	..	1.01
KC-101	Body with finger grip cap	10	50	..	.87
KD-101	Body with elongated cap	10	50	..	1.88
KE-101	Body with pilot cap (125 volts)	10	30	..	.80
KF-101	Body with Edison adapter cap	10	30	..	..

"SPARTAN" SERIES CURRENT TAPS—660 WATTS, 250 VOLTS

102	Series current tap body	10	50	..	\$0.51
KA-102	Body with Standard cap	10	50	..	.72
KB-102	Body with brass covered cap	10	50	..	.87
KC-102	Body with finger grip cap	10	50	..	1.87
KD-102	Body with elongated cap	10	50	..	.80
KF-102	Body with Edison adapter cap	10	30	..	..

Emergency shade-holders listed elsewhere may be used in connection with the above current taps.

For special finishes on brass covered caps, see listing elsewhere.
† National Electrical Code Standard.



No. 100



No. 700



No. 103



Nos. 101 and 102

"SPARTAN" INTERCHANGEABLE PLUGS AND RECEPTACLES



No. KG-103



No. 104



No. 105



No. 106



No. 107



No. 108



No. 109



KA



KB



KC



KD



KE



KF

"SPARTAN" MOTOR ATTACHMENT PLUG—10 AMPERES, 250 VOLTS

Schedule "H"

This device is designed for supplying current to portable current consuming devices such as heaters and vacuum cleaners. The part with the knife blade contacts (measuring 1½ inches in diameter and having holes for supporting screws spaced 1 inch on centers) is permanently attached to the apparatus to which current is to be fed. It is well to so house this part as to protect the contacts from mechanical injury. The body piece is attached to the conductors which supply the current and, as all live parts are completely enclosed, it is impossible for a short circuit or ground to occur should this part, when disconnected from the apparatus, come in contact with some conducting material.

List No.	Description	Diam. of Base Inches	Screws Spaced on Centers Inches	Carton Qty.	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
KG	Motor Attachment Plug cap.....	...	...	10	50	10	\$0.29
KG-103	Motor attachment plug, complete.	...	...	10	50	15	.72

"SPARTAN" CLEAT RECEPTACLES—10 AMPERES, 250 VOLTS

104	Cleat base body.....	2½	1½	10	50	20	\$0.36
KA-104	Body with Standard cap.....	2½	1½	10	50	25	.58
KB-104	Body with brass covered cap.....	2½	1½	10	50	25	.72
KC-104	Body with finger grip cap.....	2½	1½	10	50	25	.87
KD-104	Body with elongated cap.....	2½	1½	10	50	25	.72
KE-104	Body with pilot cap (125 volts).....	2½	1½	10	30	..	1.73
KF-104	Body with Edison adapter cap (660 watts).....	2½	1½	10	30	..	.65

"SPARTAN" CONCEALED RECEPTACLES—10 AMPERES, 250 VOLTS

105	Concealed base body.....	2½	1½	10	50	20	\$0.36
KA-105	Body with Standard cap.....	2½	1½	10	50	25	.58
KB-105	Body with brass covered cap.....	2½	1½	10	50	25	.72
KC-105	Body with finger grip cap.....	2½	1½	10	50	25	.87
KD-105	Body with elongated cap.....	2½	1½	10	50	25	.72
KE-105	Body with pilot cap (125 volts).....	2½	1½	10	30	..	1.73
KF-105	Body with Edison adapter cap (660 watts).....	2½	1½	10	30	..	.65

"SPARTAN" RECEPTACLES WITH ONE-WAY BASE FOR METAL MOLDING 10 AMPERES, 250 VOLTS

106	One-way body.....	...	...	10	50	20	\$0.36
KA-106	Body with Standard cap.....	...	...	10	50	23	.58
KB-106	Body with brass covered cap.....	...	...	10	50	23	.72
KC-106	Body with finger grip cap.....	...	...	10	50	23	.87
KD-106	Body with elongated cap.....	...	...	10	50	25	.72
KE-106	Body with pilot cap (125 volts).....	...	...	10	30	..	1.73
KF-106	Body with Edison adapter cap (660 watts).....	...	...	10	30	..	.65

"SPARTAN" RECEPTACLES WITH TWO-WAY BASE FOR METAL MOLDING 10 AMPERES, 250 VOLTS

107	Two-way body.....	...	...	10	50	20	\$0.36
KA-107	Body with Standard cap.....	...	...	10	50	23	.58
KB-107	Body with brass covered cap.....	...	...	10	50	23	.72
KC-107	Body with finger grip cap.....	...	...	10	50	23	.87
KD-107	Body with elongated cap.....	...	...	10	50	25	.72
KE-107	Body with pilot cap (125 volts).....	...	...	10	30	..	1.73
KF-107	Body with Edison adapter cap (660 watts).....	...	...	10	30	..	.65

"SPARTAN" RECEPTACLES FOR ½ AND ¾ INCH PIPE TABLETS AND WOOD MOLDING—10 AMPERES, 250 VOLTS

108	Tablet body.....	2½	1½	10	50	20	\$0.51
KA-108	Body with Standard cap.....	2½	1½	10	50	23	.72
KB-108	Body with brass covered cap.....	2½	1½	10	50	23	.87
KC-108	Body with finger grip cap.....	2½	1½	10	50	23	1.01
KD-108	Body with elongated cap.....	2½	1½	10	50	25	.87
KE-108	Body with pilot cap (125 volts).....	2½	1½	10	30	..	1.88
KF-108	Body with Edison adapter cap (660 watts).....	2½	1½	10	30	..	.80

"SPARTAN" RECEPTACLES FOR ½ INCH OBOUND CONDULETS 10 AMPERES, 250 VOLTS

109	Condulet body.....	...	...	10	100	..	\$0.58
KA-109	Body with Standard cap.....	...	...	10	50	..	.80
KB-109	Body with brass covered cap.....	...	...	10	50	..	.94
KC-109	Body with finger grip cap.....	...	...	10	50	..	1.08
KD-109	Body with elongated cap.....	...	...	10	50	..	.94
KE-109	Body with pilot cap (125 volts).....	...	...	10	30	..	1.95
KF-109	Body with Edison adapter cap (660 watts).....	...	...	10	30	..	.87

For special finishes on brass covered caps, see listing elsewhere.

†National Electrical Code Standard.

**"SPARTAN" INTERCHANGEABLE PLUGS
AND RECEPTACLES**

KA



KB



No. 110



KC



KD



KE



KF

**"SPARTAN" RECEPTACLES FOR 1/4 INCH OBOUND CONDULETS
10 AMPERES, 250 VOLTS**

Schedule "H"

List No.	Description	Diam. of Base Inches	Screws Spaced on Centers Inches	Carton Qty.	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
110	Conduit body	2 1/2	2 1/2	10	100	..	\$0.65
KA-110	Body with Standard cap	2 1/2	2 1/2	10	50	..	.87
KB-110	Body with brass covered cap	2 1/2	2 1/2	10	50	..	1.01
KC-110	Body with finger grip cap	2 1/2	2 1/2	10	50	..	1.16
KD-110	Body with elongated cap	2 1/2	2 1/2	10	50	..	1.01
KE-110	Body with pilot cap (125 volts)	2 1/2	2 1/2	10	30	..	2.02
KF-110	Body with Edison adapter cap (660 watts)	2 1/2	2 1/2	10	30	..	.94

**"SPARTAN" RECEPTACLES WITH BASE FOR ADAPTIBOXES
10 AMPERES, 250 VOLTS**

111	Adaptibox body	2 1/2	2 1/2	10	50	25	\$0.51
KA-111	Body with Standard cap	2 1/2	2 1/2	10	50	28	.72
KB-111	Body with brass covered cap	2 1/2	2 1/2	10	50	28	.87
KC-111	Body with finger grip cap	2 1/2	2 1/2	10	50	28	1.01
KD-111	Body with elongated cap	2 1/2	2 1/2	10	50	30	.87
KE-111	Body with pilot cap (125 volts)	2 1/2	2 1/2	10	30	..	1.88
KF-111	Body with Edison adapter cap (660 watts)	2 1/2	2 1/2	10	30	..	.80

**"SPARTAN" RECEPTACLES WITH BASE FOR CONDUIT BOXES
10 AMPERES, 250 VOLTS**

112	Conduit box body	1 3/4	5/8	10	50	20	\$0.36
KA-112	Body with Standard cap	1 3/4	5/8	10	50	23	.58
KB-112	Body with brass covered cap	1 3/4	5/8	10	50	23	.72
KC-112	Body with finger grip cap	1 3/4	5/8	10	50	23	.87
KD-112	Body with elongated cap	1 3/4	5/8	10	50	25	.72
KE-112	Body with pilot cap (125 volts)	1 3/4	5/8	10	30	..	1.73
KF-112	Body with Edison adapter cap (660 watts)	1 3/4	5/8	10	30	..	.65

**"SPARTAN" RECEPTACLES WITH BASE FOR CONDUIT BOXES
10 AMPERES, 250 VOLTS**

This receptacle is specially designed to be installed in a 4 inch octagon box of the standard type. The neck of the receptacle is threaded the same as 1/2 inch conduit and can, therefore, be inserted in any 1/2 inch knockout and secured by a 1/2 inch lock nut. When octagon boxes are used for surface work, this receptacle is extremely useful as the binding posts are so arranged as to be easily accessible after the box has been installed, so that additional taps for drop cords or the like can be taken off at any time with a very slight expenditure of labor.

113	Conduit box body	..	..	10	50	..	\$0.36
KA-113	Body with Standard cap	..	..	10	50	..	.58
KB-113	Body with brass covered cap	..	..	10	50	..	.72
KC-113	Body with finger grip cap	..	..	10	50	..	.87
KD-113	Body with elongated cap	..	..	10	50	..	.72
KE-113	Body with pilot cap (125 volts)	..	..	10	30	..	1.73
KF-113	Body with Edison adapter cap (660 watts)	..	..	10	30	..	.65

**"SPARTAN" RECEPTACLES FOR CONDUIT BOX COVERS
10 AMPERES, 250 VOLTS**

This receptacle is similar in construction to No. 4072 Sign Receptacle listed elsewhere. It may be attached to any outlet box cover having a hole 1 1/4 inches in diameter. No notch or lug is necessary, as the receptacle is prevented from turning by three fins in the inner porcelain which bite into the metal of the cover. The outside diameter of the body of the receptacle is 1 3/4 inches.

114	Conduit cover body	..	..	10	50	..	\$0.36
KA-114	Body with Standard cap	..	..	10	50	..	.58
KB-114	Body with brass covered cap	..	..	10	50	..	.72
KC-114	Body with finger grip cap	..	..	10	50	..	.87
KD-114	Body with elongated cap	..	..	10	50	..	.72
KE-114	Body with pilot cap (125 volts)	..	..	10	30	..	1.73
KF-114	Body with Edison adapter cap (660 watts)	..	..	10	30	..	.65

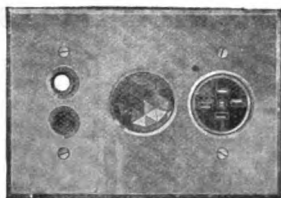
For special finishes on brass covered caps, see listing elsewhere.

"SPARTAN" SURFACE HEATER CONTROL COMBINATION

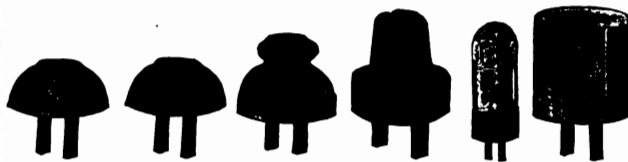
466 †This device is listed elsewhere.

†National Electrical Code Standard.

"SPARTAN" INTERCHANGEABLE PLUGS AND RECEPTACLES



No. 467



"SPARTAN" FLUSH RECEPTACLES WITH ROUND PLATE

10 AMPERES, 250 VOLTS

Schedule "H"

List No.	Description	Diam. Body Inches	Diam. of Plate Inches	Screws Spaced on Centers Inches	Carton Qty.	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
115	†Receptacle body (receptacle and plate)	1 1/4	2 3/4	1 3/4	1	50	..	\$1.23
KA-115	†Body with Standard cap	1 1/4	2 3/4	1 3/4	1	50	..	1.44
KB-115	†Body with brass covered cap	1 1/4	2 3/4	1 3/4	1	50	..	1.59
KC-115	†Body with finger grip cap	1 1/4	2 3/4	1 3/4	1	50	..	1.73
KD-115	†Body with elongated cap	1 1/4	2 3/4	1 3/4	1	50	..	1.59
KE-115	†Body with pilot cap (125 volts)	1 1/4	2 3/4	1 3/4	1	30	..	2.60
KF-115	†Body with Edison adapter cap (660 watts)	1 1/4	2 3/4	1 3/4	1	30	..	1.52



No. 115



No. 116

"SPARTAN" RECEPTACLES FOR 3/4" INCH OUTLET BOXES 10 AMPERES, 250 VOLTS

List No.	Description	Diam. Body Inches	Diam. of Plate Inches	Screws Spaced on Centers Inches	Carton Qty.	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
116	†Receptacle body (receptacle and plate)	1 1/4	3 3/4	2 3/4	1	50	..	\$1.37
KA-116	†Body with Standard cap	1 1/4	3 3/4	2 3/4	1	50	..	1.59
KB-116	†Body with brass covered cap	1 1/4	3 3/4	2 3/4	1	50	..	1.73
KC-116	†Body with finger grip cap	1 1/4	3 3/4	2 3/4	1	50	..	1.88
KD-116	†Body with elongated cap	1 1/4	3 3/4	2 3/4	1	50	..	1.73
KE-116	†Body with pilot cap (125 volts)	1 1/4	3 3/4	2 3/4	1	30	..	2.74
KF-116	†Body with Edison adapter cap (660 watts)	1 1/4	3 3/4	2 3/4	1	30	..	1.66

"SPARTAN" RECEPTACLE AND TYPE "O" SWITCH COMBINATION 10 AMPERES, 250 VOLTS

This device is a combination of a "Spartan" Flush Receptacle and a Type "O" double pole, indicating flush switch, ready wired, and designed to be installed in a standard single switch box. The line wires may be attached to either end of the device. If attached to the switch end, the switch controls the receptacle as well as the outgoing circuit; but if attached to the receptacle end, current may be taken off through the receptacle irrespective of the position of the switch, which will control only the other outgoing circuit.

For "combination plates" (defined elsewhere) specify "W" sections for this device.

List No.	Description	Diam. Body Inches	Diam. of Plate Inches	Screws Spaced on Centers Inches	Carton Qty.	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
117	†Device, complete, without cap	..	4 1/2 x 2 3/4	3 3/4	1	10	..	\$2.88
KA-117	†Body with Standard cap	..	4 1/2 x 2 3/4	3 3/4	1	10	..	3.10
KB-117	†Body with brass covered cap	..	4 1/2 x 2 3/4	3 3/4	1	10	..	3.24
KC-117	†Body with finger grip cap	..	4 1/2 x 2 3/4	3 3/4	1	10	..	3.39
KD-117	†Body with elongated cap	..	4 1/2 x 2 3/4	3 3/4	1	10	..	3.24
KE-117	†Body with pilot cap (125 volts)	..	4 1/2 x 2 3/4	3 3/4	1	10	..	4.25
KF-117	†Body with Edison adapter cap (660 watts)	..	4 1/2 x 2 3/4	3 3/4	1	10	..	3.17

"SPARTAN" FLUSH HEATER CONTROL COMBINATION

467 †This device is listed elsewhere.

"SPARTAN" STANDARD FLUSH RECEPTACLES—10 AMPERES, 250 VOLTS

For "combination plates" (as defined elsewhere) specify "F" sections to accommodate these receptacles.

		Inside	Outside					
120	†Flush receptacle body	..	2 1/4	3 3/4	10	50	28	\$0.87
KA-120	†Body with Standard cap	..	2 1/4	3 3/4	10	50	28	1.08
KB-120	†Body with brass covered cap	..	2 1/4	3 3/4	10	50	28	1.23
KC-120	†Body with finger grip cap	..	2 1/4	3 3/4	10	50	28	1.37
KD-120	†Body with elongated cap	..	2 1/4	3 3/4	10	50	30	1.23
KE-120	†Body with pilot cap (125 volts)	..	2 1/4	3 3/4	10	30	..	2.24
KF-120	†Body with Edison adapter cap (660 watts)	..	2 1/4	3 3/4	10	30	..	1.16

PLATES FOR "SPARTAN" STANDARD FLUSH RECEPTACLES

These plates are also listed elsewhere for use in connection with other flush receptacles.

429	†Single plate, stamped, 1/4 in.	..	..	..	25	..	..	\$0.51
545	†Single plate, solid, 4 1/2 x 3 3/4	..	..	..	25	..	..	.72
529	†Two gang plate, solid, 4 1/2 x 4 1/4	..	..	..	10	..	..	1.44
530	†Three gang plate, solid, 4 1/2 x 6 1/4	..	..	..	5	..	..	2.16
531	†Four gang plate, solid, 4 1/2 x 8 1/4	..	..	..	5	..	..	2.88

Receptacles in gangs are spaced 1 1/2 inches on centers.

†A standard package of plates consists of a sufficient number to accommodate 100 receptacles.

For special finishes on plates, see listing elsewhere.

For special finishes on brass covered caps, see listing elsewhere.

†National Electrical Code Standard.



No. 117



No. 120



No. 429

"SPARTAN" INTERCHANGEABLE PLUGS AND RECEPTACLES

No. 122



KA



KB



KC



KD



KE



KF

"Spartan" Duplex Flush Receptacles

EACH OUTLET 10 AMPERES, 250 VOLTS Schedule "H"

For "combination plates" (as defined elsewhere) specify "V" sections to accommodate these receptacles.

List No.	Description	Dia. of Base Ins.	Screws Spaced on Centers Ins.	Carton Qty.	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
122	▲Duplex receptacle body.....	3 3/4	10	50	40		\$1.23
KA-122	▲Body with two Standard caps...	3 3/4	10	50			1.66
KB-122	▲Body with two brass covered caps.	3 3/4	10	50			1.95
KC-122	▲Body with two finger grip caps...	3 3/4	10	50			2.24
KD-122	▲Body with two elongated caps...	3 3/4	10	50			1.95
KE-122	▲Body with two pilot caps (125 volts).....	3 3/4	1	30			3.96
KF-122	▲Body with two Edison adapter caps (660 watts).....	3 3/4	1	30			1.80



No. 550

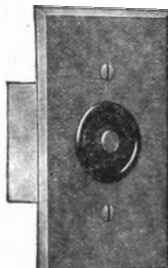
PLATES FOR "SPARTAN" DUPLEX RECEPTACLES

*550	▲Single plate, stamped, 1/8 in., 4 1/2 x 2 3/4			25		15	\$0.58
*551	▲Single plate, solid, 4 1/2 x 2 3/4			25			.94
*552	▲Two gang plate, solid, 4 1/2 x 4 1/2			10			1.88
*553	▲Three gang plate, solid, 4 1/2 x 6 3/8			5			2.81
*554	▲Four gang plate, solid, 4 1/2 x 8 3/4			5			3.75

Receptacles in gangs are spaced 1 1/4 inches on centers.

See listing elsewhere for special finishes on the above plates.

A standard package of plates consists of a sufficient number to accommodate 100 receptacles. ▲National Electrical Code Standard.



Nos. 550 and 429



Nos. 556 and 429

The Won-Dor Flush Receptacle

660 WATTS, 250 VOLTS

Schedule "H"

The Won-Dor Receptacle fulfills every requirement for the perfect flush receptacle. It is indeed a wonder. Its one door automatically recedes upon the introduction of the plug and automatically returns when the plug is withdrawn, so that no live parts are ever accessible and dust and dirt are effectually excluded.

The Won-Dor Receptacle takes any Edison attachment Plug. The plug is inserted by pushing it straight in. The plug is removed by pulling it straight out.

The plug cannot be left part way in or out. If the plug is not in perfect contact it is ejected by the spring of the door.

Even old style attachment plugs, which are neither swivelling nor separable, can be inserted in the Won-Dor Receptacle without twisting the cord.

When ordering "combination plates" (as described elsewhere), specify "F" sections for Won-Dor Receptacles.

List No.	Description	Outside Screw Spaced Inches	Inside Screw Spaced Inches	Carton Qty.	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
555	Won-Dor Gang Receptacle.....	3 3/4	2 1/4	10	30		\$1.16

Heavy-Duty Flush Receptacle—Polarized

20 AMPERES, 250 VOLTS

Schedule "H"

When ordering "combination plates" (as described elsewhere), specify "F" sections for Heavy-Duty Receptacles.

556	Heavy-Duty Gang Receptacle..	3 3/4	2 1/4	10	30	17	\$1.08
557	Heavy-Duty Plug.....			10	30	10	.72

The standard finish on No. 557 Plug is brush brass, which will be shipped when no finish is specified. For all other finishes, except those requiring gold or silver (which will be quoted upon application), add to list price 8 cents.



No. 557

Wiring Devices

BRYANT AND PERKINS PLUGS



Nos. 1948 and 925



No. 1009



No. 345



No. 500



"New Wrinkle"
Attachment Plug

Bryant Attachment Plugs

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
700	Separable attachment plug.....	10	100	15	\$0.36
1948	Fuseless, brass cap, (660 watts, 250 volts).....	10	250	50	.32
*925	Fusible, brass cap, (660 watts, 250 volts).....	10	250	50	.32
1009*	Fuseless, enameled wood handle, (660 watts, 250 volts).....	10	100	12	.18
500	Fuseless, porcelain (660 watts, 250 volts).....	25	250	33	.15
499	Fuseless, porcelain, with soldered connections (660 watts, 250 volts).....	25	250	33	.13
†345*	Molded Weatherproof Plug, (660 watts, 600 volts).....	10	100	30	.64
462*	"New Wrinkle," with key socket, (250 watts, 250 volts).....	10	50	25	.62
463*	"New Wrinkle," with pull socket, (250 watts, 250 volts).....	10	50	25	1.01
††464*	"New Wrinkle," with switch rosette, (250 watts, 250 volts).....	10	10	5	1.01

* The cap is provided with a double bushing; the inner one having a hole $\frac{3}{32}$ inch in diameter, suitable for No. 16 approved lamp cord. This inner bushing can be removed when larger cord is to be used, leaving another bushing with $\frac{1}{8}$ inch hole, suitable for No. 16 approved portable cord.

† Each plug fitted with six inches of No. 14 B. & S. Stranded Rubber-Covered Wire. Longer wires on special order. Extra charge, 6 cents per foot (3 cents each conductor).



Nos. 3286 and 1286



No. 3386



No. 3284



No. 3530

Perkins Attachment Plugs

Schedule "H"

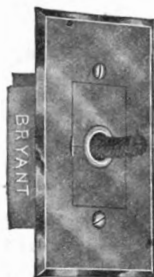
660 Watts, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3286*	Fuseless, porcelain cap.....	10	250	65	\$0.32
1286	$\frac{1}{8}$ inch hole in cap for No. 16 Approved Portable Cord.	10	250	65	.32
	Fusible, porcelain cap.....				
	$\frac{1}{8}$ inch hole in cap for No. 16 Approved Lamp Cord.				
3386	With connections for enclosed (glass tube) fuses.....	10	250	110	.36
3284*	Separable Attachment Plug.....	10	250	85	.36
3530*	Brass Cap Separable Attachment Plug.....	10	100	40	.46

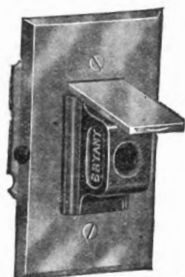
* Fuses are not included with the plug and will not be furnished unless ordered separately.

† National Electrical Code Standard.

BRYANT FLUSH RECEPTACLES



Nos. 1363, 1110 and 1364



Nos. 281, 282 and 283



Nos. 1708 and 1709



Nos. 546 and 547

Chapman Receptacles

List No.	Description	Carton Quantity	Schedule "H"		
			Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1363 [▲]	Gang Receptacle 12 amperes, 250 volts.....	10	100	50	\$0.58
1110 [▲]	Porcelain Plug.....	25	100	10	.29
486	Porcelain Polarity Plug.....	25	100	10	.29
397 [▲]	Indestructible Plug.....	25	25	3	.58
472	Chapman to Edison (Twin) Adapter.....	10	10	6	.72

Plates for Chapman Receptacles

		Schedule "H"			
1364 [▲]	Plate for 1 Receptacle, $4\frac{1}{2} \times 2\frac{3}{4}$ inches.....	25	*	30	\$0.76
543	Single Plate Solid.....	25	*	30	1.01
1365 [▲]	Plate for 2 Receptacles, $4\frac{1}{2} \times 4\frac{3}{8}$ inches.....	10	*	55	2.36
1366 [▲]	Plate for 3 Receptacles, $4\frac{1}{2} \times 6\frac{3}{8}$ inches.....	5	*	100	3.53
1367 [▲]	Plate for 4 Receptacles, $4\frac{1}{2} \times 8\frac{3}{8}$ inches.....	5	*	120	4.71

(Old Style) Chapman Receptacles

		Schedule "H"			
†281	Chapman Gang Receptacle.....	5	25	15	\$1.01
282	Single Plate, $4\frac{1}{4} \times 2\frac{1}{2}$ inches.....	25	25	12	.94
283	Chapman Plug.....	5	25	4	.72

Bryant Screw Plug Flush Receptacles

This Receptacle will receive any standard Edison Attachment Plug, and will be found useful where it is desirable to transfer a connection from a chandelier or bracket. In designing the Receptacle, we have embodied, so far as practicable, the features of the Chapman Receptacle.

		Schedule "H"			
†1708 [▲]	Screw Plug Gang Receptacle 660 watts 250 volts.....	10	100	53	\$0.44
1709 [▲]	Single Plate, with lid $4\frac{1}{2} \times 2\frac{3}{4}$ inches.....	25	100	45	.68
Plates With Lid					
544	Single Plate, solid, $4\frac{1}{2} \times 2\frac{3}{4}$ inches.....	25	*	30	.87
526	Two Gang Plate, solid, $4\frac{1}{2} \times 4\frac{3}{8}$ inches.....	10	*	40	1.73
527	Three Gang Plate, solid, $4\frac{1}{2} \times 6\frac{3}{8}$ inches.....	5	*	35	2.60
528	Four Gang Plate, solid, $4\frac{1}{2} \times 8\frac{3}{8}$ inches.....	5	*	30	3.46
†1429 [▲]	Single Plate, without lid $4\frac{1}{2} \times 2\frac{3}{4}$ inches.....	25	100		.51

Plates Without Lid

545	Single Plate, solid, $4\frac{1}{2} \times 2\frac{3}{4}$ inches.....	25	*	6	\$0.72
529	Two Gang Plate, solid, $4\frac{1}{2} \times 4\frac{3}{8}$ inches.....	10	*	37	1.44
530	Three Gang Plate, solid, $4\frac{1}{2} \times 6\frac{3}{8}$ inches.....	5	*	36	2.16
531	Four Gang Plate, solid, $4\frac{1}{2} \times 8\frac{3}{8}$ inches.....	5	*	35	2.88

Duplex Screw Plug Flush Receptacle

546	Duplex Receptacle.....	10	30	..	\$0.65
547	Solid Plate, with lid, $2\frac{3}{4} \times 4\frac{1}{2}$ inches.....	25	25	..	1.16
548	Solid Plate, without lid, $2\frac{3}{4} \times 4\frac{1}{2}$ inches.....	25	25	..	.87

Outside supporting screw holes, $3\frac{1}{4}$ inches on centers.

Inside supporting screw holes, $2\frac{1}{4}$ inches on centers.

†Plates for mounting these Receptacles in gangs will be furnished on special order. When so mounted, the Receptacle will be spaced $1\frac{1}{4}$ inches on centers.

Plate No. 429 is necessary when the Receptacle is used for a pilot lamp.

††This plate may be used with No. 475 Receptacle.

For special finishes on flush plates see page to follow.

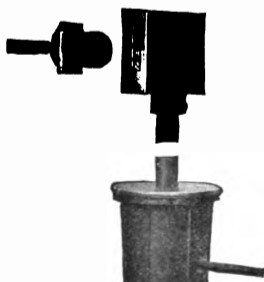
*A standard package of Chapman Plates consists of a sufficient number to accommodate 100 Receptacles.

▲National Electrical Code Standard.

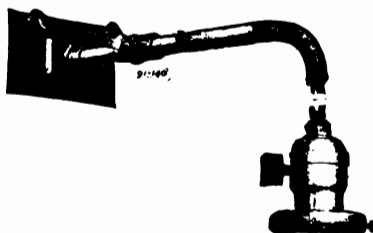
BRYANT FLUSH RECEPTACLES AND SWITCHES



Nos. 430, 431 and 432



No. 497



No. 489

Disappearing Door Flush Receptacle

10 Amperes, 250 Volts

Schedule "H"

This is the latest Bryant Flush Receptacle and it has some advantages over the others which we have formerly listed. The doors open and close automatically with the insertion and withdrawal of the plug. This makes the Receptacle suitable for floor as well as baseboard use, as dirt and dust cannot enter. It is also a very safe Receptacle as, when the plug is withdrawn, the doors are held shut by stiff springs so that it is almost impossible to gain access to the live parts except by means of the plug.

The following is from recent ruling of the Underwriters' Laboratories:

"Provided these receptacles will not be liable to mechanical injury, and the presence of moisture is not probable, it will be permissible to install the flush receptacles with disappearing doors, in wooden floors."

List No.	Description	Screw Holes on Centers		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		Outside	Inside				
430*	"D. D." Gang Receptacle	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	10	25	15	\$0.72
431*	Single Plate, 4 $\frac{1}{2}$ x 2 $\frac{1}{4}$ inches			25	25	..	.76
432*	D. D. Plug, Brass Encased			10	25	..	.87
494	D. D. Plug, without metal cover			10	25	..	.87
520	Single Plate, solid	4 $\frac{1}{2}$ ins.	2 $\frac{3}{4}$ ins.	25	*	12	1.01
523	Two Gang Plate, solid	4 $\frac{1}{2}$ ins.	4 $\frac{1}{4}$ ins.	10	*	15	2.02
524	Three Gang Plate, solid	4 $\frac{1}{2}$ ins.	6 $\frac{3}{4}$ ins.	5	*	14	3.03
525	Four Gang Plate, solid	4 $\frac{1}{2}$ ins.	8 $\frac{1}{4}$ ins.	5	*	13	4.04

Plates for mounting these Receptacles in gangs will be furnished only on special order. When so mounted, the Receptacles will be spaced 1 $\frac{1}{8}$ inches on centers.

D. D. FLOOR OUTLETS

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
497	D. D. Floor Box and Receptacle (includes plate but not plug) ...	1	10	..	\$2.88
498	2-Gang D. D. Floor Box and Receptacle, (includes plates but not plugs)	1	5	..	7.20

D. D. HOTEL BRACKETS

Schedule "H"

489	Special D. D. Plate for bracket use	1	10	..	\$1.59
490	Combination D. D. Plug and Wall Bracket	1	10	..	5.04

The standard D. D. Receptacle No. 430 is used with the above plate and bracket.

High Capacity "D D" Receptacle 25 Amperes, 250 Volts

Schedule "H"

It should be particularly noted that this Receptacle occupies the space of two standard flush receptacles. No. 2568 high capacity flush switch listed below may be used for controlling the current to this receptacle and these two devices may be mounted together on a single flush plate, in which case a four-gang switch box would be required.

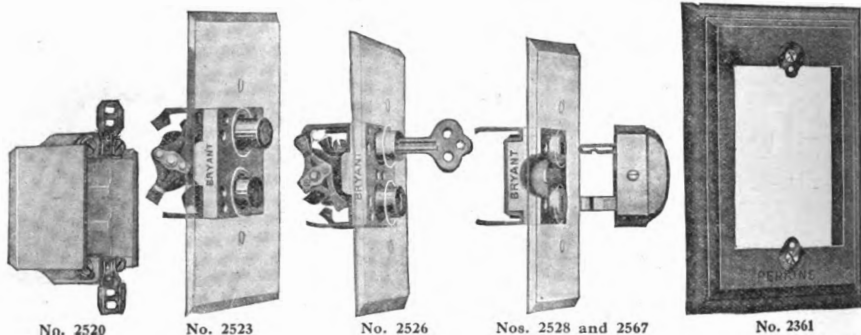
446*	High Capacity Gang Receptacle	1	10	..	\$2.16
447*	Single Plate, 4 $\frac{1}{2}$ x 4 $\frac{1}{4}$ inches	1	10	..	2.88
448*	High Capacity Indestructible Plug	1	10	..	2.16

This device requires a two-gang box. There are holes for four supporting screws spaced 3 $\frac{1}{2}$ inches on centers vertically and 1 $\frac{1}{8}$ inches on centers horizontally.

Plates for mounting these Receptacles in gangs will be furnished only on special order. When so mounted, the Receptacles will be spaced 1 $\frac{1}{8}$ inches on centers.

*National Electrical Code Standard.

PERKINS FLUSH SWITCHES, RECEPTACLES AND WOOD MATS



Removable Mechanism Type

Schedule "S"

List No.	Description	125 Volts	250 Volts	Carton Quantity	Std. Pkg.	List Price Each
2519 ^A	Cup for Single Pole Switch	10	5	10	100*	\$0.36
2521 ^A	Cup for Three-point Switch	10	5	10	50*	.58
2520 ^A	Cup for Receptacle or Double Pole Switch	10	10	10	50*	.58
2522 ^A	Single Pole Switch Mechanism	10	5	10	100†	.85
2524 ^A	Three-point Switch Mechanism	10	5	10	50†	1.16
2523 ^A	Double Pole Switch Mechanism	10	10	10	50†	1.16
2525 ^A	Single Pole Lock Switch Mechanism	10	5	10	100†	1.57
2527 ^A	Three-point Lock Switch Mechanism	10	5	10	50†	1.88
2526 ^A	Double Pole Lock Switch Mechanism	10	10	10	50†	1.88

Receptacle Mechanism and Plug

Schedule "H"

2528 ^A	Receptacle Mechanism without Cup	10	10	10	50	\$0.44
2567 ^A	Receptacle Plug only	10	10	10	50	.44

Outside supporting screw holes, $3\frac{1}{2}$ inches on centers. Inside supporting screw holes, $2\frac{1}{4}$ inches on centers.

One No. 2299 Key is furnished with each lock switch.

The above Switches and Receptacles use Standard Push Button Plates as listed on page to follow.

*100 assorted cups also constitute a standard package.

†100 assorted switch mechanisms also constitute a standard package.

^ANational Electrical Code Standard.

Combination Wood Mats

FOR FLUSH SWITCHES AND FLUSH RECEPTACLES

May Be Used Either With or Without Outlet Boxes

Schedule "H"

Quartered Oak, Varnished and Rubbed					White Wood, Unfinished				
List No.	No. Switches	Carton Quantity	Pkg. Wt. Lbs.	List Price Each	List No.	No. Switches	Carton Quantity	Pkg. Wt. Lbs.	List Price Each
2361 ^A	One	10	30	\$0.44	2371 ^A	One	10	30	\$0.44
2362 ^A	Two	5	35	.72	2372 ^A	Two	5	35	.72
2363 ^A	Three	5	40	1.01	2373 ^A	Three	5	40	1.01
2364 ^A	Four	5	50	1.30	2374 ^A	Four	5	50	1.30
2365 ^A	Five	5	60	1.59	2375 ^A	Five	5	60	1.59
2366 ^A	Six	1	70	1.88	2376 ^A	Six	1	70	1.88
2367 ^A	Seven	1	80	2.16	2377 ^A	Seven	1	80	2.16
2368 ^A	Eight	1	90	2.45	2378 ^A	Eight	1	90	2.45

NOTE: A standard package of Wood Mats consists of a sufficient number assorted from all of those listed to accommodate 100 switches.

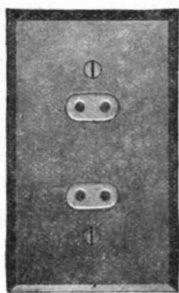
^ANational Electrical Code Standard.

Wiring Devices

BRYANT FLUSH RECEPTACLES



No. 411, 412 and 375
No. 475, 476 and 429



No. 507



No. 509



No. 1508



No. 468



No. 496

"Junior" Flush Receptacles

12 Amperes, 125 Volts; 6 Amperes, 250 Volts

WITH RECTANGULAR PLATE

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*411 [†]	"Junior" Gang Flush Receptacle.....	25	25	25	\$0.58
412 [†]	Single Plate, 4½ x 2¾ inches.....	25	25	..	.51

THREE-WIRE RECEPTACLE AND PLUG

Schedule "H"

475 [†]	Gang Receptacle, without plug.....	..	25	..	\$1.37
476 [†]	Plug only.....	25	25	..	.51
†429 [†]	Single Plate, without lid, 4½ x 2¾ inches.....	25	100	..	.51

WITH LARGE ROUND PLATE (3⅝ INCHES DIAMETER)

Schedule "H"

393 [†]	Flush Receptacle, with No. 375 Plug.....	1	25	25	\$1.30
394 [†]	Flush Receptacle, without Plug.....	1	25	20	.94

Holes for supporting screws, 2¾ inches on centers.

WITH SMALL ROUND PLATE (2⅞ INCHES DIAMETER)

Schedule "H"

1508 [†]	Flush Receptacle, with No. 375 Plug.....	5	25	12	\$1.16
1509 [†]	Flush Receptacle, without Plug.....	1	25	10	.80

Holes for supporting screws, 1½ inches on centers.

WITH RECTANGULAR PLATE AND TWO RECEPTACLES

Schedule "H"

507 [†]	"Junior" Gang Duplex Flush Receptacle.....	10	10	..	\$0.87
508 [†]	Single Plate, 4½ x 2¾ inches.....	10	10	..	.65
509 [†]	Combination of "Junior" Receptacle, Plug and Type O D.P. Ind. Switch Plate 2¾ x 4½.....	..	10	..	3.24

"JUNIOR" PLUGS AND OTHER FITTINGS

Schedule "H"

375 [†]	Metal Covered Plug.....	25	25	5	\$0.36
1510 [†]	Porcelain Plug.....	25	25	5	.36
485 [†]	Fusible Plug.....	10	10	..	.72
468 [†]	Adapter permitting the use of "Junior" Plugs in Edison Sockets.....	25	25	4	.29
496 [†]	"Junior" to Edison Adapter.....	10	30	..	.29

*Plates for mounting these receptacles in gangs will be furnished only on special order. When so mounted, the receptacle will be spaced 1½ inches on centers.

†This plate may be used also with No. 1708 receptacle listed elsewhere.

*NOTE: For special finishes on flush plates see page to follow.

PERKINS FLUSH SWITCHES



No. 2202



No. 2625



No. 2295



No. 662

Perkins Push Button Gang Switches

Schedule "S"

List No.	Description	Amperes		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts				
2201 ^A	Single Pole.....	10	5	10	100	60	\$0.65
2203 ^A	Three-Point.....	10	5	10	50	30	1.01
2204 ^A	Four-Point.....	10	5	10	10	7	2.88
2625 ^A	Electrolier, 1, 2, 1 and 2, off.....	5	2	10	10	..	1.52
2626 ^A	Electrolier, 1, 1 and 2, 1, off.....	5	2	10	10	..	1.52
2627 ^A	Electrolier, 1, 1 and 2, 1 and 2 and 3, off.....	5	2	10	10	..	1.52
2628 ^A	Electrolier, 1, off, 2, off.....	5	2	10	10	..	1.52
2629 ^A	Electrolier, 1, off, 1 and 2, off.....	5	2	10	10	..	1.52
2630 ^A	Electrolier, 1, 1 and 2, off.....	5	2	10	10	..	1.52
2631 ^A	Electrolier, 1, 2, off or 2 speed Fan Motor.....	5	2	10	10	..	1.52
2632 ^A	Electrolier, 1, 2, 3, off or 3 speed Fan Motor.....	5	2	10	10	..	1.52
2202 ^A	Double Pole.....	10	10	10	50	30	1.01
2623 ^A	Double Pole.....	20	20	..	20	..	1.44
2295 ^A	Single Pole, lock.....	10	5	10	100	60	1.53
2296 ^A	Three-Point, lock.....	10	5	10	50	30	1.88
2297 ^A	Four-Point, lock.....	10	5	10	10	7	3.60
2298 ^A	Double Pole, lock.....	10	10	10	50	30	1.88
2624 ^A	Double Pole, lock.....	20	20	..	20	..	2.16

Outside supporting screw holes, $3\frac{1}{4}$ inches on centers.Inside supporting screw holes, $2\frac{1}{4}$ inches on centers.

One No. 2299 Key is furnished with each lock switch. Adjusting frames for aligning Push Button Switches in gangs will be furnished free upon application.

The "Capox" Push Button Switch

10 Amperes, 125 Volts, 5 Amperes, 250 Volts

2701	Single Pole.....	..	..	10	100	..	\$0.45
2703	Double Pole.....	..	..	10	50	..	.61

Bryant Push Button Switches

Schedule "S"

List No.	Description	Amperes		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts				
601 ^A	Single Pole.....	10	5	10	50	..	\$1.04
602 ^A	Double Pole.....	10	10	10	10	..	1.27
603 ^A	Double Pole.....	20	20	10	10	..	2.02
603 ^A	Three-Point.....	10	5	10	20	..	1.27
604 ^A	Four-Point.....	10	5	10	10	..	2.88
605 ^A	Single Pole, lock.....	10	5	10	50	..	1.69
606 ^A	Double Pole, lock.....	10	10	10	10	..	1.92
610 ^A	Double Pole, lock.....	20	20	10	10	..	2.67
607 ^A	Three-Point, lock.....	10	5	10	20	..	1.92
608 ^A	Four-Point, lock.....	10	5	10	10	..	3.53

^ANational Electrical Code Standard.

ing Devices

PERKINS' PUSH SWITCH PLATES



Nos. 3166 and 3666



No. 3632

Standard Solid Push Switch Plates

In One Horizontal Row

Schedule "S"

List No.	Description	Dimensions		Carton Quantity	Pkg. Wt. Lbs.	List Price Each
		Height	Width			
3639	For one switch.....	4½ x 2¼ ins.		25	30	\$0.72
3640	For two switches.....	4½ x 4¼ ins.		10	55	1.44
3167 [▲]	For three switches.....	4½ x 6¾ ins.		5	100	2.16
3168 [▲]	For four switches.....	4½ x 8¾ ins.		5	120	2.88
3169 [▲]	For five switches.....	4½ x 10 ins.		5	140	4.32
3170 [▲]	For six switches.....	4½ x 11½ ins.		1	160	5.20
3171 [▲]	For seven switches.....	4½ x 13½ ins.		1	180	3.06
3172 [▲]	For eight switches.....	4½ x 15½ ins.		1	220	6.90
3165 [▲]	For one switch (stamped plates).....	4½ x 2¼ ins.		25	30	0.51
3166 [▲]	For two switches (stamped plates).....	4½ x 4¼ ins.		10	55	1.01

Switches in gangs spaced 1½ inches on centers.

In One Vertical Row ("Tandem")

Schedule "S"

3369 [▲]	For two switches.....	8½ x 2¾ ins.	1	8	\$2.16
3370 [▲]	For three switches.....	11¾ x 2¾ ins.	1	100	3.24
3371 [▲]	For four switches.....	15½ x 2¾ ins.	1	120	4.32

Switches in "tandem" spaced 3¾ inches on centers.

Struck Up Push Switch Plates

In One Horizontal Row, .040 Inch Metal

Schedule "S"

3665 [▲]	For one switch, square corners.....	4½ x 2¼ ins.	25	20	\$0.26
3666 [▲]	For two switches, square corners.....	4½ x 4¼ ins.	10	40	.51
3667 [▲]	For three switches, square corners.....	4½ x 6¾ ins.	5	55	.76
3634	For four switches.....	4½ x 8¾ ins.	5	18	1.59
3635	For five switches.....	4½ x 10 ins.	5	16	1.98
3636	For six switches.....	4½ x 11½ ins.	1	15	2.38
3637	For seven switches.....	4½ x 13½ ins.	1	14	2.78
3638	For eight switches.....	4½ x 15½ ins.	1	13	3.17
3631 [▲]	For one switch, round corners.....	4½ x 2¼ ins.	25	20	.26
3632 [▲]	For two switches, round corners.....	4½ x 4¼ ins.	10	40	.51
3633 [▲]	For three switches, round corners.....	4½ x 6¾ ins.	5	55	.76

Push Switch Steel Plates

Brush Brass Finish

Schedule "S"

List No.	Description	Dimensions		Carton Quantity	Pkg. Wt. Lbs.	List Price Each
		Height	Width			
3621	For one switch.....	4½ x 2¼ ins.		25	20	\$0.18
3622	For two switches.....	4½ x 4¼ ins.		10	40	.35
3623	For three switches.....	4½ x 6¾ ins.		5	55	.52

For genuine Bauer Barff finish add to list 52 cents.

Note: A standard package of plates for Push Button Switches consists of a sufficient number to accommodate 100 switches.

Standard finish, old brass finish.

[▲]National Electrical Code Standard.

PERKINS FLUSH SWITCHES AND PLATES



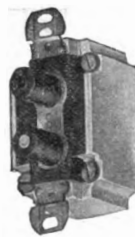
No. 2460



No. 2701



No. 3641



No. 2642

Type "O" Push Switches

Schedule "S"

List No.	Description	Amperes		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts				
2457 ^A	Single Pole.....	10	5	10	50	30	\$1.44
2458 ^A	Three Point.....	10	5	10	50	30	1.52
2459 ^A	Four Point.....	5	2	10	10	7	1.52
2460 ^A	2-Circuit Electroliner.....	5	2	10	10	7	1.52
2461 ^A	3-Circuit Electroliner.....	5	2	10	10	7	1.52
2462 ^A	Double Pole.....	10	10	10	50	30	1.52

Indication in End of Button

Schedule "S"

2491 ^A	Single Pole.....	10	5	10	50	30	\$1.59
2492 ^A	2-Circuit Electroliner.....	5	2	10	10	7	1.66
2493 ^A	3-Circuit Electroliner.....	5	2	10	10	7	1.66
2494 ^A	Double Pole.....	10	10	10	50	30	1.66

Outside supporting screw holes $3\frac{1}{4}$ inches on centers. Inside supporting screw holes $2\frac{1}{4}$ inches on centers.

Momentary Contact Flush Switches

10 Amperes, 125 Volts—5 Amperes, 250 Volts

List No.	Description	Carton	Std. Pkg.	List Price
2641	Single Circuit Switch.....	10	10	\$3.24
2642	2-Circuit Switch.....	10	10	4.47
2643	Single Circuit Lock Switch.....	10	10	3.96
2644	2-Circuit Lock Switch.....	10	10	5.19
479	Plate for Single Circuit Switch.....	1	10	.72

Outside supporting screw holes $3\frac{1}{4}$ inches. Inside, $2\frac{1}{4}$ inches.

Type "O" Push Switch Plates

In One Horizontal Row

Schedule "S"

List No.	Description	Dimensions		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		Height	Width				
3641 ^A	For one switch.....	$4\frac{1}{2}$	$2\frac{3}{4}$ ins.	25	*	30	\$0.51
3642 ^A	For two switches.....	$4\frac{1}{2}$	$4\frac{1}{4}$ ins.	10	*	55	1.01
3643 ^A	For three switches.....	$4\frac{1}{2}$	$6\frac{3}{8}$ ins.	5	*	100	2.16
3644 ^A	For four switches.....	$4\frac{1}{2}$	$8\frac{1}{8}$ ins.	5	*	120	2.88
3645 ^A	For five switches.....	$4\frac{1}{2}$	10 ins.	5	*	140	4.32

Switches in gangs spaced $1\frac{1}{4}$ inches on centers.

NOTE: Switches will be shipped with black buttons unless otherwise specified, but buttons can be finished to match plates without extra charge.

*A standard package of plates for Type "O" Switches consists of a sufficient number to accommodate 100 switches.

For special finishes and special plates see page to follow.

^A National Electrical Code Standard.

PERKINS FLUSH SWITCHES



No. 2208



No. 3182



Nos. 2568 and 2569

Rotary Gang Switches

Schedule "S"

List No.	Description	Amperes		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts				
2205 [▲]	Single Pole.....	5	3	10	100	60	\$0.90
2206 [▲]	Single Pole.....	10	5	10	50	30	1.03
2325 [▲]	Three Point.....	5	3	10	50	30	1.18
2208 [▲]	Three Point.....	10	5	10	50	30	1.52
2209 [▲]	Four Point.....	5	2	10	10	7	1.52
†2220 [▲]	2-Circuit Electroliner.....	5	2	10	10	7	1.52
†2210 [▲]	3-Circuit Electroliner.....	5	2	10	10	7	1.52
2207 [▲]	Double Pole.....	10	10	10	50	30	1.52

With Indicating Dial in Plate

2340 [▲]	Single Pole.....	5	3	10	100	60	\$1.04
2341 [▲]	Single Pole.....	10	5	10	50	30	1.17
†2342 [▲]	2-Circuit Electroliner.....	5	2	10	10	60	1.66
†2343 [▲]	3-Circuit Electroliner.....	5	2	10	10	60	1.66
2344 [▲]	Double Pole.....	10	10	10	50	30	1.66
2345 [▲]	Single Plate for above, 4½ x 2¾ inches.....			25	*	40	.87

Outside supporting screw holes 3½ inches on centers.

Inside supporting screw holes 2½ inches on centers.

Rotary Flush Switches can be converted into Lock Switches by removing the handle and substituting the Universal Lock Attachment. Special plates are not required.

Adjusting frames for aligning Rotary Switches in gangs will be furnished free upon application.

Rotary Switch Plates

Schedule "S"

List No.	Description	Dimensions		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		Height	Width				
3629	For one switch, struck-up .040 in. metal.....	4½ x	2¾ ins.	..	*	..	\$0.58
3630	For one switch, stamped .0625 in. metal.....	4½ x	2¾ ins.	..	*	..	.77
3181 [▲]	For one switch, ½ inch metal.....	4½ x	2¾ ins.	25	*	45	.87
3182 [▲]	For two switches.....	4½ x	4¾ ins.	10	*	55	1.73
3183 [▲]	For three switches.....	4½ x	6¾ ins.	5	*	100	2.60
3184 [▲]	For four switches.....	4½ x	8¾ ins.	5	*	120	3.46
3185 [▲]	For five switches.....	4½ x	10 ins.	5	*	140	5.04
3186 [▲]	For six switches.....	4½ x	11¾ ins.	1	*	160	6.05
3187 [▲]	For seven switches.....	4½ x	13¾ ins.	1	*	180	7.06
3188 [▲]	For eight switches.....	4½ x	15¾ ins.	1	*	200	8.07

Switches in gangs spaced 1½ inches on centers.

In One Vertical Row ("Tandem")

3372 [▲]	For two switches.....	8½ x	2¾ ins.	1	*	55	\$2.02
3373 [▲]	For three switches.....	11¾ x	2¾ ins.	1	*	100	3.03
3374 [▲]	For four switches.....	15¾ x	2¾ ins.	1	*	120	4.04

Switches in "tandem" spaced 3½ inches on centers.

Gang Plates for Indicating Switches will be made only on special order.

High Capacity Flush Switch 30 Amperes, 250 Volts

Schedule "S"

This switch may be used individually or in connection with the High Capacity Flush Receptacle listed above. It requires a two-gang box.

2568 [▲]	High Capacity Indicating Gang Switch.....	1	10	..	\$2.88
2569 [▲]	Single Plate, 4½ x 4¾ inches.....	1	10	..	2.16

This device requires a two-gang box. There are holes for four supporting screws spaced 3½ inches on centers vertically and 1½ inches on centers horizontally. For special finishes on flush plates see page to follow.

* A standard package of plates for Rotary Switches consists of a sufficient number to accommodate 100 switches. For special finishes and special plates see page to follow.

† Details of the operation of the switches given on page to follow.

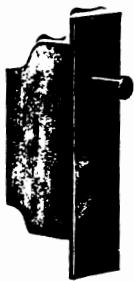
▲ National Electrical Code Standard.

DOOR SWITCH AND RECEPTACLES

Perkins Automatic Door Switches

SINGLE POLE

6 Amperes, 125 Volts; 3 Amperes, 250 Volts Schedule "S"



No. 2355

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2355 ^A	Circuit closed when door is open	1	25	15	\$3.24
2356 ^A	Circuit closed when door is closed	1	10	6	3.24

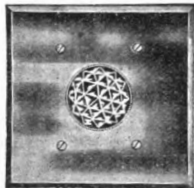
The plate measures $4\frac{5}{8}$ x $1\frac{1}{4}$ inches and the holes for supporting screws are spaced $3\frac{3}{4}$ inches on centers. The porcelain body is $3\frac{3}{4}$ inches long by 1 inch wide.



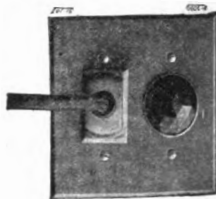
Nos. 427 and 428



No. 436



No. 514



Bull's Eye Receptacles

For Candelabra Base Lamp

Schedule "H"

The outfit consists of a flush plate of standard dimensions, in the center of which is a ruby glass bull's eye. The lighted lamp beneath serves as an effective cautionary or danger signal. The lamp-holding receptacle may be installed individually or may be mounted up in gangs with switches and receptacles and the entire combination covered by a single plate. The many combinations possible are indicated on page to follow.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
427 ^A	Receptacle with 2 C.P., 125 Volt Candelabra base Lamp Single	10	25	15	\$1.44
428 ^A	plate, $4\frac{1}{2}$ x $2\frac{3}{4}$ inches	5	25	.....	1.80

Outside supporting screw holes, $3\frac{1}{4}$ inches on centers.

Inside supporting screw holes, $2\frac{1}{4}$ inches on centers.

Plates for mounting these receptacles in gangs will be furnished only on special order. When so mounted the receptacle will be spaced $1\frac{1}{4}$ inches on centers.

The above receptacle is designed to receive a Form H (General Electric designation) lamp.

For 250 Volt Circuits

When Bull's Eye outfits are wanted for circuits of 200 to 250 volts it is necessary to connect two No. 427 receptacles in series and cover them with a No. 436 plate illustrated above.

436 ^A	Single plate $4\frac{1}{2}$ x $4\frac{3}{4}$ inches	1	10	\$2.31
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This device requires a two-gang box. There are holes for four supporting screws spaced $3\frac{1}{4}$ inches on centers vertically and $1\frac{1}{4}$ inches on centers horizontally.

Ready Wired Bull's Eye Combinations

10 Amperes, 125 Volts

Schedule "H"

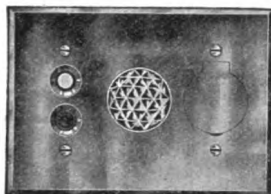
514 ^A	Combination of: 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 432 DD plug, 1 No. 400 DD receptacle, 1 No. 520 DD plate	1	10	..	\$6.48
515 ^A	Combination of: 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 2520 receptacle cup, 1 No. 2702 receptacle mechanism, 1 No. 2567 receptacle plug, 1 No. 3639 flush plate	1	10	..	7.76

Bull's Eye lights when plug is connected.

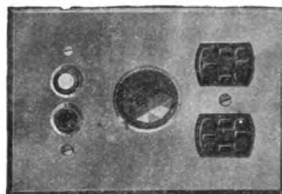
BRYANT BULL'S-EYE COMBINATIONS



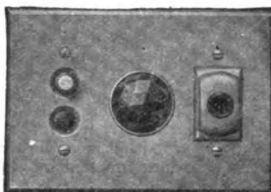
No. 465



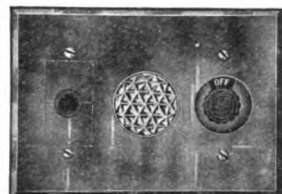
No. 437



No. 558



No. 518



No. 438

Ready-Wired Bull's-Eye Combinations

10 Amperes, 125 Volts

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	List Price Each
465*	Combination, complete with 125-Volt Lamp and Plate.....	1	10	\$5.04
469	Same combination as 465 with Rotary Lock Flush Switch.....	1	10	5.76
495	Combination similar to No. 465 but with 3-point Type O Flush Switch instead of double pole switch.....	1	10	5.04

No. 465 combination consists of a No. 2494 Type "O" double pole indicating switch mounted in a special porcelain that also provides a receptacle for a candelabra base lamp which is covered by a perforated brass cage so that the lamp cannot be removed without removing the plate. The lamp is in circuit whenever the switch is closed. This outfit may be installed in any standard single switchbox.

Outside supporting screw holes, $3\frac{1}{2}$ inches on centers.

Inside supporting screw holes, $2\frac{1}{4}$ inches on centers.

Plates for mounting these receptacles in gangs will be furnished only on special order. When so mounted, the receptacles will be spaced $1\frac{1}{2}$ inches on centers.

Ready Wired Heater Control Combination

660 Watts, 125 Volts

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
437	Combination of: 1 No. 2520 D. P. switch cup, 1 No. 2523 D. P. switch mechanism, 1 No. 3639 flush plate, 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 430 D. P. receptacle, 1 No. 544 flush plate.....	1	10	30	\$7.92
10 Amperes, 125 Volts					
518	Combination of: 1 No. 2520 D. P. switch cup, 1 No. 2523 D. P. switch mechanism, 1 No. 3639 flush plate, 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 430 D. P. receptacle, 1 No. 520 flush plate, 1 No. 432 D. D. plug.....	1	10	35	8.64
467	Combination of: 1 No. 2520 D. P. switch cup, 1 No. 2523 D. P. switch mechanism, 1 No. 3639 flush plate, 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 120 spartan receptacle.....	1	10	35	8.28
558	Combination of: 1 No. 2520 D. P. switch cup, 1 No. 2523 D. P. switch mechanism, 1 No. 3639 flush plate, 1 No. 427 lamp holder with lamp, 1 No. 122 spartan receptacle, 1 No. 551 spartan plate.....	1	10	30	9.00
438	Combination of: 1 No. 2344 D. P. indicating switch, 1 No. 2345 flush plate, 1 No. 427 lamp holder, with lamp, 1 No. 428 flush plate, 1 No. 1363 chapman receptacle, 1 No. 543 chapman plate, 1 No. 397 chapman plug.....	1	10	30	8.64

The above combinations are designed to be installed in a three gang box. There are holes for supporting screws spaced $3\frac{3}{8}$ inches on centers vertically and $3\frac{5}{8}$ inches on centers horizontally.

PERKINS SPECIAL PLATES

SPECIAL FINISHES ON FLUSH PLATES

The standard finish on all Flush Plates, unless otherwise noted, is brushed brass, which will be supplied on all orders where no other finish is specified. For all other special finishes, except those requiring gold and silver, add 18 cents per switch or receptacle to the price of the plate in standard finish. Prices on plates in gold and silver finishes will be quoted on application.

PLATES WITH ROUND CORNERS AND ROUND EDGES

Plates with round corners and round edges, other than those listed will be furnished at 27 cents list extra for single plates and 9 cents list extra for each additional switch or receptacle in gang plates.

PLATES WITH ROUND CORNERS AND BEVELED EDGES

Plates with round corners and beveled edges will be furnished at 27 cents list extra per plate.

SPECIAL SIZE PLATES

Special size plates for standard devices will be sold at a list price of 11 cents per square inch in lots of less than 100, and 8 cents per square inch in lots of 100 or more plates (not gangs) of one size and type. When plates are other than rectangular in shape, the area by which the list is determined will be the size of the smallest rectangular piece from which the specified plate can be cut.

Orders for special size plates should always be accompanied by a plainly-marked sketch, giving all dimensions.

SPECIAL PLATES

The factory has exceptional facilities for producing promptly anything which may be required in the way of special flush plates. Realizing that special plates are usually more urgently needed than stock material, particular attention is given to all orders covering them and are usually able to make shipment promptly.

Plates which are special in ways not covered above will be quoted upon application.

Nothing in the prices listed above shall be understood to mean that special plates of any description will be furnished at a less price than the corresponding standard plate.

FACE PLATE SCREWS

Face plate screws when bought separately will list at \$1.35 per 100; standard package 100 in Schedule "H."

ENGRAVING

Flush plates will be engraved with words or numbers to indicate the circuits controlled at a list price of 11 cents per letter or numeral.

ADJUSTING FRAMES FOR FLUSH SWITCHES

Perkins Adjusting Frames make it a simple matter to line up Flush Switches so that the plate will fit. These frames are made for both Push Button and Rotary Switches, and are supplied gratis to users of Perkins Switches.

BLANK PLATES

Schedule "H"

List No.		Std. Pkg.	List Each
3546	Single Plate, stamped, 1/16 inch brass	100 gangs	\$0.51
3551	Single Plate, struck-up, .040 inch brass	100 gangs	.32
3556	Single Plate, struck-up, .040 inch steel	100 gangs	.18
3628	Two-gang Plate, stamped, 1/16 inch brass	100 gangs	1.01
3624	Two-gang Plate, struck-up, .040 inch brass	100 gangs	.64
3626	Two-gang Plate, struck-up, .040 inch steel	100 gangs	.35
3625	Three-gang Plate, struck-up, .040 inch brass	100 gangs	.95
3627	Three-gang Plate, struck-up, .040 inch steel	100 gangs	.52

TELEPHONE PLATES

With One $\frac{3}{8}$ Inch Bushing

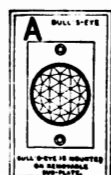
3606	Single Plate, stamped, 1/16 inch brass	100 gangs	\$0.52
3616	Single Plate, struck-up, .040 inch brass	100 gangs	.34
3617	Single Plate, struck-up, .040 inch steel	100 gangs	.19

With Two $\frac{3}{8}$ Inch Bushings

3618	Single Plate, stamped, 1/16 inch brass	100 gangs	\$0.54
3619	Single Plate, struck-up, .040 inch brass	100 gangs	.35
3620	Single Plate, struck-up, .040 inch steel	100 gangs	.21

BRYANT-PERKINS Combination Plates

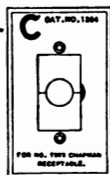
Combination plates should be described by using the letters shown below on outline cuts of the respective plates, giving the letters in order from left to right, or from top to bottom, as the devices are to be mounted. The list price will be the sum of the lists as shown. A combination plate cannot be so considered unless it is described by at least two different letters. The standard package quantity is ten plates of one description (not ten gangs).



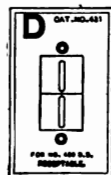
List Price Each
\$2.70



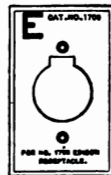
List Price Each
\$2.25



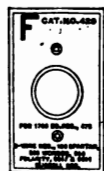
List Price Each
\$1.26



List Price Each
\$1.26



List Price Each
\$1.08



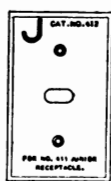
List Price Each
\$0.90



List Price Each
\$0.94



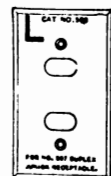
List Price Each
\$0.98



List Price Each
\$0.90



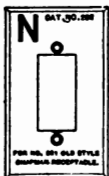
List Price Each
\$0.90



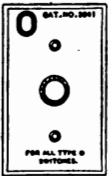
List Price Each
\$1.08



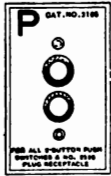
List Price Each
\$2.70



List Price Each
\$1.17



List Price Each
\$0.90



List Price Each
\$0.90



List Price Each
\$0.90



List Price Each
\$1.08



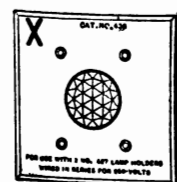
List Price Each
\$1.08



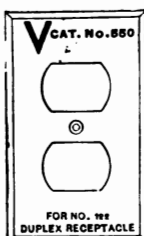
List Price Each
\$1.26



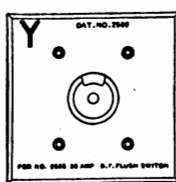
List Price Each
\$5.40



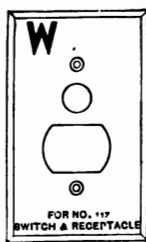
List Price Each
\$2.88



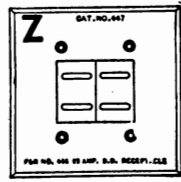
List Price Each
\$1.17



List Price Each
\$2.70



List Price Each
\$0.90



List Price Each
\$3.60

PERKINS SNAP SWITCHES

125-250 Volts



No. 2000



No. 2002



No. 2001

SMALL SIZE, SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2000 [▲]	Slotted	2 ins.	1 $\frac{3}{8}$ ins.	10	250	75	\$0.41
2220 [▲]	Solid	2 ins.	1 $\frac{3}{8}$ ins.	10	250	75	.41
2047 [▲]	Slotted, indicating	2 ins.	1 $\frac{3}{8}$ ins.	10	250	75	.46
2035 [▲]	Solid, indicating	2 ins.	1 $\frac{3}{8}$ ins.	10	250	75	.46

LARGE SIZE, SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2170 [▲]	Solid	2 $\frac{1}{4}$ ins.	1 $\frac{1}{2}$ ins.	10	100	30	\$0.52
2002 [▲]	Slotted	2 $\frac{1}{4}$ ins.	1 $\frac{1}{2}$ ins.	10	100	30	.52
2254 [▲]	Solid, indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{2}$ ins.	10	100	30	.58
2255 [▲]	Slotted, indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{2}$ ins.	10	100	30	.58

SINGLE POLE

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2001 [▲]	Slotted	2 $\frac{1}{8}$ ins.	1 $\frac{3}{8}$ ins.	10	100	45	\$0.70
2221 [▲]	Solid	2 $\frac{1}{8}$ ins.	1 $\frac{3}{8}$ ins.	10	100	45	.70
2048 [▲]	Slotted, indicating	2 $\frac{1}{8}$ ins.	1 $\frac{3}{8}$ ins.	10	100	45	.78
2036 [▲]	Solid, indicating	2 $\frac{1}{8}$ ins.	1 $\frac{3}{8}$ ins.	10	100	45	.78



No. 2455



No. 2175



No. 2176

THREE POINT SWITCHES

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*2455 [▲]	Solid, 3 amperes	2 ins.	1 $\frac{3}{8}$ ins.	10	100	25	\$0.70
*2456 [▲]	Slotted, 3 amperes	2 ins.	1 $\frac{3}{8}$ ins.	10	100	25	.70
†2175 [▲]	Solid, 5 amperes	2 $\frac{1}{4}$ ins.	1 $\frac{1}{2}$ ins.	10	100	25	.81
†2027 [▲]	Slotted, 5 amperes	2 $\frac{1}{4}$ ins.	1 $\frac{1}{2}$ ins.	10	100	25	.81
†2176 [▲]	Solid, 10 amperes	2 $\frac{1}{8}$ ins.	1 $\frac{3}{8}$ ins.	10	50	25	1.10
†2030 [▲]	Slotted, 10 amperes	2 $\frac{1}{8}$ ins.	1 $\frac{3}{8}$ ins.	10	50	25	1.10

* Rated at this capacity for 125 volts. 250-volt capacity 1 ampere.

† Rated at this capacity for 125 volts. 250-volt capacity 3 amperes.

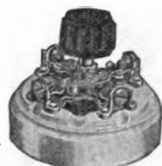
‡ Rated at this capacity for 125 volts. 250-volt capacity 5 amperes.

Any of the above switches can be converted into a lock switch by removing the handle and substituting Universal Lock Attachment.

[▲]National Electrical Code Standard.

PERKINS SNAP SWITCHES

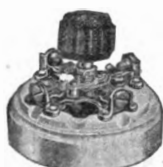
125-250 Volts



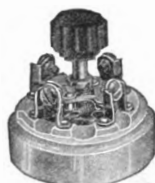
No. 2183



No. 2216



No. 2185



No. 2391



No. 2009

FOUR POINT—5 Amperes, 125 Volts; 2 Amperes, 250 Volts

Schedule "S"

Four-point Switches are used in connection with two Three-point Switches where current is to be controlled from any one of more than two points. A Four-point Switch is installed between the Three-point Switches at each additional point.

Four-point Switches can also be used individually as Pole-changing Switches.

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2183*	Solid	2 1/8 ins.	1 1/4 ins.	10	30	15	\$1.09
2033*	Slotted	2 1/8 ins.	1 1/4 ins.	10	30	15	1.09

2-CIRCUIT ELECTROLIER

Schedule "S"

2216*	Solid	2 1/8 ins.	1 1/4 ins.	10	30	15	\$0.97
2215*	Slotted	2 1/8 ins.	1 1/4 ins.	10	30	15	.97
2188*	Solid, indicating	2 1/8 ins.	1 1/4 ins.	10	30	15	1.09
2074*	Slotted, indicating	2 1/8 ins.	1 1/4 ins.	10	30	15	1.09
2649	Solid (1-1 and 2-1-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2650	Slotted (1-1 and 2-1-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2651	Solid, indicating (1-1 and 2-1-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2652	Slotted, indicating (1-1 and 2-1-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2653	Solid (1-off-2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2654	Slotted (1-off-2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2655	Solid, indicating (1-off-2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2656	Slotted, indicating (1-off-2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2657	Solid (1-off-1 and 2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2658	Slotted (1-off-1 and 2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2659	Solid, indicating (1-off-1 and 2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2660	Slotted, indicating (1-off-1 and 2-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2661	Solid (1-1 and 2-off)	2 1/4 ins.	1 1/4 ins.	10	30	15	1.30
2662	Solid, indicating (1-1 and 2-off)	2 1/4 ins.	1 1/4 ins.	10	30	15	1.44
2663	Solid, electrolier or 2-speed fan motor	2 1/4 ins.	1 3/4 ins.	10	30	15	1.30
2664	Solid, indicating, electrolier or 2-speed fan motor	2 1/4 ins.	1 3/4 ins.	10	30	15	1.44

The above switches operate as follows: 1st turn connects Circuit One alone. 2d turn connects Circuit Two alone. 3d turn connects Circuits One and Two. 4th turn off.

3-CIRCUIT ELECTROLIER

Schedule "S"

2185*	Solid	2 1/8 ins.	1 1/4 ins.	10	30	15	\$1.30
2070*	Slotted	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2187*	Solid, indicating	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2072*	Slotted, indicating	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44

3-CIRCUIT ELECTROLIER OR 3 SPEED FAN MOTOR

2664	Solid (1-2-3-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2665	Slotted (1-2-3-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.30
2666	Solid, indicating (1-2-3-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44
2667	Slotted, indicating (1-2-3-off)	2 1/8 ins.	1 1/4 ins.	10	30	15	1.44

The above switches operate as follows: 1st turn connects Circuit One. 2d turn connects Circuits One and Two. 3d turn connects Circuits One, Two and Three. 4th turn off.

DOUBLE POLE, 250 VOLTS

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2391*	Solid, 5 amperes	2 ins.	1 3/8 ins.	10	100	30	\$0.71
2392*	Slotted, 5 amperes	2 ins.	1 3/8 ins.	10	100	30	.71
2393*	Solid, indicating, 5 amperes	2 ins.	1 3/8 ins.	10	100	30	.81
2394*	Slotted, indicating, 5 amperes	2 ins.	1 3/8 ins.	10	100	30	.81
2009*	Solid, 10 amperes	2 1/8 ins.	1 1/4 ins.	10	100	45	.83
2017*	Slotted, 10 amperes	2 1/8 ins.	1 1/4 ins.	10	100	45	.83
2038*	Solid, indicating, 10 amperes	2 1/8 ins.	1 1/4 ins.	10	100	45	.97
2060*	Slotted, indicating, 10 amperes	2 1/8 ins.	1 1/4 ins.	10	100	45	.97

Any switch on this page can be converted into a Lock Switch by removing the handle and substituting Universal Lock Attachment. *National Electrical Code Standard.

PERKINS SNAP SWITCHES

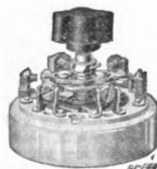
125—250 Volts



No. 2011



No. 2025



No. 2611



No. 2597

DOUBLE POLE
20 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2011 ^a	Solid	3 ins.	2 $\frac{1}{8}$ ins.	10	30	25	\$2.02
2019 ^a	Slotted	3 ins.	2 $\frac{1}{8}$ ins.	10	30	25	2.02
2040 ^a	Solid, indicating	3 ins.	2 $\frac{1}{8}$ ins.	10	30	25	2.16
2052 ^a	Slotted, indicating	3 ins.	2 $\frac{1}{8}$ ins.	10	30	25	2.16

DOUBLE POLE
30 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2013 ^a	Solid	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	30	30	\$2.45
2021 ^a	Slotted	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	30	30	2.45
2042 ^a	Solid, indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	30	30	2.60
2054 ^a	Slotted, indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	30	30	2.60

DOUBLE POLE
50 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2015	Solid	4 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	1	10	15	\$4.32
2023	Slotted	4 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	1	10	15	4.32
2044	Solid, indicating	4 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	1	10	15	4.47
2056	Slotted, indicating	4 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	1	10	15	4.47

DOUBLE POLE, DOUBLE THROW
10 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2611	Solid	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	..	10	..	\$3.46
2612	Slotted	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	..	10	..	3.46
2613	Solid, indicating	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	..	10	..	3.60
2614	Slotted, indicating	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	..	10	..	3.60

TRIPLE POLE
10 Amperes, 250 Volts

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2025 ^a	Solid	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	10	10	12	\$2.74
2633	Slotted	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	..	10	..	2.74
2046 ^a	Solid, indicating	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	10	10	12	2.88
2634	Slotted, indicating	2 $\frac{1}{4}$ ins.	2 $\frac{1}{8}$ ins.	..	10	..	2.88

Any switch on this page can be converted into a lock switch by removing the handle and substituting Universal Lock Attachment.

TRIPLE POLE
20 Amperes, 250 Volts

**2597	1 Switch with cast iron cover	1	10	..	\$5.76
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**This switch is designed for use in controlling 3 phase alternating current motors up to and including 2 H.P.

^a National Electrical Code Standard.

Wiring Devices

PERKINS SURFACE SNAP SWITCHES

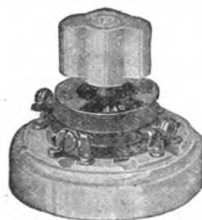
125-250 VOLTS



No. 2668



No. 2669



No. 2672

Multiple Heater Switches

SINGLE POLE—MICA INSULATED

Operating Low, Medium, High, Off—15 Amperes, 250 Volts

Schedule "H"

These switches are used in connection with a heater having two coils, one of which generates more heat than the other. The switch connects these coils as follows: first position, small coil; second position, large coil; third position, both coils in parallel; fourth position, both coils off.

List No	Description	Diameter Base Inches	Screws Spaced On Center Inches	Carton Quantity	Std. Pkg.	Pkg. Weight Lbs.	List Price
*2668	†Solid, indicating.....	2 3/4	1 1/4	10	10	5	\$1.44
2532	†Slotted, indicating.....	2 3/4	1 1/4	10	10	5	1.44

Series Parallel Heater Switches

SINGLE POLE—MICA INSULATED

Operating High, Medium, Low, Off

Schedule "H"

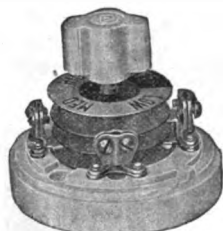
These switches are for use in connection with a heater having two coils of equal capacity. The switch connects these coils as follows: first position, both coils in multiple; second position, one coil only; third position, two coils in series; fourth position, both coils off.

15 AMPERES, 125 VOLTS—10 AMPERES, 250 VOLTS

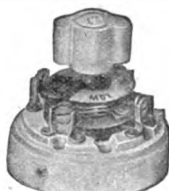
*2669	†Solid, indicating.....	2 3/4	1 1/4	10	10	6	\$1.44
2670	†Slotted, indicating.....	2 3/4	1 1/4	10	10	6	1.44

20 AMPERES, 125 VOLTS—15 AMPERES, 250 VOLTS

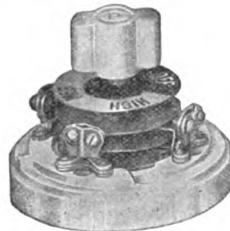
2672	†Solid, indicating.....	3	2 3/4	10	10	8	\$2.38
2673	†Slotted, indicating.....	3	2 3/4	10	10	7	2.38



No. 2675



No. 2570



No. 2571

Series Parallel Heater Switch

SINGLE POLE—MICA INSULATED

30 Amperes, 125 Volts—20 Amperes, 250 Volts

Schedule "H"

List No	Description	Diameter of Base Inches	Screws Spaced on Center Inches	Carton Quantity	Std. Pkg.	Pkg. Weight Lbs.	List Price
2675	†Solid, indicating.....	3 3/4	2 3/4	1	10	11	\$2.88
2676	†Slotted, indicating.....	3 3/4	2 3/4	1	10	11	2.88

Operating Low, Medium, High, Off

These switches are for use in connection with a heater having two coils of equal capacity. The switch connects these coils as follows: first position, both coils in series; second position, one coil only; third position, two coils in multiple; fourth position, both coils off.

15 Amperes, 125 Volts—10 Amperes, 250 Volts

*2570	†Solid, indicating.....	2 3/4	1 1/4	10	10	6	\$1.44
2671	†Slotted, indicating.....	2 3/4	1 1/4	10	10	6	1.44

20 Amperes, 125 Volts—15 Amperes, 250 Volts

2591	†Solid, indicating.....	3 3/4	2 3/4	10	10	8	\$2.38
2674	†Slotted, indicating.....	3 3/4	2 3/4	10	10	8	2.38

30 Amperes, 125 Volts—20 Amperes, 250 Volts

2571	†Solid, indicating.....	3 3/4	2 3/4	1	10	12	\$2.88
2677	†Slotted, indicating.....	3 3/4	2 3/4	1	10	12	2.88

Any switch on this page can be converted into a lock switch by removing the handle and substituting List No. 2384 Universal Lock Attachment described elsewhere.

*This switch can also be furnished on a base measuring 2 1/4 inches in diameter, which is likewise the diameter of the cover.
†National Electrical Code Standard.

BRYANT ANGLE DIAL HEATER SWITCHES
Mica Insulated

No. 2619



No. 2621

Angle Dial Heater Switches

Schedule "H"

The advantage of this construction is that the switch can be placed in locations from which the dial of the ordinary switch would not be visible.

SINGLE POLE—10 AMPERES, 125 VOLTS—5 AMPERES, 250 VOLTS

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price
2637	†Solid	10	100	45	\$1.16
2638	†Slotted	10	100	45	1.16

Outside diameter of base is $2\frac{1}{4}$ inches. Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers.
No. 2637 can be supplied on a base measuring $2\frac{1}{4}$ inches in diameter, which is likewise the diameter of the cover.

SERIES PARALLEL (SINGLE POLE)—OPERATING HIGH, MEDIUM, LOW, OFF
15 Amperes, 125 Volts—10 Amperes, 250 Volts

*2619	†Solid	10	100	45	\$1.41
*2620	†Slotted	10	100	45	1.44

No. 2619 can be supplied on a base measuring $2\frac{1}{4}$ inches in diameter, which is likewise the diameter of the cover.

20 Amperes, 125 Volts—15 Amperes, 250 Volts

2679	†Solid	10	50	75	\$2.38
2680	†Slotted	10	50	75	2.38

Outside diameter of base is 3 inches. Holes for supporting screws are spaced $2\frac{1}{4}$ inches on centers.

30 Amperes, 125 Volts—20 Amperes, 250 Volts

2621	†Solid	1	50	75	\$2.88
2622	†Slotted	1	50	75	2.88

Outside diameter of base is $3\frac{1}{8}$ inches. Holes for supporting screws are spaced $2\frac{1}{8}$ inches on centers.



No. 2635



No. 2681

Indicating Handle Heater Switches

MICA INSULATED

Schedule "H"

In these switches the indication is obtained by means of a pointed handle which points to markings on the switch cover. Inasmuch as the pointed end of the handle can be distinguished at a greater distance than ordinary indications can be read and the distance which the handle moves with each change in the position of the switch is 90 degrees, the operator very promptly is able to know the position of the switch at a glance.

Single Pole—10 Amperes, 125 Volts—5 Amperes, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Complete
2695	†Solid	10	...	100	\$1.16
2696	†Slotted	10	...	100	1.16

Outside diameter of base is $2\frac{1}{4}$ inches. Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers.

SERIES PARALLEL (SINGLE POLE)—OPERATING HIGH, MEDIUM, LOW, OFF
15 Amperes, 125 Volts—10 Amperes, 250 Volts

*2635	†Solid	10	45	100	\$1.44
*2636	†Slotted	10	45	100	1.41

No. 2635 can be supplied on a base measuring $2\frac{1}{4}$ inches in diameter, which is likewise the diameter of the cover.

Single Pole—Composition Cover and Base—Solid

2697	†10 amperes, 125 volts—5 amperes, 250 volts	10	...	100	\$1.44
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SERIES PARALLEL (SINGLE POLE)—OPERATING HIGH, MEDIUM, LOW, OFF
Composition Cover and Base—Solid

*2681	†15 amperes, 125 volts—10 amperes, 250 volts	10	...	100	\$1.44
†2682	†20 amperes, 125 volts—15 amperes, 250 volts	10	...	50	2.38
†2683	†30 amperes, 125 volts—20 amperes, 250 volts	1	...	50	2.88

*Dimensions are the same as No. 2637 listed above.

††Dimensions are the same as No. 2621 listed above.

†Dimensions are the same as No. 2679 listed above.
††National Electrical Code Standard.

Wiring Devices

PERKINS SNAP SWITCHES

Porcelain Cap Switches

Schedule "S"



No. 2601

List No.	Description	Amperes		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts				
2601▲	Single Pole, solid.....	5	3	..	30	..	\$0.47
2602▲	Single Pole, slotted.....	5	3	..	30	..	.47
2603▲	Single Pole, solid, indicating..	5	3	..	30	..	.52
2604▲	Single Pole, slotted, indicating..	5	3	..	30	..	.52
2605▲	Three-Point, solid.....	5	3	..	10	..	.75
2606▲	Three-Point, slotted.....	5	3	..	10	..	.75
2607▲	Double Pole, solid.....	5	5	..	10	..	.75
2608▲	Double Pole, slotted.....	5	5	..	10	..	.75
2609▲	Double Pole, solid, indicating..	5	5	..	10	..	.87
2610▲	Double Pole, slotted, indicating..	5	5	..	10	..	.87
2141▲	Single Pole.....	10	5	10	30	15	.93
2435▲	Single Pole, indicating.....	10	5	10	30	15	1.07
2140▲	Three-Point.....	10	5	10	10	9	1.33
2142▲	Four-Point.....	5	2	10	10	9	1.47
*2264▲	2-Circuit Electrolier.....	5	2	10	10	9	1.39
*2436▲	2-Circuit Electrolier, indicating..	5	2	10	10	9	1.53
*2263▲	3-Circuit Electrolier.....	5	2	10	10	9	1.53
*2437▲	3-Circuit Electrolier, indicating..	5	2	10	10	9	1.67
2139▲	Double Pole.....	10	10	10	10	9	1.18
2438▲	Double Pole, indicating.....	10	10	10	10	9	1.33



No. 2141

Outside diameter of base of the first ten switches is 2 inches. Holes for supporting screws are spaced $1\frac{1}{4}$ inches on center.

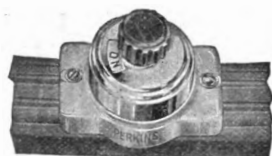
The last ten switches cannot be furnished on slotted bases. Outside diameter of base of last ten switches is $2\frac{1}{2}$ inches. Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers.

Fusible, 10 Amperes, 250 Volts

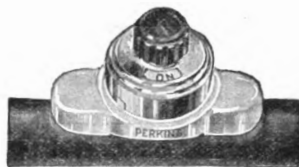
Schedule "S"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2076	Double Pole, Fusible, Indicating, Slotted Base.....	1	10	15	\$2.31

This switch cannot be furnished on solid base. Outside diameter of base is $3\frac{1}{2}$ inches. Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers. *Details of the operations of these switches given previously.



No. 2538



No. 2542

Switches with Base for Wood Molding and Pipe Taplets

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2537▲	Single Pole.....	$2\frac{1}{4}$ ins.	10	100	45	\$0.52
2538▲	Single Pole, indicating.....	$2\frac{1}{4}$ ins.	10	100	45	.58
2543▲	Three-Point.....	$2\frac{1}{4}$ ins.	10	100	45	.95

5 Amperes, 250 Volts

Schedule "S"

2539▲	Double Pole.....	$2\frac{1}{4}$ ins.	10	100	45	\$0.95
2540▲	Double Pole, indicating.....	$2\frac{1}{4}$ ins.	10	100	45	1.10

Switches with Base for Condulets

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

2541▲	Single Pole.....	$1\frac{1}{2}$ ins.	10	100	45	\$0.52
2542▲	Single Pole, indicating.....	$1\frac{1}{2}$ ins.	10	100	45	.58

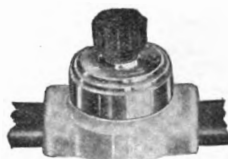
NOTE: Any switch on this page can be converted into a lock switch by removing the handle and substituting the Universal Lock Attachment. *National Electrical Code Standard.

PERKINS SWITCHES

125-250 Volts

No. 2430
With Covered Base

No. 2431



No. 2432

Switches with Covered Bases

Schedule "S"

List No.		Amperes		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts				
2429	Single Pole, solid.....	5	3	10	100	30	\$0.52
2430	Single Pole, solid, indicating.....	5	3	10	100	30	.58
2615	Three-Point.....	3	1	10	100	35	.81
2616	Four-Point.....	3	1	10	50	35	.93
2617	Double Pole.....	5	5	10	100	35	.93
2618	Double Pole, indicating.....	5	5	10	100	35	1.04

Outside diameter of base is $1\frac{1}{8}$ inches.Holes for supporting screws are spaced $1\frac{1}{8}$ inches on centers.

With Bases for National Metal Molding

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2431 [▲]	Single Pole, one-way base.....	$1\frac{1}{8}$ ins.	10	100	40	\$0.52
2433 [▲]	Single Pole, one-way base, indicating.....	$1\frac{1}{8}$ ins.	10	100	40	.58
2432 [▲]	Single Pole, two-way base.....	$1\frac{1}{8}$ ins.	10	100	40	.52
2434 [▲]	Single Pole, two-way base, indicating.....	$1\frac{1}{8}$ ins.	10	100	40	.58

Switches with Base

FOR NO. 500 ADAPTIBOX



List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2690	Single Pole.....	$2\frac{1}{8}$ ins.	10	100	..	\$0.52
2691	Single Pole, indicating.....	$2\frac{1}{8}$ ins.	10	100	..	.58
2692	Single Pole.....	$2\frac{1}{8}$ ins.	10	50	..	.70
2693	Single Pole, indicating.....	$2\frac{1}{8}$ ins.	10	50	..	.78
2694	Single Pole, pull.....	$2\frac{1}{8}$ ins.	10	20	..	1.44

NOTE: Any switch on this page can be converted into a lock switch by removing the handle and substituting Universal Lock Attachment.

[▲]National Electrical Code Standard.

Wiring Devices

PERKINS SWITCHES

125-250 Volts



No. 2592



No. 2454

"Straight-Through" Switches

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2592 ^A	Single Pole.....	10	50	..	\$0.87

10 Amperes, 250 Volts

Schedule "H"

2454 ^A	Double Pole.....	1	25	10	\$1.73
2490 ^A	Double Pole, indicating.....	1	25	10	1.88

SERIES MULTIPLE HEAT REGULATING

Operating high, medium low, off. 5 amperes, 125 volts; 2 amperes, 250 volts.

2678	Three Heat Switch, indicating.....	10	10	12	\$1.88
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No. 2572



No. 2370

Type "T" Pendent Switches

SINGLE POLE

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2572 ^A	Pendent Cap, horizontal buttons.....	10	100	30	\$0.72
2573 ^A	1/4 inch cap, horizontal buttons.....	10	100	30	.72
2574 ^A	3/8 inch cap, horizontal buttons.....	10	100	30	.87
2370 ^A	Pendent Cap, vertical buttons.....	10	100	30	.72
2250 ^A	1/4 inch cap, vertical button.....	10	100	30	.72
2270 ^A	3/8 inch cap, vertical button.....	10	100	30	.87

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Schedule "H"

2350 ^A	Pendent Cap, vertical button.....	10	100	45	\$1.16
2353 ^A	1/4 inch cap, vertical button.....	10	100	45	1.16
2354 ^A	3/8 inch cap, vertical button.....	10	100	47	1.30

Note: The standard finish on the above switches is brush brass, which will be supplied on all orders where no finish is specified. Switches will be finished in polished brass, when specified, at the same price. For switches in any other finish, add 15 cents to list price.

^ANational Electrical Code Standard.

PERKINS SWITCHES

Type "O" Pendent Switches



No. 2440

SINGLE POLE

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2440*	Pendent Cap.	10	30	15	\$1.73
2544*	$\frac{1}{8}$ inch cap.	10	30	15	1.73
2464*	$\frac{3}{8}$ inch cap.	10	30	15	1.88
2495*	Pendent Cap, indicating.	10	30	15	1.88
2545*	$\frac{1}{8}$ inch cap, indicating.	10	30	15	1.88
2501*	$\frac{3}{8}$ inch cap, indicating.	10	30	15	2.02

THREE-POINT

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2417*	Pendent Cap.	10	10	5	\$1.73
2465*	$\frac{3}{8}$ inch cap.	10	10	5	1.88

FOUR-POINT

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

Schedule "H"

2418*	Pendent Cap.	10	10	5	\$1.73
2466*	$\frac{3}{8}$ inch cap.	10	10	5	1.88

*TWO CIRCUIT ELECTROLIER

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

Schedule "H"

2419*	Pendent Cap.	10	13	5	\$1.73
2467*	$\frac{3}{8}$ inch cap.	10	10	5	1.88
2496*	Pendent Cap, indicating.	10	10	5	1.88
2502*	$\frac{3}{8}$ inch cap, indicating.	10	10	5	2.02

*THREE CIRCUIT ELECTROLIER

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

Schedule "H"

2420*	Pendent Cap.	10	10	5	\$1.73
2468*	$\frac{3}{8}$ inch cap.	10	10	5	1.88
2497*	Pendent Cap, indicating.	10	10	5	1.88
2503*	$\frac{3}{8}$ inch cap, indicating.	10	10	5	2.02

DOUBLE POLE, 10 AMPERES, 250 VOLTS

Schedule "H"

2421*	Pendent Cap.	10	10	5	\$1.73
2469*	$\frac{3}{8}$ inch cap.	10	10	5	1.88
2498*	Pendent cap, indicating.	10	10	5	1.88
2504*	$\frac{3}{8}$ -inch cap, indicating.	10	10	5	2.02

†TWO SPEED

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Schedule "H"

2422*	Pendent Cap.	10	10	5	\$1.73
2470*	$\frac{3}{8}$ inch cap.	10	10	5	1.88
2499*	Pendent Cap, indicating.	10	10	5	1.88
2505*	$\frac{3}{8}$ inch cap, indicating.	10	10	5	2.02

†THREE SPEED

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Schedule "H"

2423*	Pendent Cap.	10	10	5	\$1.73
2471*	$\frac{3}{8}$ inch cap.	10	10	5	1.88
2500*	Pendent Cap, indicating.	10	10	5	1.88
2506*	$\frac{3}{8}$ inch cap, indicating.	10	10	5	2.02

†For Fan Motors and other small motors having rheostatic form of speed control.

*Details of the operation of these switches given previously.

*National Electrical Code Standard.

**PERKINS PULL SWITCHES
Ceiling Pull Switches**

Schedule "S"



No. 2387

List No.	Description	Amperes		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts				
2387 [▲]	Single Pole, solid	10	5	10	30	20	\$1.44
2309 [▲]	Single Pole, slotted	10	5	10	30	20	1.44
2388 [▲]	Three-Point, solid	10	5	10	10	8	1.70
2310 [▲]	Three-Point, slotted	10	5	10	10	8	1.70
2389 [▲]	Four-Point, solid	5	2	1	5	4	1.70
2311 [▲]	Four-Point, slotted	5	2	1	5	4	1.70
*2390 [▲]	Electroliner, 2-circuit, solid	5	2	1	5	4	1.70
*2312 [▲]	Electroliner, 2-circuit, slotted	5	2	1	5	4	1.70
*2395 [▲]	Electroliner, 3-circuit, solid	5	2	1	5	4	1.70
*2313 [▲]	Electroliner, 3-circuit, slotted	5	2	1	5	4	1.70
2396 [▲]	Double Pole, solid	10	10	10	10	8	1.70
2314 [▲]	Double Pole, slotted	10	10	10	10	8	1.70

Outside diameter of base is $2\frac{1}{4}$ inches. Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers.



No. 2546

Wall Pull Switches

Schedule "S"

2546 [▲]	Single Pole, solid	10	5	10	30	20	\$1.44
2547 [▲]	Single Pole, slotted	10	5	10	30	20	1.44
2548 [▲]	Three-Point, solid	10	5	10	10	8	1.70
2549 [▲]	Three-Point, slotted	10	5	10	10	8	1.70
2550 [▲]	Four-Point, solid	5	2	1	5	4	1.70
2550 [▲]	Four-Point, slotted	5	2	1	5	4	1.70
*2561 [▲]	Electroliner, 2-circuit, solid	5	2	1	5	4	1.70
*2562 [▲]	Electroliner, 2-circuit, slotted	5	2	1	5	4	1.70
*2563 [▲]	Electroliner, 3-circuit, solid	5	2	1	5	4	1.70
*2564 [▲]	Electroliner, 3-circuit, slotted	5	2	1	5	4	1.70
2565 [▲]	Double Pole, solid	10	10	10	10	8	1.70
2566 [▲]	Double Pole, slotted	10	10	10	10	8	1.70

Outside diameter of base is $2\frac{1}{4}$ inches. Holes for supporting screws are spaced $1\frac{1}{4}$ inches on centers.



No. 2473

Type "O" Pull Switches

With $\frac{1}{8}$ Inch Cap

Schedule "H"

2515 [▲]	Single Pole	10	5	10	30	12	\$1.88
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With $\frac{3}{8}$ Inch Cap

Schedule "H"

2473 [▲]	Single Pole	10	5	10	30	12	\$1.88
2474 [▲]	Three-Point	10	5	10	10	4	1.88
2475 [▲]	Four-Point	5	2	10	10	4	1.88
*2476 [▲]	2-Circuit Electroliner	5	2	10	10	4	1.88
*2477 [▲]	3-Circuit Electroliner	5	2	10	10	4	1.88
2478 [▲]	Double Pole	10	10	10	10	4	1.88
2479 [▲]	2-Speed Fan Motor	10	5	10	10	4	1.88
2480 [▲]	3-Speed Fan Motor	10	5	10	10	4	1.88

With Hickey Cap

Schedule "H"

2507 [▲]	Single Pole	10	5	10	30	14	\$1.88
2508 [▲]	Three-Point	10	5	10	10	5	1.88
2509 [▲]	Four-Point	5	2	10	10	5	1.88
*2510 [▲]	2-Circuit Electroliner	5	2	10	10	5	1.88
*2511 [▲]	3-Circuit Electroliner	5	2	10	10	5	1.88
2512 [▲]	Double Pole	10	10	10	10	5	1.88
2513 [▲]	2-Speed Fan Motor	10	5	10	10	5	1.88
2514 [▲]	3-Speed Fan Motor	10	5	10	10	5	1.88

NOTE: The above switches are supplied with 10 feet of best quality linen cord. Extra cord, 2 cents list per foot.

*Details of operation of switches given previously.

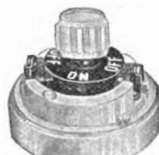
*National Electrical Code Standard.



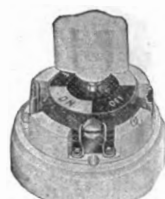
No. 2507

PERKINS SWITCHES
600 Volts

No. 2171



No. 2049



No. 2060

3 AMPERES, SINGLE POLE

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2171 [▲]	Solid	2 1/4 ins.	1 1/2 ins.	10	50	25	\$0.78
2003 [▲]	Slotted	2 1/4 ins.	1 1/2 ins.	10	50	25	.78
2226 [▲]	Solid, indicating	2 1/4 ins.	1 1/2 ins.	10	50	25	.87
2225 [▲]	Slotted, indicating	2 1/4 ins.	1 1/2 ins.	10	50	25	.87

5 AMPERES, SINGLE POLE

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2211 [▲]	Solid	2 1/8 ins.	1 3/8 ins.	10	50	25	\$0.95
2212 [▲]	Slotted	2 1/8 ins.	1 3/8 ins.	10	50	25	.95
2049 [▲]	Solid, indicating	2 1/8 ins.	1 3/8 ins.	10	50	25	1.10
2103 [▲]	Slotted, indicating	2 1/8 ins.	1 3/8 ins.	10	50	25	1.10

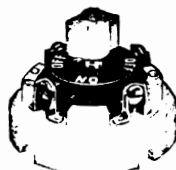
10 AMPERES, SINGLE POLE

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2227 [▲]	Solid	3 ins.	2 1/8 ins.	10	50	45	\$2.16
2228 [▲]	Slotted	3 ins.	2 1/8 ins.	10	50	45	2.16
2060 [▲]	Solid, indicating	3 ins.	2 1/8 ins.	10	50	45	2.31
2066 [▲]	Slotted, indicating	3 ins.	2 1/8 ins.	10	50	45	2.31



No. 2301



No. 2448

20 AMPERES, SINGLE POLE

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2301 [▲]	Solid	3 1/8 ins.	2 1/8 ins.	1	50	70	\$2.74
2302 [▲]	Slotted	3 1/8 ins.	2 1/8 ins.	1	50	70	2.74
2303 [▲]	Solid, indicating	3 1/8 ins.	2 1/8 ins.	1	50	70	2.88
2304 [▲]	Slotted, indicating	3 1/8 ins.	2 1/8 ins.	1	50	70	2.88

10 AMPERES, DOUBLE POLE

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2445 [▲]	Solid	3 ins.	2 1/8 ins.	10	50	45	\$2.80
2446 [▲]	Slotted	3 ins.	2 1/8 ins.	10	50	45	2.80
2447 [▲]	Solid, indicating	3 ins.	2 1/8 ins.	10	50	45	2.94
2448 [▲]	Slotted, indicating	3 ins.	2 1/8 ins.	10	50	45	2.94

Any Switch on this page can be converted into a lock switch by removing the handle and attaching the Universal Lock Attachment.

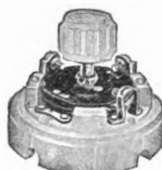
▲ National Electrical Code Standard.

Wiring Devices

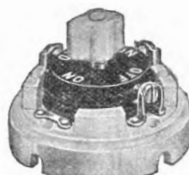
PERKINS SWITCHES 600 Volts



No. 2232



No. 2100



No. 2416

3 AMPERES, THREE-POINT

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2232 [▲]	Solid	2 1/4 ins.	1 1/2 ins.	10	50	25	\$1.01
2231 [▲]	Slotted	2 1/4 ins.	1 1/2 ins.	10	50	25	1.01

5 AMPERES, THREE-POINT

Schedule "S"

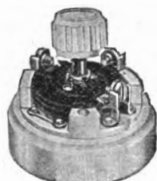
2179 [▲]	Solid	2 3/16 ins.	1 3/4 ins.	10	50	25	\$1.30
2100 [▲]	Slotted	2 3/16 ins.	1 3/4 ins.	10	50	25	1.30
*2413 [▲]	Indicating, solid	2 3/16 ins.	1 3/4 ins.	10	50	25	1.44
*2414 [▲]	Indicating, slotted	2 3/16 ins.	1 3/4 ins.	10	50	25	1.44

10 AMPERES, THREE-POINT

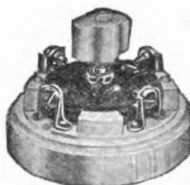
Schedule "S"

2397 [▲]	Solid	3 ins.	2 3/8 ins.	10	50	45	\$2.45
2398 [▲]	Slotted	3 ins.	2 3/8 ins.	10	50	45	2.45
*2415 [▲]	Indicating, solid	3 ins.	2 3/8 ins.	10	50	45	2.60
*2416 [▲]	Indicating, slotted	3 ins.	2 3/8 ins.	10	50	45	2.60

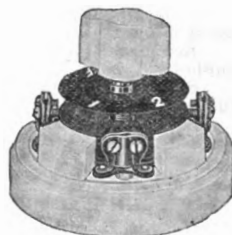
* These Switches indicate "on" and "off."



No. 2181



No. 2409



No. 2079

13 AMPERES, 2-CIRCUIT

Schedule "S"

List No.	Description	Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2181 [▲]	Solid	2 7/16 ins.	1 3/4 ins.	10	50	25	\$1.10
2028 [▲]	Slotted	2 7/16 ins.	1 3/4 ins.	10	50	25	1.10
2062 [▲]	Indicating, solid	2 7/16 ins.	1 3/4 ins.	10	50	25	1.24
2068 [▲]	Indicating, slotted	2 7/16 ins.	1 3/4 ins.	10	50	25	1.24

110 AMPERES, 2-CIRCUIT

Schedule "S"

2409 [▲]	Solid	3 ins.	2 3/8 ins.	10	50	45	\$2.45
2410 [▲]	Slotted	3 ins.	2 3/8 ins.	10	50	45	2.45
2411 [▲]	Indicating, solid	3 ins.	2 3/8 ins.	10	50	45	2.60
2412 [▲]	Indicating, slotted	3 ins.	2 3/8 ins.	10	50	45	2.60

115 AMPERES, HEAT REGULATING

Schedule "S"

2079 [▲]	Solid, indicating, 3-heat	3 9/16 ins.	2 9/16 ins.	1	10	30	\$4.47
2081 [▲]	Solid, indicating, 2-heat	3 9/16 ins.	2 9/16 ins.	1	10	30	4.47

†These Switches will break the circuit without the use of an additional switch, and are especially adapted for use on street cars as headlight switches and to control the interior lights.

‡These Switches are used for the regulation of heat by different combinations of the heaters.

Any Switch on this page can be converted into a lock switch by removing the handle and substituting Universal Lock Attachment.

▲ National Electrical Code Standard.

HUBBELL STANDARD AND SPECIAL FINISHES

Sockets will be furnished in the different finishes listed below. Standard finishes are brush brass, old brass and polished brass. No extra charge is made for sockets with these finishes. Unfinished sockets will be furnished at the same list price as polished brass. Sockets may also be ordered unassembled, the interiors, linings, etc., being packed separately. Sockets furnished in this manner carry the same list as assembled sockets.

No. of Finish	Description	No. of Finish	Description	No. of Finish	Description
1	Polished brass	13	Antique copper or Japanese bronze	23	Lemon brass
2	Old brass or brush brass			24	Ormolu or French gilt
3	Old English bronze	14	Polished or hardware bronze	25	Burnished gilt
4	Antique or Flemish brass			26	Polished silver
5	Oxidized brass	15	Polished copper	27	Pompeian bronze
6	Gilt	16	Polished steel	28	Roman or dull gold
7	English bronze	17	Nickel plate	29	Gun metal
8	Satin gold	18	Oxidized silver	30	Sand blast ant. brass
9	Etruscan gilt	19	Butler silver	31	Sand blast old brass
10	Gold bronze	20	Wrought iron	32	Verdi antique
11	Mottled copper	21	Bauer barff		
12	Oxidized copper	22	Acid or statuary bronze		

Special Finished Key and Keyless Sockets

The following special finishes on sockets, except sockets with shade holders attached and pull sockets, carry an extra list price as follows:

Polished or rich gilt	\$.03	All other brass finishes except sand blast	\$.06
Wrought iron	.03	All other copper finishes except sand blast	.06
Bauer barff	.03	All other finishes less than 500 of one finish	.06
Polished nickel	.06	500 or more of one finish	.06
Statuary bronze	.06		

Standard package same as regular finish, but regular and special finishes of one Mfr. number may be assorted to make up quantity.

Receptacles furnished with special finish take the same advance as sockets with corresponding special finishes.

Sockets with shade holders attached, in special finishes, .03 cents list more than standard sockets with the same finish.

Sockets and receptacles now made with a brass shell can be furnished with solid copper shell at .06 cents list extra over the regular price for brass.

Special Finished Pull Sockets, Candelabra Pull Sockets, Pull Switches, Socket Chain and Acorns

Sockets in polished or rich gilt, wrought iron, bauer barff, add to list price	\$.04
Sockets in oxidized copper, and polished nickel, add to list price	.06
Sockets in old English bronze, oxidized brass, Etruscan gilt, mottled copper, polished bronze, polished steel, lemon brass, burnished gilt, antique brass, English bronze, gold bronze, antique copper, polished copper, acid bronze, ormolu gilt, add to list price	.12
Sockets in oxidized silver, butler silver, Verdi antique, Pompeian bronze, polished silver, satin gold, Roman gold, gun metal, sand blast antique brass, sand blast old brass, add to list price	.18
Pull sockets with shade holders attached, add to list price of same finish on standard pull sockets	.03

Standard package of pull sockets in special finishes same as regular finish.

Regular and special finishes may be assorted to make up standard package quantity.

Special finishes on extra chain, also on chain not attached to socket, add to list price, per foot	.03
Special finishes on separate acorns, add to list	.03
For special finished chain guides, sold separate from sockets, add to list	.03

Addition for Special Finishes on Attachments for Oil Lamps

Mfr. No.	Description	List Price Each
5403-5529	Incandescent light attachment for oil lamps	\$.29

The above price covers the following finishes: Oxidized copper, wrought iron, English bronze, antique copper, bauer barff, rich gilt, nickel plate, old English bronze, mottled copper, polished copper acid bronze.

All other finishes on application.

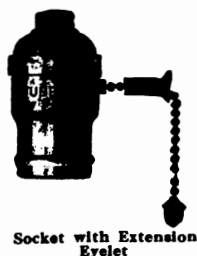
Wiring Devices

HUBBELL SOCKET PARTS

Pull Sockets with Extension Eyelet Schedule "B"

The extension eyelet makes it possible to use the pull socket with husks or fixtures where limited space will not admit the use of regular eyelet.

Unless otherwise specified, sockets with 1 inch extension will be furnished.



Socket with Extension Eyelet



Socket with Extra Long Key

List No. for Elect. Soc.	List No. for Std. Socket	Description	Std. Pkg.	Pkg. Wgt. Ounces	Addition to List Price of Socket
3393	3329	1/2 inch extension eyelet Bulk	50	8	\$0.15
3292	3322	3/8 inch extension eyelet "	50	8	.15
3294	3323	1/4 inch extension eyelet "	50	10	.15
3295	3324	1 inch extension eyelet "	50	12	.15
3296	3325	1 1/4 inch extension eyelet "	50	14	.15
3297	3326	1 1/2 inch extension eyelet "	50	16	.15
3298	3327	1 3/4 inch extension eyelet "	50	18	.15
3299	3328	2 inch extension eyelet "	50	20	.15

Sockets With Extra Long Key Schedule "B"

The key sockets listed are equipped with 1 inch keys, but can be fitted with longer keys on special order, which must specify distance desired between outside of shell and end of handle.

The following can be furnished on special order: Length: 3/4 inch, same price and standard package as 1 inch. Length: 1 1/4 inches, 1 1/2 inches, 2 inches, 2 1/2 inches, add to list price of standard sockets, 9 cents. Standard package, 100 of one length. On orders for sockets with extra long keys, where the length is not given, 1 1/2 inches will be furnished.

Pull Sockets with Insulated Chain Schedule "B"

Hubbell pull sockets can be furnished with insulated chain, made so by a piece of fibre rod inserted in the chain. For sockets so equipped add 18 cents to the list price.

Standard package quantity is the same as for the standard socket with which the insulated chain is ordered. Furnished on any style of pull socket.

Separate Standard and Insulated Chains Schedule "B"

List No.	Description	Std. Pkg.	Pkg. Wgt. Lbs.	List Price
3320	8 in. chain, standard, complete with acorn (not insulated).....	250	1 1/4	\$0.16
3321	8 in. chain, complete with insulation and acorn.....	250	1 1/2	.34

Extra length chains figured at 12 cents per foot list. All chains are cut 1 1/2 inches longer than specified to allow for operating mechanism.

Standard finishes are polished brass, old brass and brush brass. Special finishes on chain, 3 cents per foot extra. Special finish acorn, 3 cents extra.

Socket Chain and Acorns Schedule "F"

List No.	Description	Std. Pkg.	List Price
5382	Chain, per foot..... Bulk	(50 meters 164 feet)	\$0.14
5383	Acorn, each, not attached..... Bulk	250	.09
5928	Acorn, split adjustable..... Bulk	250	.09
5919	Acorn for pull socket attachment cord-adjustable..... Bulk	250	.09
5399	Heavy chain, per foot..... Bulk	(25 meters 82 feet)	.44
5535	Candelabra chain, per foot..... Bulk	(25 meters 82 feet)	.14
5853	Candelabra Acorn..... Bulk	50	.09

Socket Parts for Key and Keyless Sockets Schedule "B"

Description	1/8 Inch Key		1/8 Inch Keyless		3/8 Inch Key		3/8 Inch Keyless	
	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each
Interior fittings.....	501621	\$0.22	501627	\$0.18	501633	\$0.22	501639	\$0.18
Outer shell.....	501622	.10	501628	.10	501634	.10	501640	.10
Cap.....	501623	.12	501629	.12	501635	.20	501641	.20
Shell lining.....	501624	.04	501630	.04	501636	.04	501642	.04
Cap lining.....	501625	.02	501631	.02	501637	.02	501643	.02
Total.....		\$0.50		\$0.46		\$0.58		\$0.54

For Pull Sockets Schedule "B"

List No.	Description	List Price Each	List No.	Description	List Price Each
501645	Interior, without chain or chain guide.....	\$0.36	501649	Shell lining.....	\$0.04
501646	Outer shell.....	.10	501650	Cap lining.....	.02
501647	1/4 inch cap.....	.12	501651	Acorn.....	.08
501648	1/2 inch cap.....	.20	501652	Chain guide.....	.06
			501653	Chain, per foot.....	.12

Standard package of parts same as corresponding sockets. For special finishes, see preceding page.

HUBBELL SOCKETS



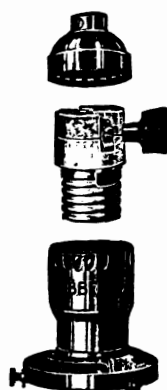
Key



Keyless



Angle Cap



With Shade Holder

Quick Catch Fastening
1/8 INCH CAP

List No.	Description	Carton Quantity	Schedule "B"		
			Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3664 [▲]	Key.....	25	500	135	\$0.40
3667 [▲]	Keyless.....	25	500	127	.36
3758 [▲]	Key—angle cap.....	25	100	30	.46
3759 [▲]	Keyless—angle cap.....	25	100	30	.42
3670 [▲]	Key—with 2 1/4 inch shade holder attached.....	10	500	150	.47
3673 [▲]	Keyless—with 2 1/4 inch shade holder attached.....	10	500	140	.44
3676 [▲]	Key—with 3 1/4 inch shade holder attached.....	10	100	45	.57
3679 [▲]	Keyless—with 3 1/4 inch shade holder attached.....	10	100	45	.53

1/4 INCH CAP

		Schedule "B"			
3770 [▲]	Key.....	25	250	70	\$0.47
3771 [▲]	Keyless.....	25	250	65	.44
3761 [▲]	Key—angle cap.....	25	100	30	.53
3762 [▲]	Keyless—angle cap.....	25	100	30	.50

3/8 INCH CAP

		Schedule "B"			
3665 [▲]	Key.....	25	250	70	\$0.47
3668 [▲]	Keyless.....	25	250	58	.44
3764 [▲]	Key—angle cap.....	25	100	28	.53
3765 [▲]	Keyless—angle cap.....	25	100	30	.50
3671 [▲]	Key—with 2 1/4 inch shade holder attached.....	10	250	75	.54
3674 [▲]	Keyless—with 2 1/4 inch shade holder attached.....	10	250	70	.51
3677 [▲]	Key—with 3 1/4 inch shade holder attached.....	10	100	50	.64
3680 [▲]	Keyless—with 3 1/4 inch shade holder attached.....	10	100	50	.60

MALE THREAD CAP

		Schedule "B"			
3682 [▲]	Key—1/8 inch.....	25	500	135	\$0.40
3781 [▲]	Keyless—1/8 inch.....	25	500	127	.36
3778 [▲]	Key—1/4 inch.....	25	250	70	.47
3779 [▲]	Keyless—1/4 inch.....	25	250	65	.44
3780 [▲]	Key—3/8 inch.....	25	250	70	.47
3683 [▲]	Keyless—3/8 inch.....	25	250	65	.44

PENDENT CAP

		Schedule "B"			
3666 [▲]	Key.....	25	500	138	\$0.40
3669 [▲]	Keyless.....	25	500	135	.36
3672 [▲]	Key—with 2 1/4 inch shade holder attached.....	10	500	150	.47
3675 [▲]	Keyless—with 2 1/4 inch shade holder attached.....	10	500	140	.44
3678 [▲]	Key—with 3 1/4 inch shade holder attached.....	10	100	45	.57
3681 [▲]	Keyless—with 3 1/4 inch shade holder attached.....	10	100	45	.53

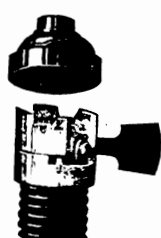
Standard finishes are brush brass, old brass and polished brass.

For special finishes, see data on previous pages.

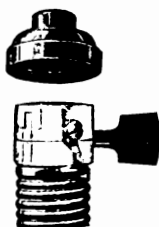
▲ National Electrical Code Standard.

HUBBELL SOCKETS

Presturn Type



No. 3010
Key Socket
1/4 Actual Size



No. 3097
Electroliner
Key Socket
1/4 Actual Size



No. 3020
Keyless Socket
1/4 Actual Size



No. 3104
Electroliner
Keyless Socket
1/4 Actual Size

WITH 1/8 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt. Lbs.	List Price Each
3010 ^A	Key, Double Break	25	500	135	\$0.40
3097 ^A	Key, Double Break, electroliner	25	500	105	.40
3020 ^A	Keyless	25	500	127	.36
3104 ^A	Keyless, electroliner	25	500	100	.36
3036 ^A	Key, Double Break, with 2 1/4 in. shade holder attached	10	500	150	.47
3039 ^A	Keyless, Double Break, with 2 1/4 in. shade holder	10	500	140	.44
3042 ^A	Key, Double Break, with 3 1/4 in. shade holder attached	10	100	45	.57
3045 ^A	Keyless, with 3 1/4 in. shade holder attached	10	100	45	.53

WITH 1/4 INCH CAP

Schedule "B"

3011 ^A	Key, Double Break	25	250	70	\$0.47
3098 ^A	Key, Double Break, electroliner	25	250	50	.47
3021 ^A	Keyless	25	250	65	.44
3105 ^A	Keyless, electroliner	25	250	45	.44

WITH 3/8 INCH CAP

Schedule "B"

3012 ^A	Key, Double Break	25	250	70	\$0.47
3099 ^A	Key, Double Break, electroliner	25	250	50	.47
3022 ^A	Keyless	25	250	65	.44
3106 ^A	Keyless, electroliner	25	250	45	.44
3037 ^A	Key, Double Break, with 2 1/4 in. shade holder attached	10	250	75	.54
3040 ^A	Keyless, with 2 1/4 in. shade holder attached	10	250	70	.51
3043 ^A	Key, Double Break, with 3 1/4 in. shade holder attached	10	100	50	.64
3046 ^A	Keyless, with 3 1/4 in. shade holder attached	10	100	50	.60

WITH PENDENT CAP

Schedule "B"

3013 ^A	Key, Double Break	25	500	138	\$0.40
3023 ^A	Keyless	25	500	126	.36
3038 ^A	Key, Double Break, with 2 1/4 in. shade holder attached	10	500	150	.47
3041 ^A	Keyless, with 2 1/4 in. shade holder attached	10	500	140	.44
3044 ^A	Key, Double Break, with 3 1/4 in. shade holder attached	10	100	45	.57
3047 ^A	Keyless, with 3 1/4 in. shade holder attached	10	100	45	.53

For special finishes, see data on preceding pages.
Standard finishes are polished brass, old brass and brush brass.

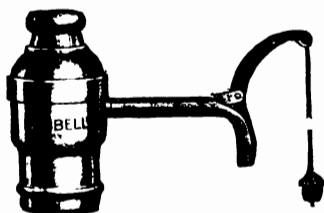
Brush brass shipped unless otherwise specified.

For types of caps, see data on following pages.

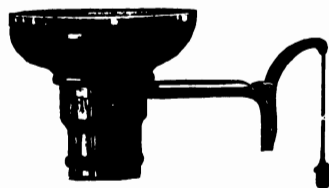
^ANational Electrical Code Standard.

HUBBELL PULL SOCKETS

EQUIPPED WITH "ECONOMY" EXTENDER



No. 3079
1/2 Actual Size



No. 3083
3/4 Actual Size

Presturn Type

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt. Lbs.	List Price Each
3078 ^A	With 1/4 inch cap	10	100	35	\$0.90
3079 ^A	With 3/8 inch cap	10	100	36	.98
3080 ^A	With porcelain base for wall work, concealed	10	50	27	1.02
3081 ^A	With metal covered base for wall work, concealed	10	50	27	1.08
3084 ^A	With K. W. Rosette, porcelain base, concealed	10	20	20	1.50
3085 ^A	With K. W. Rosette, porcelain base, cleat	10	20	20	1.50
3086 ^A	With K. W. Rosette, porcelain base, molding	10	20	20	1.50
3126 ^A	With K. W. Rosette, combination base	10	20	20	1.50
3127 ^A	With K. W. Rosette, three-wire molding base	10	20	20	1.50
3128 ^A	With surface wiring base	10	50	27	1.02
3129 ^A	With wood molding base	10	50	27	1.02
3130 ^A	With conduit base	10	50	27	1.02
3087 ^A	With terminal base for National metal molding	10	50	25	1.02
3088 ^A	With two-way base for National metal molding	10	50	25	1.02
3082 ^A	With metal covered shallow ceiling base for 3 in. and 3 1/4 in. outlet boxes	10	30	31	1.38
3083 ^A	With metal covered shallow ceiling base, insulated, for 3 in. and 3 1/4 in. outlet boxes	10	30	31	1.38
3131 ^A	With large metal covered shallow ceiling base for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	1.74
3132 ^A	With large metal covered shallow ceiling base, insulated, for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	1.74

Quick Catch Fastenings

Schedule "B"

3868	With K. W. Rosette, porcelain base, concealed	10	20	20	\$1.50
3869	With K. W. Rosette, porcelain base, cleat	10	20	20	1.50
3870	With K. W. Rosette, porcelain base, molding	10	20	20	1.50
3871	With K. W. Rosette, combination base	10	20	20	1.50
3872	With K. W. Rosette, three-wire molding base	10	20	20	1.50
3894	With surface wiring base	10	50	27	1.02
3895	With wood molding base	10	50	27	1.02
3896	With conduit base	10	50	27	1.02
3875	With terminal base for National metal molding	10	50	25	1.02
3876	With two-way base for National metal molding	10	50	25	1.02
3873	With large metal covered shallow ceiling base, for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	1.74
3874	With large metal covered shallow ceiling base, insulated, for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	1.74

Each socket equipped with 6 feet of black cord and No. 5919 adjustable acorn.
Extra cord, 2 cents list, per foot.

For special finishes, see data on preceding page.

6 cents additional for special finish on "Economy" Extender.

For suitable outlet boxes see corresponding types of standard sockets.

Standard finishes are polished brass, old brass and brush brass. Brush brass shipped unless otherwise specified.

^ANational Electrical Code Standard.

Wiring Devices

HUBBELL PULL SWITCHES



No. 6184



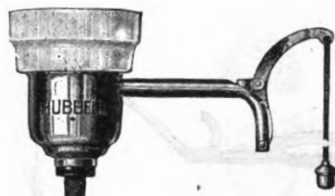
No. 6102



No. 6014



No. 6015



No. 6001

Presturn Fixture Pull Switch ORNAMENTAL LOCK BUSHING

Single Pole, 3 Amperes, 125 Volts; 1 Ampere, 250 Volts

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
6184	Pull switch, with $\frac{1}{4}$ in. cap.	10	50	15	\$1.05
6185	Pull switch, with $\frac{1}{4}$ in. cap.	10	50	15	1.14
6186	Pull switch, with $\frac{3}{8}$ in. cap.	10	50	15	1.14
6187	Pull switch, with $\frac{1}{2}$ in. male thread cap.	10	50	15	1.05
6188	Pull switch, with $\frac{1}{4}$ in. male thread cap.	10	50	15	1.14
6189	Pull switch, with $\frac{3}{8}$ in. male thread cap.	10	50	15	1.14

FIXTURE PULL SWITCH, QUICK CATCH

6300	Special fixture pull switch, $\frac{1}{8}$ in. cap.	10	50	15	\$1.05
6301	Special fixture pull switch, $\frac{1}{4}$ in. cap.	10	50	15	1.14
6302	Special fixture pull switch, $\frac{3}{8}$ in. cap.	10	50	15	1.14
6303	Special fixture pull switch, $\frac{1}{2}$ in. male thread cap.	10	50	15	1.05
6304	Special fixture pull switch, $\frac{1}{4}$ in. male thread cap.	10	50	15	1.14
6305	Special fixture pull switch, $\frac{3}{8}$ in. male thread cap.	10	50	15	1.14

Candle Pull Switches

Nos. 6102 and 6014, 3 Amperes, 125 Volts; 1 Ampere, 250 Volts

No. 6015, $\frac{1}{2}$ Ampere, 125 Volts

Schedule "F"

6102	Single pole candle pull switch, side wire.	10	50	15	\$1.05
	Standard length of chain, 8 inches.				
6014	Presturn pull switch, $\frac{1}{8}$ in. bushing at top and bottom.	10	50	14	.84
6015	Quick Catch Candelabra pull switch, $\frac{1}{8}$ in. bushing at top and bottom. (Quick Catch Shell— $\frac{1}{2}$ amp.—250 volts.	10	50	10	.84

Presturn Ceiling Pull Switch Rosette

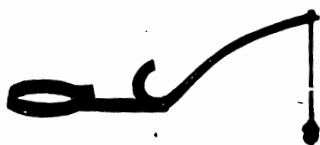
Single Pole, 3 Amperes, 125 Volts; 1 Ampere, 250 Volts

Schedule "F"

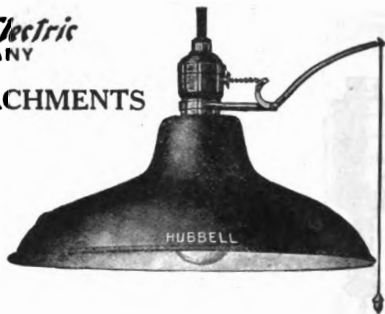
6001	With porcelain base, concealed.	10	30	25	\$1.20
6002	With brass covered porcelain base, concealed.	10	30	25	1.26
6003	With K.-W. Rosette porcelain base, concealed.	10	30	33	1.76
6004	With K.-W. Rosette porcelain base, cleat.	10	30	33	1.76
6005	With K.-W. Rosette porcelain base, molding.	10	30	33	1.76
6008	With K.-W. Rosette combination base.	10	30	33	1.76
6009	With K.-W. Rosette three-wire molding base.	10	30	33	1.76
6010	With surface wiring base.	10	30	33	1.20
6011	With wood molding base.	10	30	33	1.20
6036	With conduit base.	10	30	33	1.20
6020	With terminal base for National metal molding.	10	30	33	1.20
6021	With two-way base for National metal molding.	10	30	33	1.20
6006	With metal covered shallow ceiling base for 3 and 3 $\frac{1}{4}$ inch outlet boxes.	10	30	30	1.62
6007	With metal covered shallow ceiling base, insulated, for 3 and 3 $\frac{1}{4}$ inch outlet boxes.	10	30	30	1.62
6022	With large metal covered shallow ceiling base for 3, 3 $\frac{1}{4}$ and 4 inch outlet boxes.	1	30	35	2.04
6023	With large metal covered shallow ceiling base, insulated, for 3, 3 $\frac{1}{4}$ and 4 inch outlet boxes.	1	30	35	2.04

All of the above switches are equipped with 10 feet of extra quality linen cord and No. 5919 adjustable acorn. Additional cord, extra 2 cents. Special acorn, 9 cents each list. Standard finishes, polished brass, old brass and brush brass. Brush brass furnished where no finish is specified. Switches in special finish subject to same corresponding addition to list price as standard pull sockets and 7 cents additional for switches with "Economy" extender attached. The "Economy" extender takes the place of the regular chain eyelet, being attached direct to eyelet bracket. Switches with K.-W. bases not rated over 2 amperes, 125 volts.

HUBBELL PULL ATTACHMENTS



No. 5828



Illustrating Use

Attachment for Pull Sockets

This attachment is made of sheet brass of ample stiffness to resist strain of continuous use. Attaches direct to the socket, not to the shade holder. The spring band at the end of the horizontal arm snaps around the socket. A slot hooks over a screw by which the band is secured.

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Lbs.	List Price Each
5828 [▲]	For 8 inch and 10 and 12 inch reflectors.....	25	250	21	\$0.31
5829 [▲]	For 14 inch reflectors.....	25	250	21	.31
5953 [▲]	For 16 inch reflectors.....	25	100	24	.35
5954 [▲]	For 18 and 20 inch reflectors.....	25	100	26	.35
6317	For 22 inch reflectors.....	25	100	30	.49

Attachments for Porcelain Pull Sockets

5957	For 8 inch, 10 inch and 12 inch reflectors.....	25	250	21	\$0.31
5958	For 14 inch reflectors.....	25	250	21	.31
5959	For 16 inch reflectors.....	25	100	24	.35
5960	For 18 inch and 20 inch reflectors.....	25	100	26	.35
5961	For 22 inch reflectors.....	25	100	30	.49



No. 5880



No. 3837

Pull Sockets with Economy Attachment

Lock Shell Fastening

Schedule "B"

3830 [▲]	Pull socket, 1/8 inch cap.....	10	100	35	\$0.90
3831 [▲]	Pull socket, 3/8 inch cap.....	10	100	36	.98
3832 [▲]	Wall pull socket, porcelain base.....	10	50	25	1.02
3833 [▲]	Wall pull socket, metal covered base.....	10	50	26	1.08
3834 [▲]	Ceiling pull socket, metal covered base.....	10	50	43	1.38
3835 [▲]	Ceiling pull socket, insulated metal covered base.....	10	50	50	1.38
3863	With K. W. Rosette Base Concealed.....	10	20	20	1.50
3864	With K. W. Rosette Base Cleat.....	10	20	20	1.50
3865	With K. W. Rosette Base Moulding.....	10	20	20	1.50

Quick Catch Fastening

Schedule "B"

3836 [▲]	Pull socket, 1/8 inch cap.....	10	100	35	\$0.90
3837 [▲]	Pull socket, 3/8 inch cap.....	10	100	36	.98
3838 [▲]	Wall pull socket, porcelain base.....	10	50	27	1.02
3839 [▲]	Wall pull socket, metal covered base.....	10	50	27	1.08
3840 [▲]	Shallow ceiling pull socket, metal covered base.....	10	30	31	1.38
3841 [▲]	Shallow ceiling pull socket, insulated metal covered base.....	10	30	31	1.38

"ECONOMY" ATTACHMENT ONLY

Schedule "F"

5880 [▲]	Attachment only for Standard sockets.....	25	250	18	\$0.35
6137	Two piece Economy extender.....	25	250	10	.42
6306	Attachment only for Electrolier sockets.....	25	250	18	.35

Attachments sold separately do not come under Schedule "B" but are subject to Schedule "F" discounts. The above price covers attachments in polished brass and old brass finishes. For nickel or oxidized copper finish, add 7 cents to list. [▲]National Electrical Code Standard.

Wiring Devices

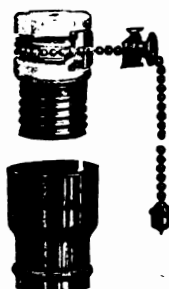
HUBBELL PULL SOCKETS



Quick Catch



Quick Catch Angle Cap



Lock Shell



With Shade Holder

Quick Catch and Lock Fastenings

1/8 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3618 ^A	Quick catch.....	25	250	65	\$0.72
3757 ^A	Quick catch—angle cap.....	25	50	16	.78
3621 ^A	Quick catch—with 2 1/4 inch shade holder attached.....	10	250	75	.80
3624 ^A	Quick catch—with 3 1/4 inch shade holder attached.....	10	100	50	.89
35000 ^A	Lock shell.....	25	250	65	.72

1/4 INCH CAP

Schedule "B"

3769 ^A	Quick catch.....	25	100	25	\$0.80
3760 ^A	Quick catch—angle cap.....	25	50	16	.86
3766 ^A	Lock shell.....	25	100	27	.80

3/8 INCH CAP

Schedule "B"

3619 ^A	Quick catch.....	25	100	28	\$0.80
3763 ^A	Quick catch—angle cap.....	25	50	16	.86
3622 ^A	Quick catch—with 2 1/4 inch shade holder attached.....	10	100	35	.87
3625 ^A	Quick catch—with 3 1/4 inch shade holder attached.....	10	100	55	.93
35001 ^A	Lock shell.....	25	100	30	.80

MALE THREAD CAP

Schedule "B"

3775 ^A	Quick catch—1/8 inch.....	25	250	70	\$0.72
3776 ^A	Quick catch—1/4 inch.....	25	100	30	.80
3777 ^A	Quick catch—3/8 inch.....	25	100	30	.80
3789 ^A	Lock shell—1/8 inch.....	25	250	70	.72
3790 ^A	Lock shell—1/4 inch.....	25	100	30	.80
3791 ^A	Lock shell—3/8 inch.....	25	100	30	.80

PENDENT CAP

Schedule "B"

3620 ^A	Quick catch.....	25	250	65	\$0.72
3623 ^A	Quick catch—with 2 1/4 inch shade holder attached.....	10	250	75	.80
3626 ^A	Quick catch—with 3 1/4 inch shade holder attached.....	10	100	50	.89
35040 ^A	Lock shell.....	25	250	68	.72

Pull sockets with chains over 8 inches in length, add to list, per foot, 12 cents.

For separate chains not attached to socket, see listing elsewhere.

Standard finishes are brush brass, old brass and polished brass.

For special finishes, see additions elsewhere.

^ANational Electrical Code Standard.

HUBBELL SOCKETS

Presturn Type

No. 3000
Pull
¾ Actual SizeNo. 3090
Pull Electroliner Socket
¾ Actual SizeNo. 3030
Pull with Shade Holder
¾ Actual Size

WITH ½ INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3000 [▲]	Pull, Double Break	25	250	65	\$0.72
3090 [▲]	Pull, Double Break, electroliner	25	250	50	.80
3030 [▲]	Pull, Double Break, with 2¼ in. shade holder attached	10	250	75	.80
3033 [▲]	Pull, Double Break, with 3¼ in. shade holder	10	100	50	.89

WITH ¼ INCH CAP

Schedule "B"

3001 [▲]	Pull, Double Break	25	100	27	\$0.80
3091 [▲]	Pull, Double Break, electroliner	25	100	20	.80

WITH ¾ INCH CAP

Schedule "B"

3002 [▲]	Pull, Double Break	25	100	30	\$0.80
3092 [▲]	Pull, Double Break, electroliner	25	100	20	.80
3031 [▲]	Pull, Double Break, with 2¼ in. shade holder attached	10	100	35	.87
3034 [▲]	Pull, Double Break, with 3¼ in. shade holder attached	10	100	55	.96

WITH PENDENT CAP

Schedule "B"

3003 [▲]	Pull, Double Break	25	250	60	\$0.72
3032 [▲]	Pull, Double Break, with 2¼ in. shade holder attached	10	250	75	.80
3035 [▲]	Pull, Double Break, with 3¼ in. shade holder attached	10	100	50	.89

WITH ½ INCH ANGLE CAP

Schedule "B"

3004 [▲]	Pull, Double Break	25	50	16	\$0.78
3093 [▲]	Pull, Double Break, electroliner	25	50	10	.78

WITH ¼ INCH ANGLE CAP

Schedule "B"

3005 [▲]	Pull, Double Break	25	50	16	\$0.86
3094 [▲]	Pull, Double Break, electroliner	25	50	10	.86

WITH ¾ INCH ANGLE CAP

Schedule "B"

3006 [▲]	Pull, Double Break	25	50	16	\$0.86
3095 [▲]	Pull, Double Break, electroliner	25	50	10	.86

WITH ½ INCH CAP WITH MALE THREAD

Schedule "B"

3007 [▲]	Pull, Double Break	25	250	65	\$0.72
3096 [▲]	Pull, Double Break	25	250	50	.80

WITH ¼ INCH CAP WITH MALE THREAD

Schedule "B"

3008 [▲]	Pull, Double Break	25	100	30	\$0.80
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WITH ¾ INCH CAP WITH MALE THREAD

Schedule "B"

3009 [▲]	Pull, Double Break	25	100	30	\$0.80
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Pull sockets with chains over 8 inches in length, add to list per foot 12 cents.
Standard finishes are brush brass, old brass and polished brass.
Brush brass shipped, unless otherwise specified.
[▲] National Electrical Code Standard.

HUBBELL SOCKETS

***Presturn* Type**



No. 3014
Key



No. 3100
Key
Electrolier



No. 3024
Keyless



No. 3107
Keyless
Electrolier

WITH 1/8 INCH ANGLE CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt. Lbs.	List Price Each
3014*	Key, Double Break	25	100	30	\$0.46
3100*	Key, Double Break, electrolier	25	100	20	.46
3024*	Keyless	25	100	30	.42
3107*	Keyless, electrolier	25	100	20	.42

WITH 1/4 INCH ANGLE CAP

Schedule "B"

3015*	Key, Double Break	25	100	30	\$0.53
3101*	Key, Double Break, electrolier	25	100	20	.53
3025*	Keyless	25	100	30	.50
3108*	Keyless, electrolier	25	100	20	.50

WITH 3/8 INCH ANGLE CAP

Schedule "B"

3016*	Key, Double Break	25	100	30	\$0.53
3102*	Key, Double Break, electrolier	25	100	20	.53
3026*	Keyless	25	100	30	.50
3109*	Keyless, electrolier	25	100	20	.50

WITH MALE THREAD CAP

Schedule "B"

3017*	Key, 1/8 in. cap, Double Break	25	500	135	\$0.40
3103*	Key, 1/8 in. cap, Double Break, electrolier	25	500	100	.40
3027*	Keyless, 1/8 in. cap	25	500	127	.36
3110*	Keyless, 1/8 in. cap, electrolier	25	500	100	.36
3018*	Key, 1/4 in. cap, Double Break	25	250	70	.47
3028*	Keyless, 1/4 in. cap	25	250	65	.44
3019*	Key, 3/8 in. cap, Double Break	25	250	70	.47
3029*	Keyless, 3/8 in. cap	25	250	65	.44

For special finishes, see data on preceding pages.

Standard finishes are polished brass, old brass and brush brass.

Brush brass shipped unless otherwise specified.

For type caps, see data on following pages.

*National Electrical Code Standard.

HUBBELL SOCKETS

Key
Lock ShellKeyless
Lock ShellKey
Snap ShellKeyless
Snap Shell

Lock Shell and Snap Shell

 $\frac{1}{8}$ INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
35050 ^A	Key—lock shell.....	25	500	135	\$0.40
35053 ^A	Keyless—lock shell.....	25	500	127	.36
3684 ^A	Key—snap shell.....	25	500	135	.40
3687 ^A	Keyless—snap shell.....	25	500	127	.36

 $\frac{1}{4}$ INCH CAP

Schedule "B"

3767 ^A	Key—lock shell.....	25	250	70	\$0.47
3768 ^A	Keyless—lock shell.....	25	250	65	.44
3773 ^A	Key—snap shell.....	25	250	70	.47
3774 ^A	Keyless—snap shell.....	25	250	65	.44

 $\frac{3}{8}$ INCH CAP

Schedule "B"

35051 ^A	Key—lock shell.....	25	250	70	\$0.47
35054 ^A	Keyless—lock shell.....	25	250	65	.44
3685 ^A	Key—snap shell.....	25	250	70	.47
3688 ^A	Keyless—snap shell.....	25	250	65	.44

MALE THREAD CAP

Schedule "B"

3648 ^A	Key— $\frac{1}{8}$ inch lock shell.....	25	500	135	\$0.40
3795 ^A	Keyless— $\frac{1}{8}$ inch lock shell.....	25	500	127	.36
3792 ^A	Key— $\frac{1}{4}$ inch lock shell.....	25	250	70	.47
3793 ^A	Keyless— $\frac{1}{4}$ inch lock shell.....	25	250	65	.44
3794 ^A	Key— $\frac{3}{8}$ inch lock shell.....	25	250	70	.47
3649 ^A	Keyless— $\frac{3}{8}$ inch lock shell.....	25	250	65	.44
3702 ^A	Key— $\frac{1}{8}$ inch snap shell.....	25	500	135	.40
3788 ^A	Keyless— $\frac{1}{8}$ inch snap shell.....	25	500	127	.36
3785 ^A	Key— $\frac{1}{4}$ inch snap shell.....	25	250	70	.47
3786 ^A	Keyless— $\frac{1}{4}$ inch snap shell.....	25	250	65	.44
3787 ^A	Key— $\frac{3}{8}$ inch snap shell.....	25	250	70	.47
3703 ^A	Keyless— $\frac{3}{8}$ inch snap shell.....	25	250	65	.44

PENDENT CAP

Schedule "B"

35052 ^A	Key—lock shell.....	25	500	138	\$0.40
35055 ^A	Keyless—lock shell.....	25	500	135	.36
3686 ^A	Key—snap shell.....	25	500	138	.40
3689 ^A	Keyless—snap shell.....	25	500	126	.36

Standard finishes are brush brass, old brass, and polished brass.

For special finishes, see data elsewhere.

^ANational Electrical Code Standard.

HUBBELL SOCKETS



**Electrolier
Key Socket**



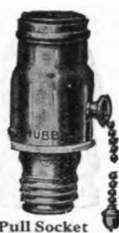
**Electrolier
Keyless Socket**



**Electrolier
Pull Socket**



**Pull Socket
With Porcelain
Ring**



**Pull Socket
With Lamp Base
Attachment**



No. 3899

Electrolier Key and Keyless Sockets

Double Break Quick Catch Fastening

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3822 ^A	Key socket— $\frac{1}{8}$ inch cap.	25	500	100	\$0.40
3824 ^A	Key socket— $\frac{1}{4}$ inch cap.	25	250	50	.47
3827 ^A	Key socket— $\frac{3}{8}$ inch cap.	25	250	50	.47
3756 ^A	Keyless socket— $\frac{1}{8}$ inch cap.	25	500	75	.36
3825 ^A	Keyless socket— $\frac{1}{4}$ inch cap.	25	250	45	.44
3828 ^A	Keyless socket— $\frac{3}{8}$ inch cap.	25	250	45	.44
3843 ^A	Key— $\frac{1}{8}$ inch angle cap.	25	100	20	.46
3846 ^A	Key— $\frac{1}{4}$ inch angle cap.	25	100	20	.53
3849 ^A	Key— $\frac{3}{8}$ inch angle cap.	25	100	20	.53
3852 ^A	Key— $\frac{1}{8}$ inch male thread cap.	25	500	100	.40
3844 ^A	Keyless— $\frac{1}{8}$ inch angle cap.	25	100	20	.42
3847 ^A	Keyless— $\frac{1}{4}$ inch angle cap.	25	100	20	.50
3850 ^A	Keyless— $\frac{3}{8}$ inch angle cap.	25	100	20	.50
3853 ^A	Keyless— $\frac{1}{8}$ inch male thread cap.	25	500	75	.36
3899	Keyless, $\frac{1}{8}$ inch cap short shell.	25	500	80	.36

Standard finishes are brush brass, old brass and polished brass.

For special finishes, see data elsewhere.

Electrolier Pull Socket

Double Break Quick Catch Fastening

Schedule "B"

List No.	Description	Quantity Carton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3821 ^A	Pull socket— $\frac{1}{8}$ inch cap.	25	250	50	\$0.72
3823 ^A	Pull socket— $\frac{1}{4}$ inch cap.	25	100	20	.80
3826 ^A	Pull socket— $\frac{3}{8}$ inch cap.	25	100	20	.80
3842 ^A	Pull— $\frac{1}{8}$ inch angle cap.	25	50	10	.78
3845 ^A	Pull— $\frac{1}{4}$ inch angle cap.	25	50	10	.86
3848 ^A	Pull— $\frac{3}{8}$ inch angle cap.	25	50	10	.86
3851 ^A	Pull— $\frac{1}{8}$ inch male thread cap.	25	250	50	.72

Standard finishes are brush brass, old brass and polished brass.

For special finishes, see data elsewhere.

For chain pulls over 8 inches in length, add to list, per foot, 12 cents.

Special Pull Sockets

Lock Shell Fastening

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
35037 ^A	Pull socket— $\frac{1}{8}$ inch cap with porcelain ring.	25	250	66	\$0.78
35044 ^A	Pull socket— $\frac{1}{4}$ inch cap with porcelain ring.	25	100	30	.86
35024 ^A	Pull socket, with lamp base attachment.	10	50	17	.84

NOTE: Pull sockets with chains over 8 inches in length, add to list, per foot, 12 cents.

For separate chains not attached to sockets, see data elsewhere.

Standard finishes are brush brass, old brass and polished brass.

For special finishes, see data elsewhere.

^ANational Electrical Code Standard.

HUBBELL SPECIALTIES

Porcelain Sockets
PULL, KEY AND KEYLESS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3330	Pull, $\frac{1}{8}$ inch metal covered cap, double break	10	50	30	\$1.02
3331	Pull, $\frac{3}{8}$ inch metal covered cap, double break	10	50	30	1.02
3332	Key, $\frac{3}{8}$ inch metal covered cap, double break	10	100	50	.42
3333	Key, $\frac{3}{8}$ inch metal covered cap, double break	10	100	50	.42
3334	Keyless, $\frac{1}{8}$ inch metal covered cap	10	100	45	.36
3335	Keyless, $\frac{3}{8}$ inch metal covered cap	10	100	45	.36
3380	Pull, pendent cap	10	100	55	.96
3381	Key, pendent cap	10	250	110	.36
3382	Keyless, pendent cap	10	250	85	.30
3387	Pull, $\frac{3}{8}$ inch aluminum cap	10	50	35	1.20
3388	Key, $\frac{3}{8}$ inch aluminum cap	10	100	45	.60
3389	Keyless, $\frac{3}{8}$ inch aluminum cap	10	100	40	.54
3336	Pull, $\frac{1}{2}$ in. aluminum cap	10	50	35	1.20
3337	Key, $\frac{1}{2}$ in. aluminum cap	10	100	45	.60
3338	Keyless, $\frac{1}{2}$ in. aluminum cap	10	100	40	.54

Sockets with Brass Caps (for Husk Work)

3375	Keyless, $\frac{1}{8}$ inch brass covered cap	10	100	45	\$0.36
3377	Keyless, $\frac{3}{8}$ inch brass covered cap	10	100	45	.36

Sockets furnished with chains over 8 inches in length, add to list, per foot 12 cents.

For separate chains not attached to sockets, see listing elsewhere.

Special finishes take one half the list price charged for brass shell sockets.

Standard finish for metal cap on porcelain sockets is polished brass and will be so furnished on all orders unless otherwise specified.

Insulating and Splicing Links
FOR SOCKET CHAIN

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Ounces	List Price per 100
6088	Insulating Link	25	250	12	\$11.20
6089	Splicing Link	100	200	6	3.50

These links are attached by pressing a ball of the chain against the end of spring clip, which will readily open and enclose the ball.

Wiring Devices

66-2

HUBBELL SOCKETS AND RECEPTACLES

Candelabra Pull Sockets

75 Watts—125 Volts

LOCK SHELL FASTENING

Schedule "M"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5455 ^A	Pull, Ed. Candelabra base.	10	50	10	\$0.84
5593 ^A	Pull, French base.	10	50	10	.84
5836	Pull, Miniature base.	10	50	10	.84



Lock Shell
Pull Socket



Quick Catch
Pull Socket

QUICK CATCH FASTENING

Schedule "M"

5742 ^A	Pull, Ed. Candelabra base.	10	50	10	\$0.84
5794 ^A	Pull, French base.	10	50	10	.84
5837	Pull, Miniature base.	10	50	10	.84

Candelabra Sockets with Ediswan Base

Lock Shell Fastening, 75 Watts—125 Volts

Schedule "M"

5792	Pull socket, Ediswan base.	10	50	10	\$0.98
5793	Keyless socket, Ediswan base.	10	50	10	.42



Pull Socket
Ediswan Base



Keyless Socket
Ediswan Base

Standard length of chain in pull socket, 3 inches. For chains over 3 inches in length add to list, per foot, 14 cents.

Standard finishes are brush brass, old brass, and polished brass.

Candelabra Keyless Sockets

Lock Shell Fastening, 75 Watts—125 Volts

Schedule "M"

5753	Keyless socket, Candelabra base.	25	200	20	\$0.33
5838	Keyless socket, Miniature base.	25	200	20	.33



Keyless Socket

Candelabra Candle Receptacles

75 Watts—125 Volts

Schedule "M"

5686 ^A	Receptacle with $\frac{1}{8}$ inch male thread bushing.	25	200	12	\$0.17
5812	Receptacle with $\frac{1}{8}$ inch, male thread bushing, with extra long porcelain skirt.	25	200	12	.17
5808	Receptacles with $\frac{1}{8}$ inch female thread bushing.	25	200	12	.17
5819	Receptacle with $\frac{1}{8}$ inch pipe tap female thread bushing.	25	200	12	.17



Male
Bushing
Candelabra Receptacles



Female
Bushing
Candelabra Receptacles

The above receptacles are known as standard round candelabra receptacles and will take candelabra base lamps. They are constructed of porcelain and especially designed for use with fixtures equipped with glass candles. The receptacle screws into a central supporting tube, and the candle, when in place, completely covers both the supporting tube and receptacle. They are fitted with both male and female thread.

No. 5812 receptacle is provided with porcelain skirt $\frac{1}{8}$ inch longer than standard. Is otherwise identical in construction to No. 5686.

Candelabra Extension

Schedule "M"

5481 ^A	Extension, Candelabra.	50	50	1	\$0.49
5879	Extension, Miniature.	50	50	1	.49
5482 ^A	Collar.	50	50	1	.07
5483 ^A	Candle.	25	50	2	.21
6145	Extension, Standard. ....	..	50	.	.70

Extensions over $4\frac{1}{4}$ inches in length, add to list 14 cents per inch or fraction thereof. Candles over 4 inches in length, special prices on application.

The extension is designed to take a 4 inch candle, and is sold complete with socket, or separately, as listed.

Candelabra sockets with shade holder bead preventing collar from seating on shoulder of shell requires an extension $4\frac{1}{4}$ inches in length when used with 4 inch candle.

For special finish collar, add to list 3 cents.

^ANational Electric Code Standard.



Candelabra
Extension



Candle



Collar

HUBBELL PULL WALL SOCKETS



Wall Socket



K. W. Rosette Wall Socket



Shallow Base Ceiling Socket

Quick Catch Fastenings

WALL SOCKETS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3731 ^A	Pull, porcelain base.....	10	100	40	\$0.84
3734 ^A	Pull, metal covered base.....	10	100	45	90

Supporting screw holes spaced as follows: Porcelain base, $1\frac{1}{8}$ inches on centers; metal covered base, $1\frac{3}{4}$ inches on centers.

K. W. ROSETTE WALL SOCKET

Schedule "B"

3737 ^A	Pull, concealed base, 18 inch chain.....	10	20	20	\$1.32
3740 ^A	Pull, cleat base, 18 inch chain.....	10	20	20	1.32
3743	Pull, molding base, 18 inch chain.....	10	20	20	1.32

Supporting screw holes spaced $1\frac{1}{8}$ inches on centers.

COVERED BASE CEILING SOCKETS

Schedule "B"

3749 ^A	Pull, metal covered base, shallow, 18 inch chain.....	10	50	40	\$1.20
3750 ^A	Pull, insulated metal covered base, shallow, 18 inch chain.....	10	50	40	1.20

Supporting screw holes spaced $2\frac{3}{8}$ inches on centers.

Ceiling sockets are equipped with 18 inch chains. When furnished longer, add to list, per foot, 12 cents.

For separate chains not attached to sockets see listing elsewhere.

Standard finishes are brush brass, old brass and polished brass. For special finishes, see listing elsewhere.

Angle Wall Socket
Wiring Devices

ANGLE WALL SOCKETS

Schedule "B"

3746 ^A	Pull, porcelain base.....	10	50	25	\$0.92
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Supporting screw holes spaced $1\frac{1}{8}$ inches on centers.

Angle wall sockets are equipped with 8 inch chains. When furnished longer, add to list, per foot, 12 cents.

For separate chains not attached to sockets see listing elsewhere.

Standard finishes are brush brass, old brass and polished brass. For special finishes see data elsewhere.

^ANational Electrical Code Standard.

HUBBELL SOCKETS



No. 3885



No. 3855



No. 3880

**Quick Catch Fastenings
FOR SURFACE WIRING BASE**

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*3885	Pull, surface wiring base.....	10	100	60	\$0.84
**3888	Pull, wood molding base.....	10	100	45	.84
***3891	Pull, conduit base.....	10	100	45	.84

FOR NATIONAL METAL MOLDING

Schedule "B"

†3855	Pull, terminal base.....	10	100	50	\$0.84
†3858	Pull, two-way base.....	10	100	50	.84

**SHALLOW BASE CEILING SOCKETS
For 3, 3¼ and 4 Inch Outlet Boxes**

Schedule "B"

*3877	Pull, metal covered base, 18 inch chain.....	1	50	90	\$1.56
*3880	Pull, insulated metal covered base, 18 inch chain.....	1	50	90	1.56



No. 3889



No. 3893



No. 3859



No. 3881

FOR SURFACE WIRING BASE

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*3886	Key, surface wiring base.....	10	250	145	\$0.54
**3889	Key, wood molding base.....	10	250	120	.54
***3892	Key, conduit base.....	10	250	120	.54
*3887	Keyless, surface wiring base.....	10	250	140	.48
*3890	Keyless, wood molding base.....	10	250	115	.48
***3893	Keyless, conduit base.....	10	250	115	.48

FOR NATIONAL METAL MOLDING

Schedule "B"

†3856	Key, terminal base.....	10	250	125	\$0.54
†3859	Key, two-way base.....	10	250	125	.54
†3857	Keyless, terminal base.....	10	250	115	.48
†3860	Keyless, two-way base.....	10	250	115	.48

**SHALLOW BASE CEILING SOCKETS
For 3, 3¼ and 4 Inch Outlet Boxes**

Schedule "B"

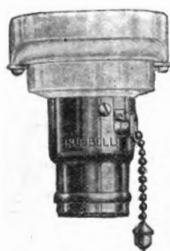
*3878	Key, metal covered base.....	1	100	180	\$1.12
*3881	Key, insulated metal covered base.....	1	100	180	1.12
*3879	Keyless, metal covered base.....	1	100	175	1.08
*3882	Keyless, insulated metal covered base.....	1	100	175	1.08

Supporting screw holes, *3¼ inch, **3⅜ inch, ***1⅝ inch centers.

††Supporting screw holes, 1¼ inch centers.

*Supporting screw holes, 2⅞, 2¾ and 3½ inches on centers.

HUBBELL PULL WALL SOCKETS

No. 35006
Wall SocketNo. 35021
Angle Wall SocketNo. 35009
K. W. Rosette Wall SocketNo. 35032
Deep Base Ceiling SocketLock Shell Fastening
WALL SOCKETS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
35006 ^A	Pull, porcelain base.....	10	100	40	\$0.84
35028 ^A	Pull, metal covered base.....	10	100	45	.90

Supporting screw holes spaced 1½ inches on centers.

ANGLE WALL SOCKETS

Schedule "B"

35021 ^A	Pull, porcelain base.....	10	50	25	\$0.92
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Supporting screw holes spaced 1 inch on centers.

K. W. ROSETTE WALL SOCKETS

Schedule "B"

35009 ^A	Pull, concealed base, 18 inch chain.....	10	20	20	\$1.32
35010 ^A	Pull, cleat base, 18 inch chain.....	10	20	20	1.32
35011	Pull, molding base, 18 inch chain.....	10	20	20	1.32
35018	Pull, combination base, 18 inch chain.....	10	20	20	1.32
35031	Pull, 3 wire molding base, 18 inch chain.....	10	20	20	1.32

Supporting screw holes spaced 1½ inches on centers.

DEEP BASE CEILING SOCKETS

Schedule "B"

35032 ^A	Pull, metal covered base.....	10	50	40	\$1.20
35034 ^A	Pull, insulated metal covered base.....	10	50	40	1.20

Supporting screw holes spaced 2½ inches on centers. Deep base ceiling sockets may be used with 3½ inch and 4 inch conduit box adapters illustrated elsewhere.

Ceiling sockets are equipped with 18 inch chains. When furnished longer add to list, per foot, 12 cents.

For separate chains not attached to sockets see listing elsewhere.

Standard finishes are brush brass, old brass and polished brass.

Incandescent Light Attachment

250 Watts—250 Volts—Lock Shell Fastening

Schedule "F"

This is a handsome and inexpensive device for attaching to an oil lamp, to give it the practical advantage of an electric lamp.

The base of the socket is easily and quickly fitted to any lamp with a common burner, either flat wick or central draft.

It does not injure the lamp in any way, and requires no tools to attach.

When sold complete it is fitted with 7 feet of silk parallel lamp cord and Hubbell plug No. 5406.

Incandescent Light
Attachment
Wiring Devices

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5403 ^A	With No. 5406 Hubbell plug and 7 feet silk cord.....	1	20	15	\$2.80
5529 ^A	Without cord or plug.....	1	20	10	2.10

Standard finishes are brush brass, old brass and polished brass. For special finishes, see data elsewhere. For chain over 12 inches in length, add to list, per foot, 14 cents.

^ANational Electrical Code Standard.

HUBBELL SOCKETS

Presturn Type



No. 3049
1/4 Actual Size



No. 3121
1/4 Actual Size



No. 3055
1/4 Actual Size

WALL SOCKETS

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wgt. Lbs.	List Price Each
††3049 ^a	Key, porcelain base	1 1/8 ins.	10	250	100	\$0.53
3052 ^a	Key, metal covered base	1 3/4 ins.	10	250	115	.53
3118 ^a	Key, surface wiring base	2 3/4 ins.	10	250	145	.53
3121 ^a	Key, wood molding base	2 3/4 ins.	10	250	120	.53
†3124 ^a	Key, conduit base	1 3/8 ins.	10	250	120	.53
††3058 ^a	Key, concealed base K. W. rosette	1 5/8 ins.	10	100	85	.72
3061 ^a	Key, cleat base K. W. rosette	1 5/8 ins.	10	100	85	.72
3064 ^a	Key, molding base K. W. rosette	1 5/8 ins.	10	100	85	.72
3055 ^a	Key, porcelain base (angle socket)	1 1/4 ins.	10	100	50	.59



No. 3053
1/4 Actual Size



No. 325
1/4 Actual Size



No. 3065
1/4 Actual Size

WALL SOCKETS

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wgt. Lbs.	List Price Each
††3050 ^a	Keyless, porcelain base	1 1/8 ins.	10	250	90	\$0.48
3053 ^a	Keyless, metal covered base	1 3/4 ins.	10	250	105	.48
*3119 ^a	Keyless, surface wiring base	2 3/4 ins.	10	250	140	.48
3122 ^a	Keyless, wood molding base	2 3/4 ins.	10	250	115	.48
†3125 ^a	Keyless, conduit base	1 3/8 ins.	10	250	115	.48
3056 ^a	Keyless, porcelain base (angle socket)	1 1/8 ins.	10	100	50	.56
††3059 ^a	Keyless, concealed base K. W. rosette	1 5/8 ins.	10	50	45	.66
3062 ^a	Keyless, cleat base K. W. rosette	1 5/8 ins.	10	50	45	.66
3065 ^a	Keyless, molding base K. W. rosette	1 5/8 ins.	10	50	45	.66

Polished brass, old brass and brush brass are standard finishes.

Brush brass shipped unless otherwise specified.

^aNational Electrical Code Standard.

*These sockets are furnished with interiors already wired to base.

†Conduit base for Crouse-Hinds 1/2 inch "Condulets."

A, B, C, D, E, LA, LB, LBL, LF, LFM, LL, LR, LU, T, TB, TBM, TL, TR, U, UB and X.

††For suitable fittings see data on following page.

HUBBELL WALL SOCKETS
Lock Shell FasteningWall Socket
No. 3724No. 3854
With Porcelain Wall BaseNo. 3723
Wall Socket
Metal Covered BaseNo. 3721
Angle Wall Socket

WALL SOCKETS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3719 [▲]	Key, porcelain base	10	250	100	\$0.53
3723 [▲]	Key, metal covered base	10	250	115	.53
3720 [▲]	Keyless, porcelain base	10	250	90	.48
3724 [▲]	Keyless, metal covered base	10	250	105	.48
3854 [*]	Keyless, socket porcelain wall base	10	250	65	.30

*Supporting screw holes are spaced $1\frac{1}{4}$ inches on centers.
Supporting screw holes spaced $1\frac{1}{4}$ inches on centers.

ANGLE WALL SOCKETS

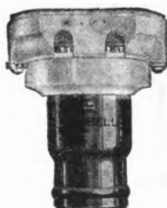
Schedule "B"

3721	Key	10	100	50	\$0.59
3722	Keyless	10	100	50	.56

Supporting screw holes spaced 1 inch on centers.



K. W. Rosette Wall Socket



Keyless Molding Base

Deep Base Ceiling Socket
Metal Covered BaseDeep Base Ceiling Socket
Insulated Metal Covered
Base

K. W. ROSETTE WALL SOCKETS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3568 [▲]	Key, concealed base	10	100	85	\$0.72
3569 [▲]	Key, cleat base	10	100	85	.72
3570	Key, molding base	10	100	85	.72
3571 [▲]	Keyless, concealed base	10	50	35	.66
3572 [▲]	Keyless, cleat base	10	50	35	.66
3573	Keyless, molding base	10	50	35	.66

Supporting screw holes spaced $1\frac{1}{2}$ inches on centers.

DEEP BASE CEILING SOCKETS

Schedule "B"

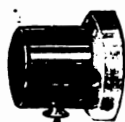
3545	Key, metal covered base	10	100	75	\$0.76
3546	Key, insulated metal covered base	10	100	75	.76
35035 [▲]	Keyless, metal covered base	10	100	75	.72
35036 [▲]	Keyless, insulated metal covered base	10	100	75	.72

Supporting screw holes spaced $2\frac{3}{8}$ inches on centers.

Standard finishes are brush brass, old brass and polished brass. For special finishes, see data elsewhere.

[▲]National Electrical Code Standard.

HUBBELL PULL SWITCHES



No. 5027

Wall Switch
Porcelain Base



No. 5689

Wall Switch
Metal Covered Base



No. 6096-6012
Wall Switch
Porcelain Base



No. 6097-6013
Wall Switch
Metal Covered Base

Wall Pull Switches

S P 3 Amperes—125 Volts, 1 Ampere—250 Volts

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5027 ^A	Lock shell pull switch, porcelain base.....	10	50	16	\$0.98
5689 ^A	Lock shell pull switch, metal covered base.....	10	50	18	1.05
6096	Quick catch, pull switch, porcelain base.....	10	50	16	.98
6097	Quick catch, pull switch, metal covered porcelain base.....	10	50	18	1.05
6012	Presturn, pull switch, porcelain base.....	10	50	16	.98
6013	Presturn, pull switch, metal covered porcelain base.....	10	50	18	1.05



No. 5610—Fixture Switch
Side Outlet



No. 5795
Bottom
Switch
Outlet



No. 5702
Bottom
Switch
Outlet

Fixture Pull Switches

S P 3 Amperes—125 Volts, 1 Ampere—250 Volts

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5610 ^A	Pendent pull switch, 1/8" bushing, side outlet.....	10	50	14	\$0.84
5631 ^A	Pendent pull switch, 3/8" bushing, side outlet.....	10	50	15	.93
5702 ^A	Pendent pull switch, 1/8" bushing, bottom outlet.....	10	50	15	.84
5703 ^A	Pendent pull switch, 3/8" bushing, bottom outlet.....	10	50	15	.93
5704 ^A	Pendent pull switch, pendent bushing, bottom outlet.....	10	50	15	.84
5724	Pendent pull 1/4" bushing bottom outlet.....	10	50	15	.84
5891	Pendent pull switch, 1/8" male thread bushing, bottom outlet.....	10	50	15	.93
5892	Pendent pull switch, 1/4" male thread bushing, bottom outlet.....	10	50	15	.93
5893	Pendent pull switch, 3/8" male thread bushing, bottom outlet.....	10	50	15	.93
5795 ^A	Ceiling pull switch, porcelain base, bottom outlet.....	10	50	23	.98
5796 ^A	Ceiling pull switch, metal covd. porc. base, bottom outlet.....	10	50	23	1.05

Pendent switches furnished with chain over 8 inches in length, add to list, per foot, 14 cents. Ceiling pull switches furnished with 10 feet of linen cord and No. 5919 adjustable acorn. For separate chains, not attached to switch, see data elsewhere. For special finishes, see data elsewhere. Switches may be equipped with 10 feet best quality linen cord in place of chain, where they are to be used at an extreme height, without extra cost. Extra cord, 2 cents per foot list. Standard finish, brush and polished brass.

^ANational Electrical Code Standard.

HUBBELL PULL SWITCHES



Rosette Pull Switches

S P 3 Amperes—125 Volts, 1 Ampere—250 Volts

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
5900	Pull switch rosette, concealed porcelain base	10	30	22	\$0.98
5901	Pull switch rosette, concealed brass covered base	10	30	22	1.05
5902	Pull switch K. W. rosette, concealed base	10	30	28	1.54
5903	Pull switch K. W. rosette, cleat base	10	30	30	1.54
5904	Pull switch K. W. rosette, molding base	10	30	30	1.54
5905	Pull switch rosette, shallow brass covered ceiling base	10	30	28	1.40
5906	Pull switch rosette shallow brass covered insulated ceiling base	10	30	28	1.40
6025	Pull switch, K. W. rosette combination base	10	30	30	1.54
6026	Pull switch, K. W. rosette three-wire molding base	10	30	30	1.54
6029	Pull switch rosette, surface wiring base	10	30	30	.98
6030	Pull switch rosette, wood molding base	10	30	30	.98
6031	Pull switch rosette, conduit base	10	30	30	.98
5942	Pull switch rosette, terminal base for National metal molding	10	30	30	.98
5943	Pull switch rosette, two-way base for National metal molding	10	30	30	.98
5949	Pull switch rosette, large metal covered shallow ceiling base for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	1.82
5950	Pull switch rosette, large metal covered shallow ceiling base, insulated, for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	1.82

Westburn Electrolier Pull Switches

Bottom Outlet Single Pole

3 Amperes—125 Volts, 1 Ampere—250 Volts

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
6070	Pendent pull switch, 1/8 in. bushing	10	50	15	\$0.84
6054	Pendent pull switch, 1/4 in. bushing	10	50	15	.93
6071	Pendent pull switch, 3/8 in. bushing	10	50	15	.93
6072	Pendent pull switch, pendent bushing	10	50	15	.84
6073	Pendent pull switch, 1/2 in. male thread bushing	10	50	15	.84
6074	Pendent pull switch, 3/4 in. male thread bushing	10	50	15	.93
6075	Pendent pull switch, 5/8 in. male thread bushing	10	50	15	.93
6076	Ceiling pull switch, porcelain base	10	50	23	.98
6077	Ceiling pull switch, metal covered porcelain base	10	50	23	1.05

Pendent pull switches furnished with chain over 8 inches in length, add to list 14 cents.

Standard finish, brush and polished brass.

Wiring Devices

72-1

HUBBELL SOCKETS

Presturn Type



No. 3069
1/2 Actual Size



No. 3114
3/4 Actual Size



No. 3072
3/4 Actual Size

SHALLOW BASE CEILING SOCKETS

Pull

For use on 3 in. and 3 1/4 in. Outlet Boxes

Schedule "B"

List No.	Description	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Wgt. Lbs.	List Price Each
3066 ^A	Pull, metal covered base, 18 in. chain.....	2 1/8 & 2 3/4 ins.	10	50	40	\$1.20
3069 ^A	Pull, insulated metal covered base, 18 in. chain.....	2 1/8 & 2 3/4 ins.	10	50	40	1.20

For use on 3, 3 1/4 and 4 Inch Outlet Boxes

Schedule "B"

3111 ^A	Pull, metal covered base, 18 in. chain.....	2 1/8, 2 1/4 & 3 1/2 ins.	1	50	90	\$1.56
3114 ^A	Pull, insulated metal covered base, 18 in. chain.....	2 1/8, 2 1/4 & 3 1/2 ins.	1	50	90	1.56

For suitable fittings, see data on following pages.

WALL SOCKETS

For National Metal Molding

Schedule "B"

3072 ^A	Pull, terminal base.....	1 1/4 ins.	10	100	50	\$0.84
3075 ^A	Pull, two-way base.....	1 1/4 ins.	10	100	50	.84



No. 3048
1/2 Actual Size



No. 3117
3/4 Actual Size



No. 3060
3/4 Actual Size



No. 3054
3/4 Actual Size

WALL SOCKET

Schedule "B"

3048 ^A	Pull, porcelain base.....	1 1/8 ins.	10	100	40	\$0.84
3051 ^A	Pull, metal covered base.....	1 3/4 ins.	10	100	45	.90
3117 ^A	Pull, surface wiring base.....	2 1/4 ins.	10	100	60	.84
3120 ^A	Pull, wood molding base.....	2 1/8 ins.	10	100	45	.84
3122 ^A	Pull, conduit base.....	1 3/8 ins.	10	100	45	.84
3057 ^A	Pull, concealed base, K. W. 18 in. chain...	1 1/8 ins.	10	20	20	1.32
3060 ^A	Pull, cleat base, K. W. 18 in. chain.....	1 1/8 ins.	10	20	20	1.32
3063 ^A	Pull, molding base, K. W. 18 in. chain.....	1 1/8 ins.	10	20	20	1.32
3054 ^A	Pull, porcelain for angle.....	1 1/8 ins.	10	50	25	.92

[†]Conduit base for Crouse-Hinds 1/2 inch condulets.

A, B, C, D, E, LA, LB, LBL, LF, LFM, LL, LR, LUT, TB, TBM, TL, TRU, UB and X.

Polished brass, old brass and brush brass are standard finishes. Brush brass shipped unless otherwise specified. Sockets furnished with chains over 8 inches in length, add to list, per foot, 12 cents. For special finishes, see data on preceding pages. For separate chains not attached to socket, see data on preceding pages.

For fittings, see data on following page.

^ANational Electrical Code Standard.

HUBBELL SPECIALTIES



No. 5920



No. 5815 and No. 5915



No. 6161

Ceiling Pull Switch Rosettes

With "Economy" Extender Assembled

Schedule "F"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5920	Porcelain base, concealed	10	30	25	\$1.19
5921	Brass covered porcelain base, concealed	10	30	25	1.26
5922	K. W. porcelain base, concealed	10	30	31	1.75
5923	K. W. porcelain base, cleat	10	30	33	1.75
5924	K. W. porcelain base, molding	10	30	33	1.75
5925	Shallow metal covered base	10	30	31	1.61
5926	Shallow metal covered base, insulated	10	30	31	1.61
6027	K. W. Rosette combination base	10	30	33	1.75
6028	K. W. Rosette three-wire molding base	10	30	33	1.75
6032	Surface wiring base	10	30	33	1.19
6033	Wood molding base	10	30	33	1.19
6034	Condulet base	10	30	33	1.19
5944	Terminal base for National Metal Molding	10	30	33	1.19
5945	Two-way base for National Metal Molding	10	30	33	1.19
5951	Large metal covered shallow ceiling base, for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	2.03
5952	Large metal covered shallow ceiling base, insulated for 3 in., 3 1/4 in. and 4 in. outlet boxes	1	30	35	2.03

All of the above switches are equipped with 10 feet of extra quality linen cord and adjustable acorn, permitting ready shortening of cord where desired. Additional cord, 2 cents list per foot.
 Standard finishes, polished brass and old brass. Old brass furnished where no finish is specified.
 Switches in special finishes subject to same corresponding addition to list price as Standard Pull Sockets and 7 cents additional for switches with "Economy" extender.
 The "Economy" Extender takes the place of regular chain eyelet, being attached direct to eyelet bracket.
 Switches with K. W. Bases not rated over 2 amperes, 125 volts.

Small Separable Attachment Plugs

FLAT KNIFE BLADE CONTACTS

660 Watts—250 Volts

Schedule "H-1"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5815	With composition cap	10	100	25	\$0.32
5830	With brass covered cap	10	100	25	.45
5816	Composition cap only	10	50	8	.19
5831	Brass covered cap only	10	50	8	.32
5817	Base only for No. 5815 and No. 5830	10	100	15	.19
5915	*With composition cap	10	100	25	.32
5916	*With brass covered composition cap	10	100	25	.45
5964	*Composition cap only for No. 5915	10	50	8	.19
5965	*Brass covered cap only for No. 5916	10	50	8	.32
5917	*Base only for Nos. 5915 and 5916	10	100	15	.19
†6160	Plug complete, with black glazed porcelain base and composition cap	10	100	30	.45
†6161	Plug complete, with composition base and composition cap	10	100	30	.45
†6162	Composition cap only, with strain relief bushing	10	50	9	.32

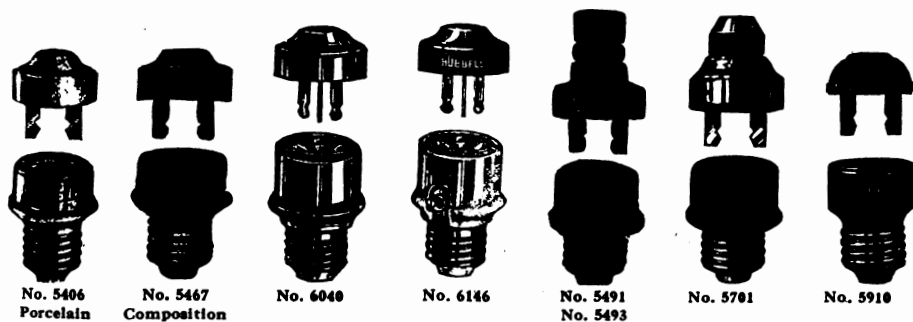
The above miniature plugs meet the demand for a small separable plug suitable for small portable devices.
 *All heat resisting molded insulation. †The cap is provided with a composition crown top strain relief bushing, which, when threaded into the top of cap, serves as a very satisfactory handle for withdrawing from the receptacle.

Wiring Devices

HUBBELL ATTACHMENT PLUGS

Porcelain and Composition Plugs

660 Watts—250 Volts



PORCELAIN PLUGS

Schedule "H-1"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5406 ^A	Separable, with porcelain cap	10	250	75	\$0.38
5408 ^A	Separable, with composition cap	10	250	73	.45
5410 ^A	Separable, with brass covered cap	10	250	75	.51
5607 ^A	Base only for 5406 plug	10	250	58	.19

COMPOSITION PLUGS

Schedule "H-1"

5467 ^A	Separable, with composition cap	10	250	68	\$0.51
5468 ^A	Separable, with brass covered cap	10	250	68	.63
5612 ^A	Base only for 5467 plug	10	250	46	.26

SEPARABLE ATTACHMENT PLUGS

For Three Wire Work

Schedule "H-1"

6040	With porcelain cap	10	100	40	\$0.63
6146	With composition cap	10	100	40	.70
6041	With brass covered porcelain cap	10	100	40	.76
6042	Base only for 6040 Plug	10	100	30	.38
6043	Porcelain cap only	10	50	12	.32
6149	Composition cap only	10	50	12	.38
6044	Brass covered porcelain cap	10	50	12	.45

For Reinforced Cord

Schedule "H-2"

5491 ^A	Porcelain, with brass covered cap, "Knostrain" bushing	10	50	20	\$0.76
5493 ^A	Composition, with brass covered cap, "Knostrain" bushing	10	50	20	.76
5657 ^A	Brass Cap only, with "Knostrain" bushing	10	50	6	.57

ALL HEAT RESISTING MOLDED INSULATION

Schedule "H-1"

5910	With composition cap	10	250	70	.63
5911	With brass covered composition cap	10	250	73	.76
5912	Special composition cap only	10	50	8	.26
5913	Special brass covered composition cap only	10	50	8	.38
5914	Special composition base only	10	250	45	.38

COMPOSITION PLUG

For Reinforced Cord

Schedule "H-2"

5929	Porcelain, with brass covered cap, split bushing strain relief	10	50	17	\$0.76
5701 ^A	Composition, with brass covered cap, split bushing strain relief	10	50	20	.82

For special finish brass covered caps, see data elsewhere.

For separate caps, see listing elsewhere.

^ANational Electrical Code Standard.

HUBBELL PLUGS



No. 5824



No. 5729



Fuse Illustration

Attachment Plugs with Cartridge Fuse

WITH 6 AMPERE FUSES
660 Watts—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5832	Composition, with porcelain cap.....	10	100	45	\$1.14
5824	Composition, with composition cap.....	10	100	45	1.20
5825	Composition, with brass covered porcelain cap.....	10	100	45	1.26
5826	Composition, base only.....	10	100	35	.95
5729	Porcelain, with porcelain cap.....	10	100	42	.95
5754	Porcelain, with composition cap.....	10	100	42	1.01
5755	Porcelain, with brass covered cap.....	10	100	42	1.08
5756	Porcelain, base only.....	10	100	30	.76

When furnished without the fuse deduct 32 cents from list.

For special finish brass covered caps, see data elsewhere.

For separate caps, see pages elsewhere.



No. 5520



No. 5889

Weatherproof Plug

10 Amperes—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5520 ^A	Weatherproof plug, porcelain cap.....	10	30	18	\$0.63
5521 ^A	Weatherproof plug, composition cap.....	10	30	18	.70
5522 ^A	Weatherproof plug, brass covered cap.....	10	30	18	.76
5889	Weatherproof plug, composition.....	10	30	18	1.01
The following List Nos. have been assigned to the bases of the weatherproof plugs.					
6293	Porcelain base only of No. 5889.....	..	30	..	.76
6294	Composition base only of No. 5520.....	..	30	..	.46

For special finished brass covered caps, see data elsewhere.

For separate caps, see pages elsewhere.

^ANational Electrical Code Standard.

HUBBELL PLUGS AND CAPS



No. 6251



No. 5423



No. 6252

Chandelier Plugs

Without Casing, 10 Amperes—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5323 [▲]	With porcelain cap.....	10	20	10	\$0.57
5324 [▲]	With composition cap.....	10	20	10	.63
5422 [▲]	With brass covered cap.....	10	20	10	.70
6251	Base only.....	..	20	..	.38

For special finished rims, add to list 5 cents.

With Brass Casing, 10 Amperes—250 Volts

Schedule "H-2"

5325 [▲]	With porcelain cap.....	10	20	10	\$0.76
5326 [▲]	With composition cap.....	10	20	10	.82
5423 [▲]	With brass covered cap.....	10	20	10	.89
6250	Base only.....	..	20	..	.57

Standard finish polished and brush brass. For other finishes on plugs with brass covered caps, add to list .19 cents; without cap, .13 cents.

With $\frac{1}{8}$ Inch Bushing, 10 Amperes—250 Volts

Schedule "H-2"

5495 [▲]	With porcelain cap.....	10	20	9	\$0.76
5496 [▲]	With composition cap.....	10	20	9	.82
5497 [▲]	With brass covered cap.....	10	20	9	.89
6252	Base only.....	..	20	..	.57

With $\frac{3}{8}$ Inch Bushing, 10 Amperes—250 Volts

Schedule "H-2"

5732 [▲]	With porcelain cap.....	10	20	9	\$0.84
5733 [▲]	With composition cap.....	10	20	9	.90
5734 [▲]	With brass covered cap.....	10	20	9	.96
6253	Base only.....	..	20	..	.65

Standard finish, polished and brush brass. For other finishes on plugs with brass covered cap, add to list, .19 cents; without cap, .13 cents.



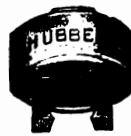
No. 5419



No. 5420



No. 5421



No. 5524

Fuseless and Fusible Caps

10 Amperes

Schedule "H-1" and "H-2"

List No.	Description	Schedule	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5419 [▲]	Fuseless, porcelain cap.....	H-1	10	50	8	\$0.19
5420 [▲]	Fuseless, composition cap.....	H-1	10	50	8	.26
5421 [▲]	Fuseless, brass covered cap, porcelain.....	H-1	10	50	8	.32
5523 [▲]	Fuseless, brass covered cap, composition.....	H-1	10	50	8	.38
5524	Fusible, porcelain cap.....	H-2	10	30	6	.26
5525	Fusible, composition cap.....	H-2	10	30	6	.32

The caps are interchangeable with the entire line of regular 10 ampere or 660 watt Hubbell plugs and receptacles having straight contacts.

Standard finish 5421 cap polished and old brass. Any other finish add to list 7 cents when furnished separate. No. 5542 fusible cap is designed to convert Hubbell fuseless plug into fusible.

All plugs fitted with fusible caps, add to list 7 cents.

[▲]National Electrical Code Standard.

HUBBELL FUSELESS AND FUSIBLE CAPS



No. 6149



No. 5700



No. 5657



No. 5526



No. 6254

No. HH 6254
Exploded ViewFUSELESS AND FUSIBLE CAPS
FOR THREE WIRE PLUG AND RECEPTACLE Schedule "H-1" & "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
6043	Fuseless 10 amp. porc. cap.	10	50	12	\$0.32
6044	Fuseless 10 amp. brass covd. porc. cap.	10	50	12	.45
*6058	Fuseless 20 amp. brass covd. porc. cap.	10	30	15	.76
6149	Fuseless 10 amp. composition cap.	10	50	12	.38

10 Amperes

Schedule "H-2"

5700 ^A	Fuseless, brass covd. comp. cap, split bushing strain relief.	10	50	12	\$0.57
5657 ^A	Fuseless, brass covd. comp. cap, "Knostrain" bushing.	10	50	12	.51
5526	Fusible, porc. brass covd. cap, "Knostrain" bushing.	10	30	8	.51
5527	Fusible, comp., brass covd. cap, "Knostrain" bushing.	10	30	8	.57

*No. 6058—Schedule H-2 Composition Plug Caps

With Swivel Strain Relief Bushing—10 Amperes, 250 Volts

Schedule "H-2"

HH-6254	Composition cap, standard contacts.	10	50	12	\$0.45
HH-6255	Composition cap, small contacts.	10	50	12	.45
HH-6328	Composition cap, standard contacts, with bushing designed for armored cord.	10	50	12	.45
HH-6329	Composition cap, small contacts, with bushing designed for armored cord.	10	50	12	.45

A threaded brass ring swivels around the hard rubber split bushing, threading into the top of the cap. This operation securely clamps the cord to the bushing without twisting it and eliminates the necessity of knotting.

Caps Nos. HH-6328 and HH-6329 are especially fitted for use with steel armored flexible cord; the hard rubber bushing being shaped to the metal covering of the cord.

No. 5553
No. 5567

No. 5665

No. 5665
Showing Construction
Schedule "H-2"

POLARITY FUSELESS CAPS

5567 ^A	Polarity, 10 ampere brass covered cap.	10	30	12	\$0.63
5553 ^A	Polarity, 20 ampere brass covered cap.	10	25	10	.63
5665 ^A	Polarity, 20 ampere brass covered porcelain cap, for No. 10 jumper cable, with split bushing strain relief.	10	25	12	1.26

Nos. 5700 and 5657 plug caps are interchangeable with the entire line of regular 10 ampere or 660 watt Hubbell plugs and receptacles having straight contacts.

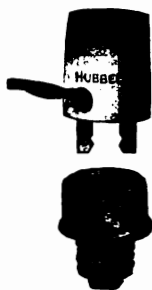
Caps Nos. 5553 and 5665 are interchangeable only with 20 ampere Hubbell polarized flush and wall receptacles. Standard finish for 5657, 5665, 5700, 5657, 5553, 5526 and 5527 polished and brush brass.

All other finishes, add to list 7 cents when furnished separately. When furnished as part of complete flush receptacle, no extra charge is made for corresponding standard finish of plates.

Nos. 5526 and 5527 caps are a trifle deeper than the regular Hubbell caps. They are made in the fusible type and designed to convert Hubbell fuseless plugs into fusible. When furnished with flush receptacles, no extra charge is made for corresponding standard finish of plates. All plugs fitted with fusible cap, add to list 7 cents.

^ANational Electrical Code Standard.

HUBBELL TAPS AND CORD CONNECTORS



**No. 5454
All Porcelain**



No. 6295



No. 6297

All Porcelain Current Taps, 660 Watts—259 Volts Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5454	Multiple, with plug base porcelain	10	50	25	\$0.63
5510 [▲]	Series, with plug base porcelain	10	50	25	.63
5625	Multiple tap only, without plug base porcelain	10	50	15	.45
5626 [▲]	Series tap only, without plug base porcelain	10	50	15	.45
6335	Composition multiple current tap only, without plug base	10	50	10	.51
6295	Body only	10	50	..	.45
5638	Multiple, with porcelain cap, side outlet	10	50	24	.63
5653 [▲]	Series, with porcelain cap, side outlet	10	50	26	.63
6296	Body only . . . . .	..	50	..	.45
6297	Body only . . . . .	..	50	..	.45
5735	Multiple, with porcelain cap, side outlet, for shade holder	10	50	26	.63
5736 [▲]	Series, with porcelain cap, side outlet, for shade holder	10	50	26	.63
6298	Body only . . . . .	..	50	..	.45
6338	Composition current tap, multiple	10	50	24	.82
6339	Body only of No. 6338	10	50	..	.57



No. 5518



No. 5699



No. 5743



No. 6116

Composition Extension Cord Connectors

Without Strain Relief

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5518 [▲]	Composition connector, 10 amp.—250 v.	10	50	15	\$0.63
5519 [▲]	Composition connector, brass covered cap, 10 amp.—250 v.	10	50	15	.76

With Split Bushing Strain Relief

Schedule "H-2"

5699 [▲]	Composition connector, brass covered cap, 10 amp.—250 v.	10	50	25	\$1.58
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Polarity Without Strain Relief

Schedule "H-2"

5743 [▲]	Polarity connector, with brass covered cap, 10 amp.—250 v.	10	30	16	\$1.26
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Small Extension Cord Connector

Schedule "H-2"

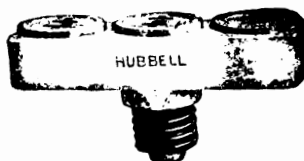
6116	Composition cord connector, 10 amp.—250 v.	10	50	15	\$0.63
6118	Composition base only, 10 amp.—250 v.	10	50	10	.45
5816	Composition cap only, 10 amp.—250 v.	10	50	8	.19

For special finished brass covered caps, see listing elsewhere. For separate cap, see listing elsewhere.
[▲]National Electrical Code Standard.

HUBBELL PLUGS AND RECEPTACLES



No. 6287



No. 6288

Multiple Attachment Plugs

660 Watts—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5327	Multiple plug, lamp base, three outlets.....	5	10	10	\$1.89
6288	Base only.....		10		1.33
5331	Multiple plug, lamp base, two outlets, one lamp.....	5	10	11	1.89
5881	Multiple plug, lamp base, two outlets.....	5	10	7	1.26
6287	Base only.....		10		.89
5955	Multiple plug, one plug outlet, one lamp outlet.....	5	10	7	1.26

10 Amperes—250 Volts

Schedule "H-2"

5687	Knife blade base, two outlets, for use only with receptacles having lift cover, No. 5501 type.....	5	10	6	\$1.26
6291	Base only.....		10		.89
5783 [*]	Knife blade base, two outlets, for use with all Hubbell receptacles excepting flush receptacles having lift cover.....	5	10	6	1.26
6289	Base only.....		10		.89
5978	Knife blade base, three outlet, for use with all Hubbell receptacles except flush receptacles having lift covers.....	5	10	15	1.89
6290	Base only.....		10		1.33
5979	Knife blade, three outlet, for use only with flush receptacles having lift cover number 5501 type.....	5	10	15	1.89
6292	Base only.....		10		1.33

For special finished brass covered caps, see listing elsewhere. For separate caps, see listing elsewhere.

Lamp Receptacles



No. 5897



No. 5424



No. 5984



No. 5737



No. 5898

FOR ATTACHMENT PLUGS

660 Watts—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5897	Comp. lamp receptacle for 10-Amp. plugs.....	10	30	7	\$0.45
5424 [*]	Lamp receptacles.....	10	30	7	.26
5984	Small type lamp receptacle.....	10	30	6	.26

FOR POLARITY ATTACHMENT PLUGS

Schedule "H-2"

5737 [*]	Lamp receptacle, 660 Watts—250 Volts.....	10	30	7	\$0.88
5898	Lamp receptacle, 20-Amp.....	10	30	7	.45

^{*}National Electrical Code Standard.

HUBBELL PLUGS AND ADAPTERS



No. 5746



No. 5747



No. 5894



No. 5652



No. 6143

MOTOR ATTACHMENT PLUGS

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
10 Amperes—250 Volts					
5746 ^A	Comp. base, porcelain cap.....	10	50	15	\$0.72
5747 ^A	Comp. base, with strain relief bushing, porcelain cap.....	10	50	15	1.20
5744 ^A	Porcelain cap only.....	10	50	10	.20
5894 ^A	Comp. base, composition cap.....	10	50	15	.76
5895 ^A	Comp. base, with strain relief bushing, comp. cap.....	10	50	20	1.26
5896 ^A	Composition cap only.....	10	50	10	.27
6069	Porcelain base, porcelain cap.....	10	50	15	.51
6087	Porcelain base only.....	10	50	10	.33
5574	Composition base only.....	10	50	10	.38
6095	Composition base only with strain relief.....	10	50	15	1.01

POLARIZED MOTOR PLUG

6277	Composition polarized motor plug, 10 amperes, 250 volts.....	10	30	15	\$1.01
6278	Composition base only.....	10	30	15	.63
6279	Composition cap, with knife blade contact.....	10	30	15	.38

REVERSE ATTACHMENT PLUGS

Schedule "H-2"

5652	Composition attachment plug, 10 amp.—250 v.....	10	50	20	\$0.95
6098	Composition base only with enclosed terminals.....	10	50	15	.58
6099	Composition cap with knife blade contacts.....	10	50	10	.38

REVERSE MOTOR PLUG—With Strain Relief Bushing

Schedule "H-2"

6143	Reverse motor plug, all composition, 10 amp.—250 v.....	10	50	25	\$0.76
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Screw holes for attaching the base to apparatus are spaced $1\frac{3}{8}$ inches on centers.

The diameter of base is $2\frac{1}{4}$ inches. Height over all, $2\frac{3}{4}$ inches.



No. 5740
Without Cover



No. 5741
With Cover

Conduit Box Adapters

Schedule "H-2"

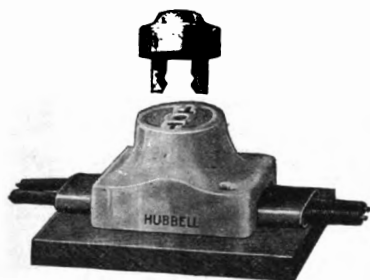
5740	Adapter for $3\frac{1}{4}$ inch conduit box without cover.....	10	100	18	\$0.24
5741	Adapter for 4 inch conduit box with cover.....	10	100	17	.09
5899	Adapter for 4 inch conduit box without cover.....	10	100	18	.26

Nos. 5740, 5741 and 5899 are designed for use with Hubbell shallow and deep base ceiling sockets.

Fits any standard $3\frac{1}{4}$ inch outlet box without cover and 4 inch with and without cover.

^ANational Electrical Code Standard.

HUBBELL WALL RECEPTACLES



No. 6065



No. 6045



No. 6147

For National Metal Molding
WITH TERMINAL BASE
10 Amperes, 250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5936	With porcelain cap	10	50	25	\$0.52
5937	With composition cap	10	50	25	.58
5938	With brass covered cap	10	50	25	.64
5939	Base only	10	50	20	.32

WITH TWO-WAY BASE

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
6065	With porcelain cap	10	50	25	\$0.52
6066	With composition cap	10	50	25	.58
6067	With brass covered cap	10	50	25	.64
6068	Base only	10	50	25	.32

For separate caps, see listing elsewhere.

WITH TERMINAL BASE
20 Amperes, 250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
6090	With brass covered cap, polarized	10	30	20	\$1.26
6091	Base only	10	30	15	.64
5553	Brass covered cap only, polarized	10	25	10	.64

WITH TWO-WAY BASE

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
6092	With brass covered cap, polarized	10	30	20	\$1.26
6093	Base only	10	30	15	.64
5553	Brass covered cap only, polarized	10	25	10	.64

For separate caps, see listing elsewhere.

For special finished brass covered caps, see listing elsewhere.

Wall Receptacles
CONCEALED BASE, FOR THREE-WIRE WORK
10 Amperes, 250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
6045	With porcelain cap	10	50	30	\$0.96
6147	Composition cap	10	50	30	1.01
6046	With brass covered porcelain cap	10	50	30	1.08
6047	Base only for No. 6045 plug	10	50	25	.70

Supporting screw holes, 1 1/2 inches on centers.

For special finished brass covered caps, see listing elsewhere.

For separate caps, see listing elsewhere.

For suitable outlet boxes, see No. 5428.

HUBBELL WALL RECEPTACLES



No. 5966



No. 5969



No. 5972

Wall Receptacles

FUSELESS. 10 AMPERES, 250 VOLTS

CONCEALED BASE

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5966	With No. 5816 composition cap.....	10	50	23	\$0.52
5967	With No. 5831 brass covered composition cap.....	10	50	23	.64
5968	Base only.....	10	50	20	.32

Supporting screw holes spaced $1\frac{1}{2}$ inches on centers.

For suitable outlet boxes, see listing elsewhere.

CLEAT BASE

Schedule "H-2"

5969	With No. 5816 composition cap.....	10	50	23	\$0.52
5970	With No. 5831 brass covered composition cap.....	10	50	23	.64
5971	Base only.....	10	50	20	.32

Supporting screw holes spaced $1\frac{1}{2}$ inches on centers.

MOLDING BASE

Schedule "H-2"

5972	With No. 5816 composition cap.....	10	50	23	\$0.52
5973	With No. 5831 brass covered composition cap.....	10	50	23	.64
5974	Base only.....	10	50	20	.32

Supporting screw holes spaced $1\frac{1}{2}$ inches on centers.

For special finished brass covered caps, see listing elsewhere.

The above receptacles are interchangeable with small type plugs Nos. 5815 and 5915.

For separate caps, see listing elsewhere.

Polarized Wall Receptacle

FOR THREE-WIRE WORK

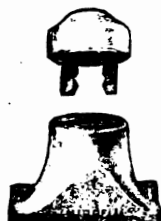
Schedule "H-2"

6055	Receptacle, concealed base, 20 amperes, 250 volts.....	10	30	30	\$1.58
6058	Cap only.....	10	30	15	.76
6059	Base only.....	10	30	25	.82

Polished brass, brush brass and old brass, standard finishes for caps; all other finishes, excepting gold, silver and sand blast, add to list 7 cents.

Supporting screw holes, $1\frac{1}{4}$ inches on centers.

For suitable outlet boxes, see No. 5557.

HUBBELL WALL RECEPTACLES
Porcelain Wall ReceptaclesNo. 5617
With Concealed BaseNo. 5618
With Cleat BaseNo. 5540
With Molding BaseNo. 5560
With Fielding Base

CONCEALED BASE

10 Amperes—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5426*	Fuseless, porcelain cap.....	10	50	25	\$0.51
5427*	Fuseless, composition cap.....	10	50	25	.57
5428*	Fuseless, brass covered cap.....	10	50	25	.63
5617*	Porcelain base only.....	10	50	20	.32

Supporting screw holes $1\frac{1}{2}$ inch centers. For special finished caps see listing elsewhere. For separate caps see listing elsewhere.

CLEAT BASE

10 Amperes—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5512*	Fuseless, porcelain cap.....	10	50	25	\$0.51
5513*	Fuseless, composition cap.....	10	50	25	.57
5514*	Fuseless, brass covered cap.....	10	50	25	.63
5618*	Porcelain base only.....	10	50	20	.32

Supporting screw holes $1\frac{1}{2}$ inches on centers.

MOLDING BASE

10 Amperes—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5540*	Fuseless, porcelain cap.....	10	50	25	\$0.51
5541*	Fuseless, composition cap.....	10	50	25	.57
5542*	Fuseless, brass covered cap.....	10	50	25	.63
5619*	Porcelain base only.....	10	50	20	.32

Supporting screw holes $1\frac{1}{2}$ inches on centers. For special finished brass covered caps see listing elsewhere. For separate caps, see listing elsewhere.

FIELDING BASE

10 Amperes—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5560*	Fuseless, porcelain cap.....	10	50	25	\$0.63
5584*	Fuseless, composition cap.....	10	50	25	.70
5585*	Fuseless, brass covered cap.....	10	50	25	.76
5620*	Porcelain base only.....	10	50	20	.45

Supporting screw holes $2\frac{3}{8}$ inches on centers. For special finished brass covered caps see data elsewhere. For separate caps, see listing elsewhere.

*National Electrical Code Standard.

Wiring Devices

HUBBELL WALL RECEPTACLES

Porcelain Wall Receptacles



No. 5557

Polarity Wall Receptacle



No. 5605

Polarity Condulet Receptacle



No. 5726

Polarity Wall Receptacle

POLARITY WALL RECEPTACLES

10 Amperes—250 Volts

Schedule "H-2"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5582	Receptacle, concealed base.....	10	30	16	\$0.95
5583	Receptacle, cleat base.....	10	30	17	.95
5584	Receptacle, molding base.....	10	30	17	.95
5567	Cap only.....	10	30	12	.63
5585	Base only, for concealed type.....	10	30	9	.38
5586	Base only, for cleat type.....	10	30	10	.38
5587	Base only, for molding type.....	10	30	10	.38

Old brass standard finish for cap. All other finishes add 7 cents to list.

20 Amperes—250 Volts

Schedule "H-2"

5557 ^A	Concealed base, screw holes 1½ inches on centers.....	10	30	25	\$1.26
5558 ^A	Cleat base, screw holes 1½ inches on centers.....	10	30	25	1.26
5559 ^A	Molding base, screw holes 1½ inches on centers.....	10	30	25	1.26
5553 ^A	Cap only.....	10	25	10	.63
5521 ^A	Base only, for concealed type.....	10	30	18	.63
5522 ^A	Base only, for cleat type.....	10	30	18	.63
5523 ^A	Base only, for molding type.....	10	30	18	.63

Brush brass standard finish for cap. All other finishes add 7 cents to list.

POLARITY CONDULET RECEPTACLES

20 Amperes—250 Volts

Schedule "H-2"

5605	Polarity receptacle, brass covered cap.....	10	25	20	\$1.26
5757	Polarity, receptacle base only.....	10	25	15	.63
5553 ^A	Brass covered cap only.....	10	25	10	.63

Supporting screw holes ¾ inch on centers.

Brush brass standard finish for cap. All other finishes add 7 cents to list.

POLARITY WALL RECEPTACLES

With Split Bushing Strain Relief for No. 10 Jumper Cable

20 Amperes—250 Volts

Schedule "H-2"

5726 ^A	Concealed base, screw holes 1½ inches on centers.....	10	30	32	\$1.89
5727 ^A	Cleat base, screw holes 1½ inches on centers.....	10	30	32	1.89
5728 ^A	Molding base, screw holes 1½ inches on centers.....	10	30	32	1.89
5665 ^A	Cap only, polished brass.....	10	25	12	1.26
5621 ^A	Base only, concealed.....	10	30	18	.63
5622 ^A	Base only, cleat.....	10	30	18	.63
5623 ^A	Base only, molding.....	10	30	18	.63

Standard finish for caps polished and brush brass. All other finishes add to list 7 cents. For special finish brass covered caps see data elsewhere. For separate caps see listing elsewhere.

^ANational Electrical Code Standard.

HUBBELL RECEPTACLES



No. 5517



No. 5469



No. 5981

No. HH 6103
Attached to Box Cover

No. 5624

Porcelain Angle Receptacles

660 Watts—250 Volts

Schedule "H-2"

Designed for show case and window lighting. The easy manner in which a lamp can be inserted and the cap connected or disconnected, is a feature of merit and economy.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5515 ^A	Fuseless, without base	10	20	12	\$0.63
5518 ^A	Fuseless, concealed base, screw holes $1\frac{1}{2}$ inches on centers	10	20	16	.95
5517 ^A	Fuseless, cleat base, screw holes $1\frac{1}{4}$ inches on centers	10	20	16	.95
5577 ^A	Fuseless, molding base, screw holes $1\frac{1}{2}$ inches on centers	10	20	16	.95
5613 ^A	Fuseless, Fielding base, screw holes $2\frac{1}{4}$ inches on centers	10	20	16	1.08

Conduit Box Receptacles

10 Amperes—250 Volts

Schedule "H-2"

5469 ^A	With porcelain cap	10	50	20	\$0.51
5470 ^A	With composition cap	10	50	20	.57
5471 ^A	With brass covered cap	10	50	20	.63
5624 ^A	Base only	10	50	15	.32
5981	With No. 5816 composition cap	10	50	23	.51
5982	With No. 5831 brass covered composition cap	10	50	23	.63
5983	Base only	10	50	20	.32

Supporting screw holes. $\frac{5}{8}$ inch on centers.

For separate caps, see listing elsewhere.

For special finished brass covered caps, see data elsewhere.

Porcelain Plug Receptacle

FOR OUTLET BOX COVERS

10 Amperes—250 Volts

Schedule "H-2"

HH-6103	Outlet box plug receptacle, less cap	10	50	20	\$0.32
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The outlet box cover is placed between the top and bottom porcelain and is securely clamped by a screw threading through both porcelains.

This receptacle, in conjunction with No. 13 Adapti Cover, can be used with all $1\frac{1}{2}$ inch and $\frac{3}{4}$ inch Adaptiboxes, and when used in connection with No. 13 cover and No. 25 Adapti Plate will fit all 1 inch and $1\frac{1}{4}$ inch Adaptiboxes.

WITH ELONGATED CAP

10 Amperes—250 Volts

Schedule "H-2"

5813	Receptacle with elongated cap	10	50	25	\$0.63
5814	Elongated cap only	10	50	10	.32
5624 ^A	Base only	10	50	15	.32

No. 5813 receptacle is designed particularly for use with watertight floor outlet boxes. May be used, however, in connection with almost any work where a receptacle of this nature is desired, and is interchangeable with all Hubbell attachment plugs and receptacles of ten ampere capacity having straight contacts. It is made in porcelain only.

^ANational Electrical Code Standard.

Wiring Devices

HUBBELL FLUSH RECEPTACLES



No. 5722



No. 5565



No. 5551

Polarity Flush Receptacles

20 Amperes—250 Volts

WITH SPLIT BUSHING STRAIN RELIEF

Schedule "H-3"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*5722 ^A	Complete with cap and 4 1/2 x 2 3/4 inch plate.....	..	25	32	\$3.15
5552 ^A	Receptacle only.....	10	25	17	.95
5565 ^A	Cap only.....	10	25	10	1.26
5554 ^A	Single gang plate, 4 1/2 x 2 3/4 inches.....	10	25	10	.95
5555 ^A	Two gang plate, 4 1/2 x 4 3/8 inches.....	1	15	10	1.89
5556 ^A	Three gang plate, 4 1/2 x 6 3/8 inches.....	1	10	10	2.84
5586 ^A	Four gang plate, 4 1/2 x 8 3/8 inches.....	1	10	14	3.78

Polished and brush brass standard finish for caps. All other finishes for caps, add to list 7 cents.

Polarity Flush Receptacles

10 Amperes—250 Volts

Schedule "H-3"

*5565 ^A	Complete with cap and 4 1/2 x 2 3/4 inch plate.....	..	50	60	\$2.21
5566 ^A	Receptacle only.....	10	50	30	.76
5567 ^A	Cap only.....	10	30	12	.63
5568 ^A	Single gang plate, 4 1/2 x 2 3/4 inches.....	10	50	22	.82
5569 ^A	Two gang plate, 4 1/2 x 4 3/8 inches.....	1	25	18	1.64
5570 ^A	Three gang plate, 4 1/2 x 6 3/8 inches.....	1	15	17	2.46
5587 ^A	Four gang plate, 4 1/2 x 8 3/8 inches.....	1	10	14	3.28

Old brass standard finish for caps. All other finishes for caps add to list 7 cents.

Brush brass plates and caps will be furnished unless otherwise specified.

Other finish for caps, add to list 7 cents.

Polarity Flush Receptacles

20 Amperes—250 Volts

Schedule "H-3"

*5551 ^A	Complete with cap and 4 1/2 x 2 3/4 inch plate.....	..	25	32	\$2.52
5552 ^A	Receptacle only.....	10	25	17	.95
5553 ^A	Cap only. Schedule H-2.....	10	25	10	.63
5554 ^A	Single gang plate, 4 1/2 x 2 3/4 inches.....	10	25	10	.95
5555 ^A	Two gang plate, 4 1/2 x 4 3/8 inches.....	1	15	10	1.89
5556 ^A	Three gang plate, 4 1/2 x 6 3/8 inches.....	1	10	10	2.84
5586 ^A	Four gang plate, 4 1/2 x 8 3/8 inches.....	1	10	14	3.78

Brush brass standard finish for caps. All other finishes for caps, add to list 7 cents.

Brush brass plates and caps will be furnished unless otherwise specified. Other finish for caps, add to list 7 cents.

On the above polished brass, old brass, polished nickel, polished bronze, oxidized copper and imitation bauer barff are standard finishes for flush plates.

All other finishes for plates, excepting gold and silver, add to list per unit, 13 cents.

All other finishes for caps, add to list 7 cents.

Outside supporting screws, 3/8 inches on centers.

Inside supporting screws, 2 1/2 inches on centers.

For special plates, see following page.

* Packed as three separate units, receptacle, plate and cap.

* National Electrical Code Standard.

HUBBELL FLUSH RECEPTACLES



No. 5800



No. 5930



No. 6049

Without Lift Cover

10 Amperes, 250 Volts

Schedule "H-3"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5799	Without cap.	•	50	38	\$1.58
5800	With No. 5816 Composition Cap.	•	50	41	1.78
5801	With No. 5831 brass covered composition cap.	•	50	41	1.90
5802	Receptacle only.	10	50	28	.76
5803	Single-Gang Plate, $4\frac{1}{2} \times 2\frac{3}{4}$ inches.	10	50	16	.82
5804	Two-Gang Plate, $4\frac{1}{2} \times 4\frac{1}{8}$ inches.	1	25	13	1.64
5805	Three-Gang Plate, $4\frac{1}{2} \times 6\frac{3}{8}$ inches.	1	20	18	2.46
5806	Four-Gang Plate, $4\frac{1}{2} \times 8\frac{1}{4}$ inches.	1	10	20	3.28

Polished brass, old brass, brush brass, polished nickel, statuary bronze, polished bronze, oxidized copper, wrought iron and bauer barff are standard finishes for brass flush plates. All other finishes, excepting gold, silver and sand blast, add to list, per unit, 13 cents.

No. 5801—Flush receptacle, complete with No. 5831 brass covered cap, finished other than standard, add to list 19 cents.

Outside supporting screw holes spaced $3\frac{1}{2}$ inches on centers. Inside supporting screw holes spaced $2\frac{1}{2}$ inches on centers. For separate caps, see listing elsewhere. For suitable outlet boxes, see listing elsewhere. For special plates, see listing elsewhere. *Porcelain receptacle, plate and cap, packed in separate cartons under their respective manufacturer's number.

With Double Lift Cover

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5927	Without cap.	•	50	47	\$2.34
5930	With No. 5816 composition cap.	•	50	50	2.52
5931	Receptacle only.	10	50	30	.76
5932	Single-Gang Plate, $4\frac{1}{2} \times 2\frac{3}{4}$ inches.	10	50	22	1.58
5933	Two-Gang Plate, $4\frac{1}{2} \times 4\frac{1}{8}$ inches.	1	25	18	3.04
5934	Three-Gang Plate, $4\frac{1}{2} \times 6\frac{3}{8}$ inches.	1	15	17	4.48
5935	Four-Gang Plate, $4\frac{1}{2} \times 8\frac{1}{4}$ inches.	1	10	20	6.12

Polished brass, old brass, brush brass, polished nickel, statuary bronze, polished bronze, oxidized copper, wrought iron and bauer barff are standard finishes for brass flush plates. All other finishes, excepting gold and silver, add to list, per unit, 26 cents.

For rules governing assorted plates, see listing elsewhere. Outside supporting screw holes spaced $3\frac{1}{2}$ inches on centers. Inside supporting screw holes spaced $2\frac{1}{2}$ inches on centers. For separate caps, see listing elsewhere. For suitable outlet boxes, see listing elsewhere. For special plates, see listing elsewhere. *Porcelain receptacle, plate and cap, packed in separate cartons under their respective manufacturer's number.

FLUSH RECEPTACLES—10 Amperes, 250 Volts
Without Lift Cover. For Three-Wire Work

Schedule "H-3"

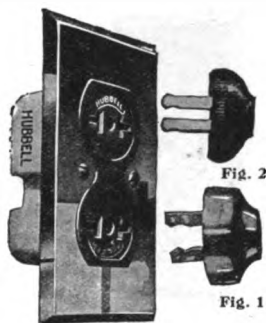
List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
6048	Without cap.	•	50	55	\$2.02
6049	With No. 6043 porcelain cap.	•	50	60	2.34
6148	With composition cap.	•	50	•	2.40
6050	With No. 6044 brass covered porcelain cap.	•	50	60	2.46
6051	Receptacle only.	10	50	35	1.20
5548	Single-Gang Plate, $4\frac{1}{2} \times 2\frac{3}{4}$ inches.	10	50	16	.82
5549	Two-Gang Plate, $4\frac{1}{2} \times 4\frac{1}{8}$ inches.	1	25	13	1.64
5550	Three-Gang Plate, $4\frac{1}{2} \times 6\frac{3}{8}$ inches.	1	20	18	2.46
5599	Four-Gang Plate, $4\frac{1}{2} \times 8\frac{1}{4}$ inches.	1	10	20	3.28

Polished brass, brush brass, old brass, polished nickel, statuary bronze, polished bronze, oxidized copper, wrought iron and bauer barff are standard finishes for brass flush plates. All other finishes, excepting gold, silver and sand blast, add to list, per unit, 13 cents.

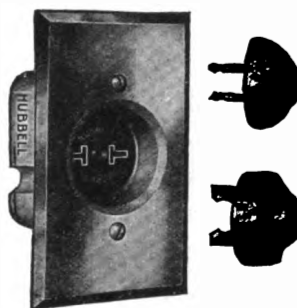
Outside supporting screw holes, $3\frac{1}{2}$ inches on centers. Inside supporting screw holes, $2\frac{1}{2}$ inches on centers. No. 6050 flush receptacles complete with No. 6044 brass covered porcelain cap, finished other than standard, add to list, 19 cents.

Wiring Devices

HUBBELL RECEPTACLES



"Duplex" Receptacle



Recessed Receptacle

Hubbell "Duplex" Flush Receptacles

The "Duplex" Flush Receptacle will take any one of an assortment of seventeen different styles of Hubbell Plug Caps, fitted with either large (see Fig. 1) or small (see Fig. 2) knife blade contacts.

For the reason of there being such a variety of caps adaptable to the "Duplex" receptacle, we do not list them as part of the complete device. It will therefore be necessary for the purchaser to specify separately the caps desired, under their respective catalog Nos.

The principal advantage of the "Duplex" receptacle is in the convenience of the additional outlet without the usual expense of the two-gang receptacle.

One set of binding screws does for both outlets.

The "T" slots double the utility of the plug.

"Duplex" receptacles may be obtained in gangs.

Porcelain base made extra heavy.

Lugs supporting the receptacle to outlet box are of extra heavy brass.

The "Duplex" receptacle makes an ideal outfit and is recommended for all installations where a flush receptacle is practicable.

6 AMPERES—250 VOLTS (PER OUTLET)

Schedule "H-3"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price
6257	Porcelain "Duplex" Receptacle only.....	10	50	40	\$1.24
6258	Single-gang plate, $4\frac{1}{2} \times 2\frac{3}{4}$ ins.....	10	50	15	.82
6259	Two-gang plate, $4\frac{1}{2} \times 4\frac{3}{4}$ ins.....	10	25	..	1.89
6260	Three-gang plate, $4\frac{1}{2} \times 6\frac{3}{4}$ ins.....	10	15	..	5.55
6261	Four-gang plate, $4\frac{1}{2} \times 8\frac{3}{4}$ ins.....	10	10	..	8.19

Polished brass, brush brass, old brass, polished nickel, statuary bronze, polished bronze, oxidized copper, wrought iron and bauer barff are standard finishes for brass flush plates. All other finishes, excepting gold, silver and sand blast, add to list, per unit, 13 cents.

Black is the standard finish for porcelain centers, and will be so furnished on all orders unless otherwise specified. White faced porcelain receptacles are carried in stock and can be supplied for use in bathrooms, hospitals, etc.

Supporting screw holes, $3\frac{3}{8}$ inches on centers.

Porcelain receptacle No. 6257 measures $2\frac{3}{4}$ inches in length or $\frac{1}{8}$ inch longer than the standard Hubbell Flush Receptacle, but will fit most single-gang switch boxes.

Flush Receptacle WITH RECESSED PLATE

Schedule "H-3"

List No.	Description	Carton Quantity	Std. Pkg.	List Price
6285	Porcelain receptacle only.....	10	50	\$0.76
6286	Recessed plate only for No. 6282 receptacle.....	10	50	.95

This device is equipped with the new Hubbell "T" slot contacts, making it interchangeable with seven-teen different types of caps.

Its construction permits the cap to be inserted in such a manner that the top of the cap is flush with the plate.

HUBBELL FLUSH RECEPTACLES



No. 5498



No. 5418

Receptacles with Covers

10 Amperes—250 Volts

Schedule "H-3"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*5498 ^A	Without cap . . . . .	..	50	50	\$2.52
*5499 ^A	With No. 5419 porcelain cap . . . . .	..	50	54	2.71
*5500 ^A	With No. 5420 composition cap . . . . .	..	50	54	2.78
*5501 ^A	With No. 5421 brass covered cap . . . . .	..	50	54	2.84
5579 ^A	Receptacle only	10	50	32	.76
5580 ^A	Single gang plate, $4\frac{1}{2} \times 2\frac{3}{4}$ inches	10	50	22	1.77
5581 ^A	Two gang plate, $4\frac{1}{2} \times 4\frac{3}{4}$ inches	1	25	18	3.53
5582 ^A	Three gang plate, $4\frac{1}{2} \times 6\frac{3}{4}$ inches	1	15	17	5.30
5600 ^A	Four gang plate, $4\frac{1}{2} \times 8\frac{3}{4}$ inches	1	10	20	7.06

No. 5501—Flush receptacle complete, with No. 5421 cap, finished other than standard, add to list 32 cents.

Brush brass plates and caps will be furnished on all orders unless otherwise specified.

Receptacles without Covers

10 Amperes—250 Volts

Schedule "H-3"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*5415 ^A	Without cap . . . . .	..	50	41	\$1.58
*5416 ^A	With No. 5419 porcelain cap . . . . .	..	50	47	1.77
*5417 ^A	With No. 5420 composition cap . . . . .	..	50	47	1.83
*5418 ^A	With No. 5421 brass covered cap . . . . .	..	50	47	1.89
5547 ^A	Receptacle only	10	50	32	.76
5548 ^A	Single gang plate, $4\frac{1}{2} \times 2\frac{3}{4}$ inches	10	50	16	.82
5549 ^A	Two gang plate, $4\frac{1}{2} \times 4\frac{3}{4}$ inches	1	25	13	1.64
5550 ^A	Three gang plate, $4\frac{1}{2} \times 6\frac{3}{4}$ inches	1	20	18	2.46
5599 ^A	Four gang plate, $4\frac{1}{2} \times 8\frac{3}{4}$ inches	1	10	20	3.28

No. 5418—Flush receptacles complete, with No. 5421 brass covered cap, finished other than standard, add to list 19 cents.

NOTE: On the above, polished brass, old brass, polished nickel, polished bronze, oxidized copper and imitation bauer barff are standard finishes for flush plates. All other finishes, excepting gold and silver, add to list, per unit, 13 cents.

Outside supporting screws, $3\frac{1}{2}$ inches on centers.

Inside supporting screws, $2\frac{1}{2}$ inches on centers.

*Packed as three separate units, receptacle, plate and cap.

Special Plates

Plates with round edges, 19 cents list extra for single plates. 7 cents list extra for each additional gang. The price of a combination plate is the aggregate price of the units composing the gang.

Special size plates in standard finishes will be sold at a list price of 8 cents per square inch in lots less than 100, and 5 cents per square inch in lots of 100 or more plates of one size and type.

Plates which are special in ways not covered will be quoted upon application.

Orders for special size plates should always be accompanied by a plainly marked sketch giving the dimensions.

Orders for specially finished plates should be accompanied by a sample of desired finish.

^ANational Electrical Code Standard.

Wiring Devices

HUBBELL RECEPTACLES AND PLUGS



No. 5705



No. 6282

Indicating Heater Receptacles

10 Amperes—250 Volts

Schedule "H-3"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*5705 ^A	Receptacle. Supporting screws to fit Perkins, Arrow "E" Hart & Hegeman switches, and all standard metal sign receptacles		10	20	\$3.78
*5706 ^A	Receptacle. Supporting screws to fit Diamond "H" switches, and all standard metal sign receptacles		10	20	3.78
5772 ^A	Plate only for No. 5705	1	10	10	2.40
5773 ^A	Plate only for No. 5706	1	10	10	2.40

These receptacles have been designed for use where it is necessary to determine whether the current is on or off before inserting cap. They will fit any four-gang switch box without partition.

Price covers No. 5705 receptacle complete with 10 ampere polarized receptacle, cap and a $4\frac{1}{2}$ x 8 $\frac{1}{2}$ inch plate.

Polished brass, old brass, polished nickel, polished bronze, oxidized copper and imitation bauer barff are standard finishes for plates. Brush brass standard finish for cap.

All other finishes for plates, add to list 51 cents. All other finishes for caps, add to list 7 cents.

Brush brass plates and caps will be furnished on all orders unless otherwise specified.

* Packed as three separate units.

Flush Receptacles

10 Amperes—250 Volts

Schedule "H-3"

List No.	Description	Round Plate	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5506 ^A	Receptacle, with porcelain cap	2 $\frac{3}{4}$ ins.	1	50	30	\$1.26
5507 ^A	Receptacle, with composition cap	2 $\frac{3}{4}$ ins.	1	50	30	1.33
5508 ^A	Receptacle, with brass covered cap	2 $\frac{3}{4}$ ins.	1	50	30	1.39
6282 ^A	Receptacle and plate assembled		1	50	..	1.08
5561 ^A	Receptacle, with porcelain cap	3 $\frac{1}{4}$ ins.	1	50	35	1.39
5562 ^A	Receptacle, with composition cap	3 $\frac{1}{4}$ ins.	1	50	35	1.45
5563 ^A	Receptacle, with brass covered cap	3 $\frac{1}{4}$ ins.	1	50	35	1.52
6283 ^A	Receptacle and plate assembled less cap		1	50	..	1.20
5614 ^A	Receptacle only		10	50	16	.45
5615 ^A	2 $\frac{3}{4}$ inch plate only		10	50	12	.63
5616 ^A	3 $\frac{1}{4}$ inch plate only		10	50	12	.76

Polished brass, old brass, polished nickel, polished bronze, oxidized copper and imitation bauer barff are standard finishes for plates. All other finishes, add to list 13 cents.

Nos. 5508 and 5563 receptacles complete with 5421 brass covered cap, finished other than standard, add to list 19 cents.

Brush brass will be furnished on all orders unless otherwise specified.

2 $\frac{3}{4}$ inch plate, supporting screw holes, 1 $\frac{1}{2}$ inches on centers.

3 $\frac{1}{4}$ inch plate, supporting screw holes, 2 $\frac{3}{4}$ inches on centers.

For special finished brass covered caps, see listing elsewhere.

For separate caps, see listing elsewhere.

^ANational Electrical Code Standard.

HUBBELL SPECIALTIES

No. 6109
"Signalite" Cap

No. 5607 Base



No. 5612 Base



No. 5917 Base

SIGNAL ATTACHMENT PLUGS
With Standard Type Knife Blade Contacts
10 Amperes—125 Volts

Schedule "H-2"

List No.		Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
6108	Plug without lamp	10	30	12	\$0.70
6109	Plug complete with lamp	10	30	12	1.20

With Small Type Knife Blade Contacts

6110	Plug without lamp	10	30	12	\$0.70
6111	Plug complete with lamp	10	30	12	1.20

The above signal attachment plug is suitable for use with all manner of electrically heated devices of 10 ampere capacity or less.

"Signalite" Caps
COMPLETE WITH EDISON SCREW BASE

Schedule "H-2"

List No.		Carton Quantity	Std. Pkg.	List Price Each
6311	"Signalite" Cap, without lamp, with No. 5607 porcelain screw base, standard contacts	10	30	\$0.89
6312	"Signalite" Cap, complete with lamp and No. 5607 porcelain screw base, standard contacts	10	30	1.39
6313	"Signalite" Cap, without lamp, with No. 5612 composition screw base, standard contacts	10	30	.95
6314	"Signalite" Cap, complete with lamp and No. 5612 composition screw base, standard contacts	10	30	1.45
6315	"Signalite" Cap, without lamp, with No. 5917 small type composition screw base	10	20	.89
6316	"Signalite" Cap, complete with lamp and No. 5917 small type composition screw base	10	30	1.39

The above "Signalite" devices consist of Nos. 6108, 6109, 6110 and 6111 caps and standard attachment plug bases Nos. 5607, 5612 and 5917.

Bases and caps will be packed and shipped separately. Nos. 6109, 6111, 6312, 6314 and 6316 may be furnished with red lamps at an addition of 7 cents to list price.

Wiring Devices

MISCELLANEOUS SOCKET FITTINGS



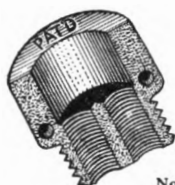
No. 5583
Rubber Casing



No. 5589
Rubber Ring



Showing Casing Attached



No. 5748
"Knostrain" Split Bushing



No. 5767
Rosette Bushing



No. 5380
Socket Bushing

Rubber Casing

FOR ATTACHMENT PLUGS

Schedule "H-2"

This casing is designed to protect the porcelain cap of No. 5406 separable attachment plug. It is made of soft rubber, and is easily and quickly sprung in place.

The top of the casing grips the cord very tightly, and by adjusting No. 5589 rubber ring as illustrated, an absolutely weatherproof plug is the result.

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5583*	Rubber casing for attachment plugs.....	Bulk	30	5	\$0.38

Rubber Rings

Schedule "H-2"

5589	Rubber ring for use with weatherproof sockets	Bulk	30	1	\$0.07
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Socket Bushings

Schedule "L"

List No.	Description	Std. Pkg.	Pkg. Wt. Lbs.	List Price per M
5381	3/8 inch socket bushing.....	1000	10	\$18.27
5748	3/8 inch "Knostrain" split bushing.....	1000	12	60.48
5767	Rosette bushing.....	1000	12	48.51
5380	1/2 inch socket bushing.....	1000	3	6.93



No. 1240



No. 3630



No. 3632



No. 3634



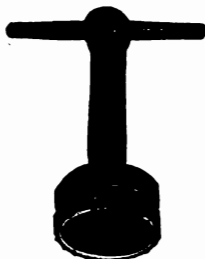
No. 3637

Socket Handles

List No.	Description	Std. Pkg.	List Price Each
1240	With 1/2 in. nipple and 3/4 in. hole for No. 16 approved lamp cord.....	100	\$0.18
1388	With 3/4 in. nipple and 1 in. hole for No. 16 approved lamp cord.....	100	.21

Socket Bushings

List No.	Description	List Price Per 100
3630	1/4 in. genuine hard rubber.....	\$5.00
3631	1/4 in. composition.....	.55
3632	1/4 in. genuine hard rubber.....	6.00
3633	1/4 in. composition.....	.10
3634	1/4 in. genuine hard rubber.....	7.50
3635	1/4 in. composition.....	.90
3636	Soft rubber.....	1.05
3637	3/4 in. genuine hard rubber.....	6.00
3638	3/4 in. composition.....	.95



P & S Socket Wrench



Socket with 2 1/4 inch Shade Holder



P & S Brass Keys

P & S TOOLS AND SOCKET PARTS

P & S Fluto Tool

The P & S Socket Wrench illustrated is provided as a convenience to fixture manufacturers or other users of *Fluto* type shell. In husk work it reduces the labor of putting the cap on the fixture, in close fitting husks. Furnished free of charge to users of P & S Sockets.

*Sockets with 2 1/4 Inch Shade Holder

Rigidly Attached to Shell

Any *Fluto* or *Passmour* sockets or receptacles illustrated in this bulletin may be supplied with 2 1/4 inch shade holder rigidly attached as illustrated. When so supplied the list price will be advanced eight (8) cents each. The standard package quantity will be the same as for sockets without the shade holder attached. All sockets with shade holders attached are packed ten (10) in a carton.

*Sockets or Receptacles with Brass Keys

Any key socket or receptacle shown of the *Fluto*, *Passmour* or *Bayonet* type may be supplied with a brass key. In many fixtures and portables it is desirable to finish the key to match the fixture. With the ordinary composition key the finish may be made uniform. The brass key is threaded and detachable, so it may be used on very tight husk work.

*Socket with Brass Keys Attached

Add to List

	Carton	Std. Pkg.	Add to List
Socket with 3/4 and 1 inch brass key	25	100	\$0.09
Socket with 1 1/4 inch brass key	25	100	.15
Socket with 1 1/2, 2 and 2 1/2 inch brass key	10	100	.15

*Extra Brass Keys

Add to List

	100	100	\$0.06
3/4 and 1 inch brass key	100	100	.12
1 1/4, 1 1/2, 2 and 2 1/2 inch brass key	100	100	

Brush brass is regular finish, but polished brass will be supplied without additional charge.

For all other finishes, add one-half the advance for standard sockets 91.

*Swan Strain Relief

Schedule "B"

Any of the key, keyless or pull sockets, *Fluto* or *Passmour* type will be supplied with the Swan Strain Relief at an advance of 3 cents list. When sockets are so supplied the standard package quantity remains unchanged.

*Sockets with Male Thread

Half-inch unlined conduit is exactly the right inside diameter to be threaded with 3/8 inch iron pipe tap. It will be found very convenient at times to use sockets with male thread, screwing them into the conduit, instead of using a reducing coupling, a nipple and socket with female thread.

*Sockets with Pendent Cap

The pendent cap is provided with double bushing, the inner one having a 9-32 inch hole. This inner bushing may be removed when larger cord is to be used, leaving another bushing with 13-32 inch hole.

*Pull Sockets with Insulated Chain

Pull Chain with Insulation

Schedule "B"

We can furnish pull sockets with insulated chain, accomplished by inserting a piece of fiber rod in the chain about two inches below the chain guide. For sockets so equipped, add 18 cents to the list price. The standard package quantity will be the same as for the standard socket in connection with which the insulated chain is ordered. This may be furnished on any style of pull sockets or receptacles.

Standard lengths of pull chain, with insulation, sold separately from socket at 12 cents per foot for the chain and 18 cents for the insulation.

	Std. Pkg.	List Price Each
8 inch chain complete, with insulation and ball	100	\$0.34
18 inch chain complete, with insulation and ball	50	.44

The above price is on either polished or brush brass. For all other finishes, add to list 3 cents.

*National Electrical Code Standard. Illustrations are 3/4 of full size.

Wiring Devices

P & S SOCKET PARTS



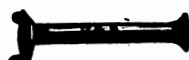
Socket with Extension Key



Socket with Extra Long Key



P & S Chain Guide



P & S Extension Chain Guide

Sockets with Extension Key

Schedule "B"

These sockets are designed to receive a special key furnished by the fixture manufacturer to match the general design of the fixture.

The threaded part of the extension key is thoroughly insulated from the current carrying parts of the socket. The thread is standard 6-32 thread.

Any socket can be supplied, at an advance of 9 cents list over the price of the regular socket. When so supplied, 100 is a standard package, 25 a carton.

Sockets with Extra Long Key

Schedule "B"

The key sockets listed have keys $\frac{3}{4}$ inch and 1 inch long. Extra long keys will be supplied to order at an additional price of 6 cents list.

When ordering sockets with extra long keys, please specify the distance desired between the outside of the shell and the end of the key. On orders for sockets with extra long keys, where the length is not specified, we will ship $1\frac{1}{2}$ inches. A standard package is 100, a carton 10.

We can furnish four extra long lengths, viz: $1\frac{1}{4}$, $1\frac{1}{2}$, 2 and $2\frac{1}{4}$ inches.

For any of the above long length keys, an additional charge of 6 cents list is made.

The Ball on P & S Pull Sockets

Schedule "B"

P & S pull sockets have been supplied with a ball, instead of the old style acorn. The old style acorn was made in two pieces with an edge that presented a place to catch the dirt. The ball used on P & S sockets presents a smooth surface, is substantial, and will not become unsightly after use.

This ball is so arranged that it may be removed from the chain when necessary to attach to a longer chain, or the last link on the chain may be cut off and allowed to drop into the ball. The ball is large enough to contain the link so dropped into it, and still contain the last link on the new chain when forced into position. In addition to this convenience, it is superior in general finish and appearance.

Price of balls sold separately from sockets. List Each \$0.08
Standard package and carton. 250

The foregoing price is for polished or brush brass

For all other finishes, add to list 3 cents.

Chain Guide

Schedule "B"

The trumpet or chain guide on P & S pull sockets is easily detachable without the necessity of loosening any screws. This makes it convenient to refinish in special finishes.

Chain guides sold separately from sockets. List Each \$0.06
Standard package and carton. 250

The foregoing price applies to polished or brush brass:

For all other finishes, add to list 3 cents.

*Pull Sockets with Extension Chain Guide

Schedule "B"

Pull sockets installed in husks or socket covers require extension chain guides (necessitating only a small hole in cover) to carry the chain free of cover and shade. The chain guide is not attached to the socket shell but to the socket mechanism. It is detachable and separable and can be removed for refinishing. By carrying a stock of various lengths of guides it is possible to convert the standard sockets into sockets with extension guides, making it unnecessary to carry a stock of completed sockets with various lengths of chain guides attached. The portion of the extension chain guide, which is attached to socket, extends less than $\frac{1}{2}$ inch outside of socket shell, making it possible to insert the socket in any husk, no matter how closely it follows the outline of the shell.

	List Price
$\frac{1}{4}$ inch extension chain guide.	\$0.15
$\frac{1}{2}$ inch extension chain guide. . . . .	.15
1 inch extension chain guide. . . . .	.15
$1\frac{1}{4}$ inch extension chain guide. . . . .	.15
$1\frac{1}{2}$ inch extension chain guide. . . . .	.15
2 inch extension chain guide. . . . .	.15
2 inch extension chain guide. . . . .	.15

Standard package quantity, 50 of one length, or 100 of assorted lengths.

Brush brass is regular finish, but polished brass will be supplied without additional charge.

For special finish chain guides sold separately from sockets, add to list 3 cents each.

*National Electrical Code Standard. Illustrations are $\frac{3}{8}$ of full size.

P & S SOCKET PARTS



Pull Socket

A view looking into P & S
61988, showing reinforcement
of contact shell

Key Socket

Construction

All P & S sockets and receptacles have the contact shell reinforced with a large brass washer under the head of each screw. It is impossible to pull this out no matter how hard the lamp is screwed in.

In all sockets and receptacles the contact binding screws are upset, thereby preventing them from falling out under any condition. The contact binding screws are unusually long.

Interchangeability

Throughout the entire line of *Passmour* and *Passmour* key, keyless, and pull sockets the interchangeable feature has been preserved in the mechanism.

Pull socket interiors will go into any of the shells used on *Passmour* or *Passmour* type key sockets.

Passmour or *Passmour* key socket interiors will go into the shells used on pull sockets.

The same interchangeable feature is carried out in the keyless interiors.

Pull Sockets

The P & S socket mechanism is double break. The current is broken on the contact shell so that regardless of the method of wiring, the contact shell is dead when the current is turned off.

The terminals of P & S pull sockets are marked "Positive" and "Negative."

As fast as possible, the Positive and Negative marks are being placed on all of the sockets and receptacles. It is quite a convenience, particularly on signs, where it is required to polarize the sign.

P & S *Shurlok* Locking Attachment

This is a device sold already attached to P & S sockets and receptacles, whereby the theft of the lamp is absolutely prevented.



The above illustration shows P & S 100421 with the *Shurlok* attachment, split so as to show the operation of the attachment.

⁴National Electrical Code Standard.
Wiring Devices

Standard Package Schedule "L"

The maximum standard package on Schedule "L" articles is 100 pieces of one Mfr. number with the *Shurlok* locking attachment.

If a device without the attachment is packed with a smaller quantity to a standard package, the addition of the *Shurlok* will not increase the quantity and the standard package will remain the same.

For illustration: P & S 100421 is packed 500 in a standard package, but when supplied with the locking attachment it takes Schedule "L" discounts, and 100 will be a standard package. P & S 216 is originally packed 50 in a standard package and when supplied with the locking attachment 50 will continue to be the standard package.

The Illustrations

The accompanying illustration shows how the theft of the lamp is prevented. A small set screw with a triangular head and pointed end is introduced into the base of the lamp by means of a special key. When this set screw is placed in position it is impossible to remove it without the use of this special key. The head of the set screw has a recess a considerable distance down into the fiber bushing, so it cannot be reached with tools.

The key required is of peculiar shape and keys of various descriptions already on the market will not fit it.

The Key Schedule "L"

The keys for the *Shurlok* locking attachment are not given away but are sold at .35 cents each net, regardless of quantity. They are sold only to those people properly entitled to have them.

Illustrations are $\frac{3}{4}$ of full size.

P & S SOCKET PARTS

Special Finishes

It should be an advantage to obtain on short notice sockets in special finishes. It is economical, as the refinishing of a socket after it has been assembled is expensive. We can furnish sockets in the most popular finishes, such as old brass, brush brass, oxidized copper, polished nickel, etc.

Special finishes, occasionally used, we do not carry, but are prepared to ship on short notice to special order.

In ordering special finishes not standardized, samples showing the finish should be furnished.

Schedule "B"

Description.	Standard Sockets and Receptacles.	Standard Sockets and Receptacles with Shells Holder Attached.	Pull Sockets and Receptacles.	Pull Sockets and Receptacles with Shells Holder Attached.	Description.	Standard Sockets and Receptacles.	Standard Sockets and Receptacles with Shells Holder Attached.	Pull Sockets and Receptacles.	Pull Sockets and Receptacles with Shells Holder Attached.
Acid Bronze	\$0.08*	\$0.10*	\$0.12*	\$0.15*	Ormolu Gilt .....	.08*	.10*	.12*	.15*
Acid Copper .....	.05	.08	.12	.15	Oxidized Brass .....	.05	.08	.12	.15
Antique Brass .....	.05	.08	.12	.15	Oxidized Copper .....	.05	.08	.10	.15
Antique Bronze .....	.08*	.10*	.12*	.15*	Oxidized Silver .....	.08*	.10*	.18*	.21*
Antique Copper .....	.05	.08	.12	.15	Polished Brass	†	†	†	†
Bauer Barff .....	.03	.05	.04	.06	Polished Bronze .....	.08*	.10*	.12*	.15*
Brush Brass	†	†	†	†	Polished Copper .....	.05	.08	.12	.15
Burnished Gilt .....	.08*	.10*	.12*	.15*	Polished Gilt .....	.03	.05	.04	.06
Butler's Silver .....	.08*	.10*	.18*	.21*	Polished Nickel .....	.05	.08	.08	.10
Cloister .....	.08*	.10*	.12*	.15*	Polished Silver .....	.08*	.10*	.18*	.21*
English Bronze .....	.08*	.10*	.12*	.15*	Polished Steel .....	.08*	.10*	.12*	.17*
Etruscan Gilt .....	.08*	.10*	.12*	.15*	Pompeiiian Bronze .....	.08*	.10*	.18*	.21*
Flemish Brass .....	.05	.08	.12	.15	Rich Gilt .....	.03	.05	.04	.06
Gold Bronze .....	.08*	.10*	.12*	.15*	Roman Gold .....	.08*	.10*	.18*	.21*
Ground Silver .....	.08*	.10*	.18*	.21*	Sand Blast Antique Brass .....	.08*	.10*	.18*	.21*
Gun Metal .....	.08*	.10*	.18*	.21*	Sand Blast Old Brass .....	.08*	.10*	.18*	.21*
Hardware Bronze .....	.08*	.10*	.12*	.15*	Satin Gold .....	.08*	.10*	.18*	.21*
Japanese Bronze .....	.08*	.10*	.12*	.15*	Statuary Bronze .....	.05	.08	.12	.15
Lemon Brass .....	.05	.08	.12	.15	Verde Antique .....	.08*	.10*	.18*	.21*
Mottled Copper .....	.05	.08	.12	.15	White Enamel .....	.08	.10	.18	.21
Old Brass	†	†	†	†	Wrought Iron .....	.03	.05	.04	.06
Old Copper .....	.05	.08	.12	.15					
Old English Bronze .....	.08*	.10*	.12*	.15*					

Standard packages of sockets or receptacles in special finishes are the same as regular finish.

Regular and special finishes of one List number may be assorted to make up the standard package quantity, except as noted in discount sheet.

Special finish on extra chain, add to list per foot .03 cents.

Special finish on balls only for pull sockets, add to list .03 cents.

Special finish for chain guides, sold separate from sockets, add to list .03 cents.

* When ordered in lots of 500 of one List number and one finish, this list will be reduced .03 cents.

† No advance.

•Unassembled Sockets

We are prepared to supply to order any of the brass shell sockets, unassembled, for the particular use of fixture manufacturers.

These sockets, when shipped unassembled, are packed in paper boxes (as per illustration) with the shells and the caps in the upper layer, thus making it possible to refinish the shells without touching the interiors until they are called for.

The interiors are in the lower layer, complete with shell lining and the cap lining.

This makes a mighty convenient way of carrying these goods for refinishing.

The shells used in the key sockets are interchangeable with those on the pull sockets.

The price for unassembled sockets is the same as for regular goods.

•Unlacquered Shells

We are prepared to supply to special order, sockets with shells polished but not lacquered, for refinishing purposes.

Sockets can be supplied in this way, either assembled or unassembled. "The Shurlok is not supplied with unlacquered shells."

The price is the same as for regular goods.

* National Electrical Code Standard. Illustration is 3/4 of full size.



P & S SOCKET PARTS

We give below a list of various parts making up P & S devices so that extra may be ordered. None of these prices apply to Shurlok sockets or receptacles of which parts are sold only under special conditions at special quoted prices.

When the device is of metal we will supply either brush or polished brass. Other finishes on these parts take one-half the advance for special finishes.

Pull, Key and Keyless Socket Parts

Standard Fluto, Passmour, Bayonet or Flutolier Brass Shell Socket Parts

SHELLS

	Schedule	Std. Pkg.	List Price Each
Key.....	B	250	\$0.10
Keyless.....	B	250	.10
Pull.....	B	250	.10

LININGS

Shell.....	B	250	\$0.04
Cap.....	B	250	.02

INTERIORS

Key.....	B	250	\$0.22
Keyless.....	B	250	.18
Pull, without chain or guide.....	B	250	.36
Pull, with chain, ball and guide.....	B	250	.56

CAPS WITHOUT LININGS

1/8 inch.....	B	250	\$0.12
1/4 inch.....	B	250	.20
3/8 inch.....	B	250	.20
Pendent.....	B	250	.12

BASES

For 449, 465, 466.....	B	250	\$0.30
For 1, 7, 97, 128, 62350, 62351.....	B	100	.60
For 42, 44, 149, 413, 414, 421.....	B	100	.96
For 98, 129, 132, 146, 156, 452, 453, 454, 458, 459, 460, 461, 462, 463, 60387, 60430, 60431, 61387.....	B	250	.24
For 123, 124, 125, 126, 164, 166.....	B	250	.24
For 99, 61455, 61456.....	B	100	.36

Standard Interchangeable Porcelain Socket Parts

BODIES

Key body.....	B	250	\$0.30
Keyless body.....	B	250	.24

CAPS

Pendent.....	B	250	\$0.12
1/8 inch.....	B	100	.18
1/4 inch.....	B	100	.18
3/8 inch.....	B	100	.18

BASES

For 60371, 62371.....	B	100	\$0.24
For 4, 46.....	B	100	.36
For 60247, 61107, 61087, 61237, 62247, 100136.....	B	100	.18
For 82, 83.....	B	100	.42

Extra Large Edison Base Socket Parts

SHELLS

For 216, 433.....	B	50	\$0.48
For 429, 441.....	B	50	.84

CAPS

For 216, 429, 433, 441.....	B	50	\$0.84
For 243, 455.....	B	50	.42

INTERIORS

For 216, 429, 433, 441.....	B	50	\$0.48
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BODIES

For 243, 455.....	B	50	\$1.08
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PULL CHAIN

	Schedule	Std. Pkg.	Add for Spec. Finish	List Price
Pull chain 18 inches long, without insulation, but complete with ball.....	B	50	\$0.04	\$0.26
Pull chain 8 inches long, complete with ball but without insulation.....	B	100	.03	.16
Chain only, per foot.....	B	164 ft.	.03	.12

Wiring Devices

**P & S SOCKETS
Double Pole—FLUTO Shell**



P & S 100421



P & S 100427



P & S 60



P & S 68

With 1/4 Inch Cap

With 1/4 Inch Cap

WITH 1/8 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
100421 [▲]	Key 3/4 inch long, composition.....	25	500	130 lbs	\$0.40
258 [▲]	Key 1 inch long, composition.....	25	500	135 lbs	.40
100427 [▲]	Key 3/4 inch long, brass.....	25	100	30 lbs	.48
311 [▲]	Key 1 inch long, brass.....	25	100	31 lbs	.48
100422 [▲]	Keyless.....	25	500	125 lbs	.36

WITH 1/8 INCH CAP Shurlok

Schedule "L"

100421 [▲]	<u>Shurlok</u> Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.72
298 [▲]	<u>Shurlok</u> Key 1 inch long, composition.....	25	100	30 lbs	.72
100427 [▲]	<u>Shurlok</u> Key 3/4 inch long, brass.....	25	100	30 lbs	.81
311 [▲]	<u>Shurlok</u> Key 1 inch long, brass.....	25	100	31 lbs	.81
100422 [▲]	<u>Shurlok</u> Keyless.....	25	100	29 lbs	.69

WITH 1/4 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
60 [▲]	Key 3/4 inch long, composition.....	25	250	75 lbs	\$0.51
68 [▲]	Key 3/4 inch long, brass.....	25	100	30 lbs	.59
312 [▲]	Key 1 inch long, brass.....	25	100	31 lbs	.59
61 [▲]	Keyless.....	25	250	72 lbs	.47

WITH 1/4 INCH CAP Shurlok

Schedule "L"

60 [▲]	<u>Shurlok</u> Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.83
68 [▲]	<u>Shurlok</u> Key 3/4 inch long, brass.....	25	100	30 lbs	.92
312 [▲]	<u>Shurlok</u> Key 1 inch long, brass.....	25	100	31 lbs	.92
61 [▲]	<u>Shurlok</u> Keyless.....	25	100	29 lbs	.80

Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

With extra long key add 6 cents to list; with extension key, 9 cents to list.

[▲] National Electrical Code Standard. Illustrations are 3/8 of full size.

P & S SOCKETS
Double Pole—FLUTo Shell

P & S 100423



P & S 100425

P & S 100425
With Pendant Cap

With 1/2 Inch Cap

WITH 1/2 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
100423*	Key 3/4 inch long, composition.....	25	250	75 lbs	\$0.47
100428*	Key 3/4 inch long, brass.....	25	100	30 lbs	.56
313*	Key 1 inch long, brass.....	25	100	31 lbs	.56
100424*	Keyless.....	25	250	72 lbs	.43

WITH 3/8 INCH CAP *Shurlok*

Schedule "L"

100423*	<i>Shurlok</i> Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.80
100428*	<i>Shurlok</i> Key 3/4 inch long, brass.....	25	100	30 lbs	.88
313*	<i>Shurlok</i> Key 1 inch long, brass.....	25	100	31 lbs	.88
100424*	<i>Shurlok</i> Keyless.....	25	100	29 lbs	.76

WITH PENDENT CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
100425*	Key 3/4 inch long, composition.....	25	500	125 lbs	\$0.40
100426*	Keyless.....	25	500	120 lbs	.36

WITH PENDENT CAP *Shurlok*

Schedule "L"

100425*	<i>Shurlok</i> Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.72
100426*	<i>Shurlok</i> Keyless.....	25	100	29 lbs	.60

Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

With extra long key add 6 cents to list; with extension key, 9 cents to list.

* National Electrical Code Standard. Illustrations are 3/4 of full size.

Wiring Devices

P & S SOCKETS



P & S 306
With 1/4 Inch Cap—Male Thread



P & S 100412
With 1/4 Inch Cap



P & S 58
With 1/4 Inch Cap

Double Pole—*FLOYD* Shell

WITH 3/8 INCH CAP—MALE THREAD

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
306 ^A	Key 3/4 inch long, composition.....	25	250	75 lbs	\$0.51
309 ^A	Keyless.....	25	250	72 lbs	.47

WITH 3/8 INCH CAP—MALE THREAD *Shurlok*

Schedule "L"

306 ^A	<i>Shurlok</i> Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.83
309 ^A	<i>Shurlok</i> Keyless.....	25	100	29 lbs	.80

Double Pole—Passmour Shell

WITH 1/2 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
100412 ^A	Key 3/4 inch long, composition.....	25	500	130 lbs	\$0.40
100413 ^A	Keyless.....	25	500	125 lbs	.36

WITH 1/2 INCH CAP *Shurlok*

Schedule "L"

100412 ^A	<i>Shurlok</i> Key 3/4 Inch long, composition.....	25	100	30 lbs	\$0.72
100413 ^A	<i>Shurlok</i> Keyless.....	25	100	29 lbs	.69

NOTE: For prices on P & S Sockets, Double Pole—Passmour Shell, with 1/4 inch cap, see following page.

Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

With extra long key, add 6 cents to list; with extension key, 9 cents to list.

^A National Electrical Code Standard. Illustrations are 3/4 of full size.

P & S SOCKETS

P & S 100414
With 3/4 Inch CapP & S 100416
With Pendent Cap

Double Pole—Passmour Shell

WITH 1/4 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
58 ^A	Key 3/4 inch long, composition.....	25	250	75 lbs	\$0.51
59 ^A	Keyless.....	25	250	72 lbs	.47

WITH 1/4 INCH CAP *Shurlok*

Schedule "L"

58 ^A	<i>Shurlok</i> . Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.83
59 ^A	<i>Shurlok</i> . Keyless.....	25	100	29 lbs	.80

WITH 3/8 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
100414 ^A	Key 3/4 inch long, composition.....	25	250	75 lbs	\$0.47
100415 ^A	Keyless.....	25	250	72 lbs	.43

WITH 3/8 INCH CAP *Shurlok*

Schedule "L"

100414 ^A	<i>Shurlok</i> . Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.80
100415 ^A	<i>Shurlok</i> . Keyless.....	25	100	29 lbs	.76

WITH PENDENT CAP

Schedule "B"

100416 ^A	Key 3/4 inch long, composition.....	25	500	125 lbs	\$0.40
100417 ^A	Keyless.....	25	500	120 lbs	.36

WITH PENDENT CAP *Shurlok*

Schedule "L"

100416 ^A	<i>Shurlok</i> . Key 3/4 inch long, composition.....	25	100	30 lbs	\$0.72
100417 ^A	<i>Shurlok</i> . Keyless.....	25	100	29 lbs	.60

Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

With extra long key, add 6 cents to list; with extension key, 9 cents to list.

^A National Electrical Code Standard. Illustrations are 3/4 of full size.

P & S SOCKETS



P & S 474



P & S 480



P & S 504

Sockets with $\frac{1}{8}$ Inch Angle Cap—*FLUTO* Interchangeable Shell

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
474	Key, double pole.....	25	100	30	\$0.46
7500	Key, single pole.....	25	100	30	.46
475	Keyless.....	26	100	28	.42

Schedule "L"

474	Shwrlak Key, double pole.....	25	100	30	\$0.78
7500	Shwrlak Key, single pole.....	25	100	30	.78
475	Shwrlak Keyless.....	25	100	28	.75

Sockets with $\frac{3}{8}$ Inch Angle Cap—*FLUTO* Interchangeable Shell

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
480	Key, double pole.....	25	100	33	\$0.53
7506	Key, single pole.....	25	100	33	.53
481	Keyless.....	25	100	31	.50

Schedule "L"

480	Shwrlak Key, double pole.....	25	100	33	\$0.86
7506	Shwrlak Key, single pole.....	25	100	33	.86
481	Shwrlak Keyless.....	25	100	31	.82

Sockets with $\frac{1}{4}$ Inch Angle Cap—*FLUTO* Interchangeable Shell

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
522	Key, double pole.....	25	100	33	\$0.57
7503	Key, single pole.....	25	100	33	.57
574	Keyless.....	25	100	31	.53
507	Pull.....	25	50	22	.89

Brush brass shipped unless otherwise specified.

P & S PULL SOCKETS
Double BreakP & S 90
With 1/4 Inch CapP & S 87
With 1/4 Inch CapP & S 120
With 1/4 Inch CapP & S 118
With 1/4 Inch Cap

WITH 1/8 INCH CAP—FLUTO SHELL

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
90 ^A	Pull Socket, 1/8 inch cap.....	25	250	75 lbs	\$0.72

WITH 1/8 INCH CAP—FLUTO SHELL *Shurlok*

Schedule "L"

90 ^A	<i>Shurlok</i> . Pull Socket, 1/8 inch cap.....	25	100	30 lbs	\$1.05
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WITH 1/8 INCH CAP—PASSMOUR SHELL

Schedule "B"

87 ^A	Pull Socket, 1/8 inch cap.....	25	250	75 lbs	\$0.72
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WITH 1/8 INCH CAP—PASSMOUR SHELL *Shurlok*

Schedule "L"

87 ^A	<i>Shurlok</i> . Pull Socket, 1/8 inch cap.....	25	100	30 lbs	\$1.05
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WITH 1/4 INCH CAP—FLUTO SHELL

Schedule "B"

120 ^A	Pull Socket, 1/4 inch cap.....	25	100	30 lbs	\$0.83
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WITH 1/4 INCH CAP—FLUTO SHELL *Shurlok*

Schedule "L"

120 ^A	<i>Shurlok</i> . Pull Socket, 1/4 inch cap.....	25	100	30 lbs	\$1.16
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WITH 1/4 INCH CAP—PASSMOUR SHELL

Schedule "B"

118 ^A	Pull Socket, 1/4 inch cap.....	25	100	30 lbs	\$0.83
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WITH 1/4 INCH CAP—PASSMOUR SHELL *Shurlok*

Schedule "L"

118 ^A	<i>Shurlok</i> . Pull Socket, 1/4 inch cap.....	25	100	30 lbs	\$1.16
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Brush brass is the regular finish. There is no extra charge for polished or old brass finish.
With extra long key, add 6 cents to list; with extension key, 09 cents to list.

^A National Electrical Code Standard. Illustrations are 3/4 of full size.

P & S PULL SOCKETS

Double Break



P & S 91
With $\frac{1}{4}$ Inch
Cap



P & S 88
With $\frac{1}{4}$ Inch
Cap



P & S 92
With Pendent
Cap



P & S 89
With Pendent
Cap

WITH $\frac{3}{8}$ INCH CAP—FLUTO SHELLS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
91 ^A	Pull socket, $\frac{3}{8}$ inch cap.....	25	100	30 lbs	\$0.80
310 ^A	Pull socket, $\frac{3}{8}$ inch cap, male thread.....	25	100	30 lbs	.83

WITH $\frac{3}{8}$ INCH CAP—FLUTO SHELL *Shurlok*

Schedule "L"

91 ^A	<i>Shurlok</i> Pull socket.....	25	100	30 lbs	\$1.12
310 ^A	<i>Shurlok</i> Pull socket.....	25	100	30 lbs	1.16

WITH $\frac{3}{8}$ INCH CAP—PASSMOUR SHELL

Schedule "B"

88 ^A	Pull socket, $\frac{3}{8}$ inch cap.....	25	100	30 lbs	\$0.80
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WITH $\frac{3}{8}$ INCH CAP—PASSMOUR SHELL *Shurlok*

Schedule "L"

88 ^A	<i>Shurlok</i> Pull socket, $\frac{3}{8}$ inch cap.....	25	10	30 lbs	\$1.12
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WITH PENDENT CAP—FLUTO SHELL

Schedule "B"

92 ^A	Pull socket, pendent cap.....	25	250	70 lbs	\$0.72
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WITH PENDENT CAP—FLUTO SHELL *Shurlok*

Schedule "L"

92 ^A	<i>Shurlok</i> Pull socket, pendent cap.....	25	100	30 lbs	\$1.05
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WITH PENDENT CAP—PASSMOUR SHELL

Schedule "B"

89 ^A	Pull socket, pendent cap.....	25	250	70 lbs	\$0.72
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WITH PENDENT CAP—PASSMOUR SHELL *Shurlok*

Schedule "L"

89 ^A	<i>Shurlok</i> Pull socket, pendent cap.....	25	100	30 lbs	\$1.05
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Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

^A National Electrical Code Standard. Illustrations are $\frac{1}{2}$ of full size.

P & S SOCKETS



No. 470



No. 438

P & S 216
Socket with
1/2 inch CapP & S 429
(3/4 Full Size)
Socket with 1/2 inch Cap
and 3/4 inch Shade HolderP & S 243
(1/4 Full Size)
Porcelain Weather-
proof Socket

Flutolier Keyless Socket

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
470	Flutolier Keyless Socket.....	25	500	100 lbs	\$0.36
438	Flutolier Pull Socket.....	25	250	63 lbs	.72

Flutolier Pull Socket *Shurlok*

Schedule "L"

438	<i>Shurlok</i> Flutolier Pull Socket.....	25	100	23 lbs	\$1.05
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Sockets for Mogul Base Lamps

660 Watts—250 Volts

Schedule "B"

216 ^A	Keyless, 3/8 inch cap, brass.....	10	50	34 lbs	\$1.20
433 ^A	Keyless, 1/2 inch cap, brass.....	10	50	35 lbs	1.20
429 ^A	Keyless, 3/8 in. cap, brass, with 3 1/4 in. shade holder.....	1	50	48 lbs	1.56
441 ^A	Keyless, 1/2 in. cap, brass, with 3 1/4 in. shade holder.....	1	50	50 lbs	1.56
243 ^A	Weatherproof with 1/2 inch polished brass cap.....	10	50	65 lbs	1.20
455 ^A	Weatherproof with 3/8 inch polished brass cap.....	10	50	65 lbs	1.20

No. 243—No advance for polished brass. All other finishes take one-half of the advance on standard brass sockets (see page 91). Socket is fitted with 15 inches No. 14 stranded S. B. New Code rubber covered wire. Sockets with longer wires furnished to order. Extra wire 6 cents list, per foot, each conductor.

No. 216 and 429 have cap and shell of substantial brass and threaded with a fine thread. There is a set screw provided on the cap so that the lower shell cannot back out of place when properly set up. The center spring contact is of heavy phosphor bronze. The fiber lining may be readily removed for the purpose of refinishing the shell.

P & S 50717
(3/4 Full Size)
Keyless Bayonet
ShellP & S 108
(1/4 Full Size)
Keyless with Slotted
Base Bayonet ShellP & S 290
(3/4 Full Size)
With Brass
Covered BaseP & S 449
With Brass
Covered BaseP & S 466
With Brass
Covered Base

Wall Sockets

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
50717 ^A	Keyless, with porcelain base.....	25	250	60 lbs	\$0.30
108 ^A	Keyless, with slotted porcelain base..... Holes for supporting screws are spaced 1 1/4 inches on centers. Outside diameter of base 2 inches.	25	250	60 lbs	.30
290 ^A	Keyless, with brass covered base..... Holes for supporting screws are spaced 1 1/2 inches on centers. Outside diameter of base 2 1/4 inches.	10	250	105 lbs	.48
449	Key Receptacle Fluto Shell with brass covered base..	10	250	105 lbs	.65
465	Keyless Receptacle Fluto Shell with brass covered base..	10	250	100 lbs	.62
466	Pull Receptacle Fluto Shell with brass covered base..... Holes for supporting screws are spaced 1 3/4 inches on centers. Outside diameter of base 3 1/4 inches.	10	100	38 lbs	.98

Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

^A National Electrical Code Standard.

P & S CEILING PULL SWITCH ROSETTE
FLUTO INTERCHANGEABLE SHELL



P & S 493



P & S 706



P & S 707

Cast Brass Screw Pulley

Schedule "XA"

List No.		Carton Quantity	Std. Pkg.	Wt. Lbs.	List Price Each
493	Polished Brass.....	100	100	15	\$0.21

Ceiling Pull Switch Rosette Single Pole

Schedule "XA"

3 Amperes 125 Volts—1 Ampere 250 Volts

706	With standard porcelain base.....	10	25	22	\$1.01
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Holes for supporting screws are spaced $1\frac{1}{8}$ inches on centers.
Outside diameter of base $2\frac{1}{4}$ inches.

707	With standard slotted porcelain base.....	10	25	22	\$1.01
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Holes for supporting screws are spaced $1\frac{1}{8}$ inches on centers.
Outside diameter of base is $2\frac{1}{4}$ inches.



P & S 701



P & S 702



P & S 704

Ceiling Pull Switch Rosette Single Pole

Schedule "XA"

3 Amperes 125 Volts—1 Ampere 250 Volts

List No.		Carton Quantity	Std. Pkg.	Wt. Lbs.	List Price Each
701	With porcelain base to use on National Metal Molding, and having "knockouts" to permit its use as a "one or two way".....	10	25	30	\$1.01

Outside dimensions of base $2\frac{3}{4} \times 2\frac{3}{4}$ inches.

702	With porcelain base to fit condulets.....	10	25	30	\$1.10
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Holes for supporting screws are spaced $1\frac{1}{2}$ inches on centers.
Outside dimensions of base $3\frac{1}{4} \times 1\frac{1}{2}$ inches.

704	With porcelain base to fit wood molding or pipe tablets.....	10	25	30	\$1.01
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Holes for supporting screws are spaced $2\frac{1}{4}$ inches on centers.
Outside dimensions of base $2\frac{3}{4} \times 2$ inches.

NOTE: The above equipped with 10 foot cord.
Brush brass shipped unless otherwise specified.
National Electrical Code Standard.

P & S PULL SWITCH ROSETTES
 FLUTO INTERCHANGEABLE SHELLS


No. 709



No. 700

Ceiling Pull Switch Rosette

3 Amperes 125 Volts—1 Ampere 250 Volts

Schedule "XA"

List No.		Outside Dia. of Base	Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
709	With base to use on $3\frac{1}{4}$ in. outlet box.....	$3\frac{1}{2}$ ins.	1	25	28	\$1.44
Holes for supporting screws spaced $2\frac{3}{4}$ inches on centers.						
710	Base to use on $3\frac{1}{4}$ or 4 in. outlet boxes.....	$4\frac{1}{2}$ ins.	1	20	32	\$1.88
Holes for supporting screws, one set $2\frac{3}{4}$ inches on centers; the other set $2\frac{1}{4}$ inches on centers.						
700	Base to use on $3\frac{1}{4}$ in. outlet boxes.....	$3\frac{1}{2}$ ins.	1	25	28	\$1.44
Holes for supporting screws, one set is $2\frac{3}{4}$ inches on centers and the other set $2\frac{1}{4}$ inches on centers.						
711	Base to use on $3\frac{1}{4}$ or 4 in. outlet boxes.....	$3\frac{1}{2}$ ins.	1	20	32	\$1.88
Holes for supporting screws, one set $2\frac{3}{4}$ inches on centers and the other set $3\frac{1}{2}$ inches on centers.						



P & S 705



P & S 712



P & S 708

Ceiling Pull Switch Rosette

Schedule "XA"

List No.		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
705	With base for open surface wiring.....	10	25	30	\$1.10
Holes for supporting screws are spaced $2\frac{1}{4}$ inches on centers.					
Outside dimensions of base $3\frac{3}{8}$ x $2\frac{3}{4}$ inches.					
712	With standard brass covered base.....	10	20	23	\$1.17
Holes for supporting screws are spaced $1\frac{3}{4}$ inches on centers.					
Outside diameter of base $2\frac{1}{8}$ inches.					
708	With large concealed work porcelain base.....	10	20	25	\$1.10
Holes for supporting screws are spaced $2\frac{1}{4}$ inches on centers.					
Recess in base is $\frac{1}{2}$ inch deep and $1\frac{1}{8}$ inches wide.					
Outside diameter of base is $2\frac{3}{4}$ inches.					

Wiring Devices

100-2

**P & S FUSELESS ROSETTES
FLUTO INTERCHANGEABLE SHELLS**



List No. 713



List No. 714



List No. 715

3 Ampere-250 Volt Fuseless Rosettes

Schedule "XA"

List No.	Base	Screws Spaced	Outside Diameter Base	Carton	Std. Pkg.	List Price Each
713	Standard porcelain, plain	1 1/8 ins.	2 1/8 ins.	10	20	\$0.44
714	Standard porcelain, slotted	1 1/8 ins.	2 1/8 ins.	10	20	.44
715	Porcelain having knockout to use as one or two way		2 3/4 x 2 1/8 ins.	10	20	.44



List No. 716



List No. 717



List No. 718

3 Ampere-250 Volt Fuseless Rosettes

Schedule "XA"

List No.	Base	Screws Spaced	Outside Diameter	Carton	Std. Pkg.	List Price Each
716	Porcelain, to fit condulets	1 1/2 ins.	3 3/8 x 1 1/8 ins.	10	20	\$0.44
717	Porcelain, to fit molding or pipe taplets	2 1/8 ins.	2 3/4 x 2 ins.	10	20	.44
718	Porcelain, for open surface wiring	2 1/2 ins.	3 3/8 x 2 3/4 ins.	10	20	.44



List No. 720



List No. 719



List Nos. 721 and 722



List Nos. 723 and 724

3 Ampere-250 Volt Fuseless Rosettes

Schedule "XA"

List No.	Base	Screws Spaced	Outside Diameter	Carton	Std. Pkg.	List Price Each
720	Porcelain, large concealed recess in base 1/2 in. deep and 1 1/8 in. wide	2 1/8 ins.	2 5/8 ins.	10	20	\$0.44
719	Standard brass covered	1 1/4 ins.	2 1/8 ins.	10	20	.44
721	To use on 3/4 in. outlet box	One set 2 3/4 ins., other 3 1/2 ins.	4 1/2 ins.	1	20	.72
722	To use on 3/4 or 4 in. outlet box	One set 2 3/4 ins., other 3 1/2 ins.	4 1/2 ins.	1	20	1.16
723	To use on 3/4 in. outlet box	One set 2 3/4 ins., other 3 1/2 ins.	4 1/2 ins.	1	20	.72
724	To use on 3/4 or 4 in. outlet box	One set 2 3/4 ins., other 3 1/2 ins.	4 1/2 ins.	1	20	1.16

Brush brass shipped unless otherwise specified.

MOGUL BASE SOCKETS AND RECEPTACLES

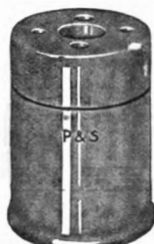
1500 WATTS—600 VOLTS



P & S 517



P & S 521



P & S 523



P & S 524

PORCELAIN SOCKETS FOR EXTRA LARGE EDISON BASE LAMPS

Schedule "B"

List No.		Carton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
519	With $\frac{3}{8}$ in. brass cap.	10	50	70	\$1.20
518	With $\frac{1}{2}$ in. brass cap.	10	50	70	1.20
517	With $\frac{3}{4}$ in. brass cap.	10	50	70	1.20

PORCELAIN SOCKETS FOR EXTRA LARGE EDISON BASE LAMPS

Schedule "B"

522	With $\frac{3}{8}$ in. brass cap.	10	50	60	\$1.02
521	With $\frac{1}{2}$ in. brass cap.	10	50	65	1.02

PORCELAIN SOCKET FOR EXTRA LARGE EDISON BASE LAMPS

Schedule "B"

523	Without cap.	10	50	55	\$0.84
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PORCELAIN SOCKETS FOR EXTRA LARGE EDISON BASE LAMPS

Schedule "B"

524	Without cap.	10	50	50	\$0.66
525	Without cap, but with 15 in. wires.	10	50	55	.84



P & S 534



P & S 527



P & S 529

PORCELAIN SOCKETS WITH CAST IRON YOKES FOR EXTRA LARGE EDISON BASE LAMPS

Schedule "B"

List No.		Carton	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
534	With $\frac{3}{8}$ in. cast iron yoke.	2	50	..	\$1.02
535	With $\frac{1}{2}$ in. cast iron yoke.	2	50	..	1.02
536	With $\frac{3}{4}$ in. cast iron yoke.	2	50	..	1.02

COPPER SHELL KEYLESS MOGUL RECEPTACLE FOR $\frac{3}{4}$ OR 4 INCH OUTLET BOXES

Schedule "A"

527	Receptacle, with 8 in. shade holder.	1	10	..	\$6.60
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COPPER SHELL KEYLESS MOGUL SOCKETS

Schedule "B"

528	$\frac{3}{8}$ in. cap, 8 in. shade holder.	1	10	..	\$5.16
529	$\frac{1}{2}$ in. cap, 8 in. shade holder.	1	10	..	5.16
530	$\frac{3}{4}$ in. cap, 8 in. shade holder.	1	10	..	5.16

Standard finish is polished copper.

For nickel, oxidized, and statuary bronze finishes, add 24 cents to list price. For other special finishes, prices quoted on application.

Wiring Devices

P & S WALL SOCKETS



P & S 60430



P & S 61455

KEY AND KEYLESS—FLUTO SHELL

Sockets with Porcelain Base

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
60430 ^A	Key $\frac{3}{4}$ inch long, large porcelain base	10	250	155 lbs	\$0.59
60431 ^A	Keyless, large porcelain base	10	250	145 lbs	.56
	Holes for supporting screws are spaced $2\frac{3}{8}$ inches on centers.				
	Recess in base is $\frac{1}{2}$ inch deep and $1\frac{1}{8}$ inches wide.				
61455 ^A	Key $\frac{3}{4}$ inch long, angle wall base	10	100	58 lbs	.59
61456 ^A	Keyless, angle wall base	10	100	56 lbs	.56
61387 ^A	Key $\frac{3}{4}$ inch long, standard wall base	10	250	115 lbs	.53
60387 ^A	Keyless, standard wall base	10	250	105 lbs	.48
132 ^A	Key $\frac{3}{4}$ inch long, slotted base	10	250	115 lbs	.53
146 ^A	Keyless, slotted base	10	250	105 lbs	.48
	Holes for supporting screws are spaced $1\frac{1}{2}$ inches on centers.				



P & S 61387



P & S 132

KEY AND KEYLESS—FLUTO SHELL *Shurlok*

Schedule "L"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
60430 ^A	<i>Shurlok</i> Key $\frac{3}{4}$ inch long, large porcelain base	10	100	69 lbs	\$0.92
60431 ^A	<i>Shurlok</i> Keyless, large porcelain base	10	100	65 lbs	.88
	Holes for supporting screws are spaced $2\frac{3}{8}$ inches on centers.				
	Recess in base is $\frac{1}{2}$ inch deep and $1\frac{1}{8}$ inches wide.				
61455 ^A	<i>Shurlok</i> Key $\frac{3}{4}$ inch long, angle wall base	10	100	58 lbs	.92
61456 ^A	<i>Shurlok</i> Keyless, angle wall base	10	100	56 lbs	.88
61387 ^A	<i>Shurlok</i> Key $\frac{3}{4}$ inch long, standard wall base	10	100	46 lbs	.86
60387 ^A	<i>Shurlok</i> Keyless, standard wall base	10	100	42 lbs	.81
132 ^A	<i>Shurlok</i> Key $\frac{3}{4}$ inch long, slotted base	10	100	46 lbs	.86
146 ^A	<i>Shurlok</i> Keyless, slotted base	10	100	42 lbs	.81
	Holes for supporting screws are spaced $1\frac{1}{2}$ inches on centers.				

The above supplied with extra long key, add 6 cents to list; with extension key, 9 cents to list.

^A National Electrical Code Standard.

P & S SOCKETS Metal Molding Sockets—*FLUTO* Shell



P & S 126



P & S 124

FOR NATIONAL METAL MOLDING One-Way Base

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
126 ^A	Key, $\frac{3}{4}$ inch long, composition	10	250	125 lbs	\$0.53
125 ^A	Keyless.	10	250	123 lbs	.48

ONE-WAY BASE *Shurlok*

Schedule "L"

126 ^A	<i>Shurlok</i> Key $\frac{3}{4}$ inch long, composition	10	100	55 lbs	\$0.86
125 ^A	<i>Shurlok</i> Keyless.	10	100	51 lbs	.81

Two-Way Base

Schedule "B"

124 ^A	Key, $\frac{3}{4}$ inch long, composition	10	250	130 lbs	\$0.53
123 ^A	Keyless.	10	250	127 lbs	.48

TWO-WAY BASE *Shurlok*

Schedule "L"

124 ^A	<i>Shurlok</i> Key $\frac{3}{4}$ inch long, composition	10	100	58 lbs	\$0.86
123 ^A	<i>Shurlok</i> Keyless.	10	100	54 lbs	.81

Holes for supporting screws are spaced 1 7-32 inches on centers.

The above supplied with extra long key, add 6 cents to list. With extension key, 9 cents to list.



P & S 166



P & S 164

FOR NATIONAL METAL MOLDING One-Way Base

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
166 ^A	Pull socket, one-way base.	10	100	55 lbs	\$0.84

ONE-WAY BASE *Shurlok*

Schedule "L"

166 ^A	<i>Shurlok</i> Pull socket, one-way base	10	100	55 lbs	\$1.17
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Two-Way Base

Schedule "B"

164 ^A	Pull socket, two-way base.	10	100	58 lbs	\$0.84
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TWO-WAY BASE *Shurlok*

Schedule "L"

164 ^A	<i>Shurlok</i> Pull socket, two-way base	10	100	58 lbs	\$1.17
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Holes for supporting screws are spaced 1 7-32 inches on centers.

NOTE: Brush brass is regular finish. There is no extra charge for polished or old brass finish.

^A National Electrical Code Standard. Illustrations are $\frac{3}{4}$ of full size.

P & S OUTLET BOX RECEPTACLES



P & S 7
($\frac{1}{4}$ Full Size)



P & S 62350
($\frac{1}{4}$ Full Size)

KEY AND KEYLESS—FLUTO SHELL

For use on 3 and $3\frac{1}{4}$ inch Outlet Boxes

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
7 ^A	Key, $\frac{3}{4}$ inch long, metal cov'd porc. insulated base.....	1	100	102 lbs	\$0.76
1 ^A	Keyless, metal covered porcelain insulated base.....	1	100	98 lbs	.72
62350 ^A	Key, $\frac{3}{4}$ inch long, metal base, porcelain covered.....	1	100	100 lbs	.76
62351 ^A	Keyless, metal base, porcelain covered.....	1	100	96 lbs	.72

Holes for supporting screws are spaced $2\frac{3}{4}$ inches on centers.

KEY AND KEYLESS—FLUTO SHELL, *Shurlok*

Schedule "L"

7 ^A	<i>Shurlok</i> Key, $\frac{3}{4}$ inch long, metal covered porcelain insulated base.....	1	100	102 lbs	\$1.08
1 ^A	<i>Shurlok</i> Keyless, metal cov'd porc. insulated base.....	1	100	98 lbs	1.05
62350 ^A	<i>Shurlok</i> Key, $\frac{3}{4}$ inch long, metal base, porc. cov'd.....	1	100	100 lbs	1.08
62351 ^A	<i>Shurlok</i> Keyless, metal base, covered porcelain.....	1	100	96 lbs	1.05



P & S 42
($\frac{1}{4}$ Full Size)



P & S 421
($\frac{1}{4}$ Full Size)

KEY AND KEYLESS—FLUTO SHELL

For use on 3, $3\frac{1}{4}$ and 4 inch Outlet Boxes

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
42 ^A	Key, $\frac{3}{4}$ inch long, metal cov'd porc. insulated base.....	1	100	180 lbs	\$1.12
44 ^A	Keyless, metal covered porcelain insulated base.....	1	100	176 lbs	1.08
421 ^A	Key, $\frac{3}{4}$ inch long, metal base, porcelain covered.....	1	100	180 lbs	1.12
414 ^A	Keyless, metal base, porcelain covered.....	1	100	176 lbs	1.08

KEY AND KEYLESS—FLUTO SHELL, *Shurlok*

Schedule "L"

42 ^A	<i>Shurlok</i> Key, $\frac{3}{4}$ inch long, metal covered porcelain insulated base.....	1	100	180 lbs	\$1.44
44 ^A	<i>Shurlok</i> Keyless, metal cov'd porc. insulated base.....	1	100	176 lbs	1.41
421 ^A	<i>Shurlok</i> Key, $\frac{3}{4}$ inch long, metal base, porc. cov'd.....	1	100	180 lbs	1.44
414 ^A	<i>Shurlok</i> Keyless, metal base, porcelain covered.....	1	100	176 lbs	1.41

The above receptacles may be used on 3, $3\frac{1}{4}$ or 4 inch outlet boxes as there are two sets of holes for supporting screws, one $2\frac{3}{4}$ inches on centers and the other $3\frac{1}{2}$ inches on centers.

Above supplied with extra long key, 6 cents list. With extension key, 9 cents list.

Brush brass is the regular finish. There is no extra charge for polished or old brass.

See data pages for list of outlet boxes which may be used with these receptacles.

^A National Electrical Code Standard.

P & S OUTLET BOX RECEPTACLES

P & S 128
($\frac{3}{8}$ Full Size)P & S 97
($\frac{1}{4}$ Full Size)P & S 413
($\frac{1}{4}$ Full Size)P & S 149
($\frac{3}{4}$ Full Size)PULL SOCKETS—FLUTO SHELL
For use on 3 and $3\frac{1}{4}$ inch Outlet Boxes

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
128 ^a	Pull socket, metal cov'd porc. insulated base.....	1	50	55 lbs.	\$1.20
97 ^a	Pull socket, metal base, porcelain covered.....	1	50	50 lbs.	1.20

PULL SOCKETS—FLUTO SHELL *Shurlok*
For use on 3 and $3\frac{1}{4}$ inch Outlet Boxes

Schedule "L"

128 ^a	<i>Shurlok</i> Pull socket, metal cov'd porc. insulated base.....	1	50	55 lbs.	\$1.53
97 ^a	<i>Shurlok</i> Pull socket, metal base, porcelain covered.....	1	50	50 lbs.	1.53

PULL SOCKETS—FLUTO SHELL
For use on 3, $3\frac{1}{4}$ and 4 inch Outlet Boxes

Schedule "B"

413 ^a	Pull socket, metal base, porcelain covered..... May be used on 3, $3\frac{1}{4}$ and 4 inch outlet boxes, as there are two sets of screw holes, one set being $2\frac{3}{4}$ inches on centers and the other $3\frac{1}{2}$ inches on centers.	1	50	90 lbs.	\$1.56
149 ^a	Pull socket, metal cov'd porc. insulated base..... The above receptacles may be used on 3, $3\frac{1}{4}$ or 4 inch outlet boxes, as two sets of supporting screw holes are provided, one being $2\frac{3}{4}$ inches on centers and the other being $3\frac{1}{2}$ inches on centers.	1	50	90 lbs.	1.56

PULL SOCKETS—FLUTO SHELL *Shurlok*
For use on 3, $3\frac{1}{4}$ and 4 inch Outlet Boxes

Schedule "L"

413 ^a	<i>Shurlok</i> Pull socket same type as 413 above.....	1	50	90 lbs.	\$1.89
149 ^a	<i>Shurlok</i> Pull socket same type as 149 above.....	1	50	90 lbs.	1.89

See data pages for list of outlet boxes which may be used with these receptacles.

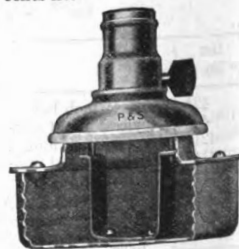
Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

Above supplied with *Shurlok* locking attachment at an advance of 33 cents list.^aNational Electrical Code Standard.Fig. 3
View showing Outlet Box Receptacle mounted on Fixture Stud by means of P & S Conduit Box Strap No. P & S 1180

P & S 1180



P & S 1179

Fig. 4
View showing P & S Wall Receptacle mounted on Conduit Box without Stud, by means of Conduit Box Strap P & S 1180

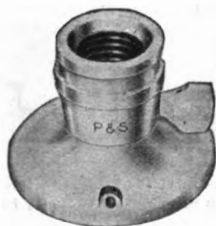
P & S Conduit Box Strap

Schedule "XA"

1179	With $\frac{3}{8}$ in. lock nut.....	25	100	14	\$0.08
1180	With $\frac{1}{2}$ in. lock nut.....	25	100	17	.10

Wiring Devices

P & S RECEPTACLES



P & S 46
($\frac{1}{4}$ Full Size)



P & S 82
($\frac{1}{4}$ Full Size)

Porcelain Wall Receptacles

For 3 or 3 $\frac{1}{4}$ inch Outlet Boxes

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
46 ^A	Key, wall receptacle.....	1	100	86 lbs	\$0.54
4 ^A	Keyless, wall receptacle..... Holes for supporting screws are spaced 2 $\frac{3}{4}$ inches on centers. Shade holder P & S 119 or 1190 may be used.	1	100	84 lbs	.48

For 4 inch Outlet Boxes

Schedule "B"

82 ^A	Key, wall receptacle.....	1	100	152 lbs	\$0.60
83 ^A	Keyless, wall receptacle..... Holes for supporting screws are spaced 3 $\frac{1}{2}$ inches on centers. Shade holder P & S 119 or 1190 may be used.	1	100	150 lbs	.54

See data pages for list of outlet boxes which may be used with these receptacles.



P & S 451
($\frac{1}{2}$ Full Size)



P & S 88259
($\frac{1}{2}$ Full Size)

RECEPTACLE FOR CONDULET

Schedule "B"

451 ^A	Without shade holder groove.....	10	250	114 lbs	\$0.30
88259 ^A	With shade holder groove..... Holes for supporting screws are spaced 1 $\frac{1}{2}$ inches on centers. These receptacles are designed to be used with Crouse-Hinds condulets, styles G, GL, GLA, GT, GX, H, HLA, HH, HHC, in 5 ampere size in the manner shown in the accompanying cut. Will fit Adaptibox Cover No. 2. Shade holders P & S 28 and 29 may be used.	10	250	107 lbs	.36

^ANational Electrical Code Standard.

P & S OUTLET BOX RECEPTACLES

Porcelain Brass Covered

P & S 103704
(3/4 Full Size)P & S 283
(3/4 Full Size)P & S 10
(3/4 Full Size)P & S 282
(3/4 Full Size)

FOR 3 OR 3 1/4 INCH BOXES

Schedule "A"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
103704 [▲]	Keyless receptacle. The porcelain projects under the shell and insulates it from the box or metal ceiling.	1	100	94 lbs	\$0.54
283 [▲]	Keyless receptacle. The shell entirely covers the porcelain.	1	100	84 lbs	.54

Holes for supporting screws are spaced 2 3/4 inches on centers.

FOR 3, 3 1/4 OR 4 INCH BOXES

Schedule "A"

10 [▲]	Keyless receptacle. The porcelain projects under the shell and insulates it from the box or metal ceiling.	1	100	134 lbs	\$0.72
282 [▲]	Keyless receptacle. The shell entirely covers the porcelain.	1	100	132 lbs	.72

Intended for use on 4 inch outlet box, but may be used on 3 or 3 1/4 inch.

There are two sets of holes for supporting screws, one 3 1/2 inches on centers, and the other 2 3/4 inches.

P & S 85
(3/4 Full Size)P & S 78
(3/4 Full Size)

FOR 3, 3 1/4 OR 4 INCH BOXES

Schedule "A"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
85 [▲]	Keyless receptacle. Holes for supporting screws are spaced 2 3/4 inches on centers. For 3 or 3 1/4 inch boxes.	1	100	112 lbs	\$0.60
78 [▲]	Keyless receptacle. Holes for supporting screws are spaced 2 3/4 inches and 3 1/2 inches on centers, permitting the receptacle to be used on 3, 3 1/4 and 4 inch boxes.	1	100	125 lbs	.78

Each receptacle is fitted with 6 inches of No. 14 stranded S. B. New Code rubber covered wire. Receptacles with longer wires furnished to order. Extra wire 6 cents list, per foot, each conductor.

NOTE: See data pages for list of outlet boxes which may be used with receptacles listed on this page. Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

[▲] National Electrical Code Standard.

P & S OUTLET BOX RECEPTACLES

Porcelain Receptacles



P & S 62357
(¾ Full Size)



P & S 41
(¾ Full Size)



P & S 111
(¾ Full Size)



P & S 110
(¾ Full Size)

FOR 3 OR 3¼ INCH BOXES

Schedule "A"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
62357 ^A	Keyless, with shade holder ring.....	1	100	95 lbs	\$0.42
41 ^A	Keyless, with shade holder groove..... Holes for supporting screws are spaced 2¾ inches on centers.	1	100	92 lbs	.48

FOR 4 INCH BOXES

Schedule "A"

111 ^A	Keyless, without shade holder groove.....	1	100	124 lbs	\$0.54
110 ^A	Keyless, with shade holder groove..... Holes for supporting screws are spaced 3½ inches on centers.	1	100	124 lbs	.60

Shade holders P & S 119 and P & S 1190 may be used with No. 41 and 110 receptacles.



P & S 109
(¾ Full Size)



P & S 40
(¾ Full Size)



P & S 121
(¾ Full Size)



P & S 122
(¾ Full Size)

WEATHERPROOF, FOR 3 OR 3¼ INCH BOXES

660 Watts—600 Volts

Schedule "A"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
109 ^A	Keyless, without shade holder groove.....	1	100	80 lbs	\$0.42
40 ^A	Keyless, with shade holder groove..... Shade holders P & S 119 and 1190 may be used.	1	100	92 lbs	.48

Each receptacle is fitted with 6 inches of No. 14 stranded S. B. New Code rubber covered wire. Receptacles with longer wires furnished to order. Extra wire, 6 cents list, per foot, for each conductor. Holes for supporting screws are spaced 2¾ inches on centers.

WEATHERPROOF, FOR 4 INCH BOXES

660 Watts—600 Volts

Schedule "A"

121 ^A	Keyless, without shade holder groove.....	1	100	115 lbs	\$0.60
122 ^A	Keyless, with shade holder groove..... Shade holders P & S 119 and 1190 may be used.	1	100	115 lbs	.66

Each receptacle is fitted with 6 inches of No. 14 stranded S. B. New Code rubber covered wire. Receptacles with longer wires furnished to order. Extra wire, 6 cents list, per foot, for each conductor. Holes for supporting screws are spaced 3¼ inches on centers.

Note: See data pages for list of outlet boxes which may be used with receptacles listed on this page.

^A National Electrical Code Standard.

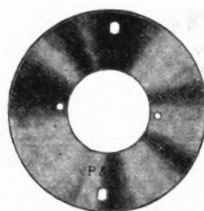
P & S SPECIALTIES



P & S 288



P & S 289



Outlet Box Cover



P & S 170

Outlet Box Receptacles

For 3 or 3¼ inch Boxes

Schedule "A"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
288 ^A	Complete with 3½ polished brass cover.....	1	100	70 lbs	\$0.48
442 ^A	Complete with 3½ japanned iron cover.....	1	100	70 lbs	.36
Holes for cover are spaced 2¼ inches on centers.					

For 4 inch Boxes

Schedule "A"

288 ^A	Complete with 4 inch polished brass cover.....	1	100	96 lbs	\$0.54
443 ^A	Complete with 4 inch japanned iron cover.....	1	100	96 lbs	.39
Holes in cover are spaced 3½ inches on centers.					

No extra charge for brush brass.

Each receptacle is supplied with 6 inches of No. 14 stranded S. B. New Code rubber covered wire. Receptacles with longer wires furnished to order. Extra wire 6 cents list per foot for each conductor.

Shade holders P & S 119 and S 1190 may be used.

See data pages for list of outlet boxes which may be used with these receptacles and covers.

P & S Ceiling Buttons

Schedule "XA"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price per 100
170 ^A	Glazed, self tying ceiling button.....	50	250	56 lbs	\$8.21
Holes for screws are spaced 1½ inches on centers.					

^ANational Electrical Code Standard. Illustrations are ¾ of full size.

P & S ROSETTES AND FIXTURE LOOPS



No. 1174



No. 1175



P & S 1172—Porcelain Rosette



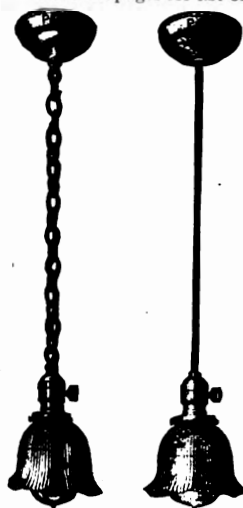
P & S 200—With Brass Cap

Outlet Box Cover Rosettes

Schedule "XA"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
1174 ^A	Porc. rosette for use on 3 $\frac{3}{4}$ in. outlet box only Complete with brass terminals.	10	100	60 lbs	\$0.29
1175 ^A	Porc. rosette for use on 4 in. outlet box only Complete with brass terminals	5	100	105 lbs	.39
200 ^A	Fuseless, for 3, 3 $\frac{1}{4}$ or 4 inch box Cap fastened to base by spring contact.	1	50	164 lbs	1.16
112 ^A	Fuseless, for 3, 3 $\frac{1}{4}$ or 4 inch box Cap fastened to base by screws; two sets of holes for fastening screws are provided. One set is 2 $\frac{3}{4}$ inch on centers and the other 3 $\frac{1}{2}$ inch on centers. Cap is regularly finished in polished brass with No. 200 and 112 Rosette. No extra charge for brush brass. All other finishes take the same advance as for the standard sockets.	1	50	160 lbs	1.16
1172 ^A	Fuseless, for 3 inch box	10	100	60 lbs	.15
1173 ^A	Fuseless, for 4 inch box	10	100	105 lbs	.21

See data pages for list of outlet boxes which may be used with the above rosettes.



P & S 1170



P & S 1171

P & S Fixtures

With Rosette and Fixture Loops

A very handsome and inexpensive fixture can be made by using rosette No. 200 in connection with fixture loop No. 1170, which screws into the cap of socket, and fixture loop No. 1171 with threaded shank and hexagon nut which is attached to rosette.

In using this rosette you save the cost of a canopy, canopy insulator or insulating ring, insulating joint and hickey. This rosette also has a wide range of use in connection with pendent drop cord work as shown in illustration.

P & S Fixture Loops

Schedule "XA"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
1170	Threaded shank $\frac{3}{8}$ inch, to fit $\frac{1}{2}$ inch cap socket.....	50	100	14 lbs	\$0.16
1171	Threaded shank $\frac{3}{8}$ inch, with hexagon nut.....	50	100	15 lbs	.19

Brush brass is the regular finish. There is no extra charge for polished or old brass finish.

For all other finishes advance the list 3 cents.

*National Electrical Code Standard. Illustrations are $\frac{3}{4}$ of full size.

P & S SOCKETS AND RECEPTACLES Porcelain—Interchangeable



P & S 61217



P & S 61317



P & S 61227



P & S 488

The body of the "interchangeable" line is held to the base and cap by the one contact screw.

The interchangeable line is very convenient for filling rush orders. For example: you have in stock a quantity of P & S 61217 and 435. You receive an order for 60217 and have none in stock; by changing the cap from 61217 to 435 and from 435 to 61217 you will have 60217 keyless socket to fill the order, leaving in stock No. 434 key socket.

SOCKETS WITH PENDENT CAP To be used with lamp cord

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
61217 ^A	Key, all porcelain.	10	250	104 lbs	\$0.36
60217 ^A	Keyless, all porcelain.	10	250	88 lbs	.30

SOCKETS WITH PENDENT CAP To be used with reinforced cord

Schedule "B"

61317 ^A	Key, all porcelain.	10	250	108 lbs	\$0.36
60317 ^A	Keyless, all porcelain.	10	250	92 lbs	.30

SOCKETS WITH 1/8 INCH CAP

Schedule "B"

61227 ^A	Key, polished brass cap.	10	100	52 lbs	\$0.42
60227 ^A	Keyless, polished brass cap.	10	100	38 lbs	.36

PORCELAIN SOCKET 3/8 INCH ALUMINUM CAP

Schedule "B"

488 ^A	Key.	10	100	43 lbs	\$0.60
448 ^A	Keyless.	100	100	39 lbs	.54



P & S 434



P & S 61327



P & S 485

SOCKETS WITH 1/4 INCH CAP

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
434 ^A	Key, polished brass cap.	10	100	52 lbs	\$0.46
435 ^A	Keyless, polished brass cap.	10	100	38 lbs	.40

SOCKET WITH 3/8 INCH CAP

Schedule "B"

61327 ^A	Key, polished brass cap.	10	100	52 lbs	\$0.42
60327 ^A	Keyless, polished brass cap.	10	100	38 lbs	.36

SOCKETS WITH 1/2 INCH ALUMINUM CAP

Schedule "B"

485 ^A	Key, aluminum cap.	10	100	42 lbs	\$0.60
241 ^A	Keyless, aluminum cap.	10	100	38 lbs	.54

NOTE: Shade holder P & S 119 and 1190 may be used with sockets listed on this page. No extra charge for polished brass. All other finishes take one-half the advance on brass sockets listed elsewhere. See data pages for list of outlet boxes which may be used with these receptacles.

^A National Electrical Code Standard. Illustrations are 3/8 of full size.

Wiring Devices

P & S SOCKETS & RECEPTACLES

Porcelain—Interchangeable



P & S 100136



P & S 61237

RECEPTACLE WITH MOLDING BASE For Use with Wood Molding

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
100136 ^A	Key, with molding base	10	100	50 lbs	\$0.41
426 ^A	Keyless, with molding base Holes for supporting screws are spaced 1 1/4 inches on centers. Shade holder P & S 119 or 1190 may be used.	10	100	48 lbs	.35

SOCKETS WITH CONCEALED WALL BASE

Schedule "B"

61237 ^A	Key, with concealed base.	10	100	45 lbs	\$0.41
60237 ^A	Keyless, with concealed base.	10	100	43 lbs	.35
61250 ^A	Keyless, without shade holder groove. Shade holder P & S 119 and 1190 may be used with the first two numbers.	10	100	45 lbs	.30



P & S 62371



P & S 62247



P & S 61087

PORCELAIN SOCKETS Interchangeable

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
62371 ^A	Key, with angle wall base.	10	100	57 lbs	\$0.50
60371 ^A	Keyless, with angle wall base. Holes for supporting screws are spaced 1 inch on centers.	10	100	52 lbs	.44
62247 ^A	Key, with concealed wall base.	10	100	62 lbs	.41
490	Keyless, with concealed wall base, without shade holder groove.	10	250	130 lbs	.30
60247 ^A	Keyless, with concealed wall base. Holes for supporting screws are spaced 2 1/4 inches on centers. Shade holder P & S 119 or 1190 may be used.	10	100	59 lbs	.35
61087 ^A	Key, with cleat wall base.	10	100	48 lbs	.41
61107 ^A	Keyless, with cleat wall base. Holes for supporting screws are spaced 1 inch on centers. Shade holder P & S 119 or 1190 may be used.	10	100	45 lbs	.35

NOTE: See pages elsewhere for list of outlet boxes which may be used with receptacles listed on this page.
^A National Electrical Code Standard. Illustrations are 3/4 of full size.

P & S RECEPTACLES

Sign and Outlet Box Receptacles



P & S 61877



P & S 427



P & S 102704

P & S sign receptacles are equipped with contact shells very rich in copper. These contact shells are thoroughly reinforced, so there is no possibility of the shell being pulled out of place.

Bronze screws are used to fasten the contact shell in place. The terminal contact plates and screws are of brass.

Receptacles with the terminal contact plates of copper, and with screws copper plated, can be supplied at an advance of 6 cents list.

FOR METAL SIGNS AND OUTLET BOXES

Schedule "C"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
61877 ^a	With ring and gasket complete. The punch required for this receptacle is 1½ inches in diameter.	25	250	80 lbs	\$0.24
427 ^a	With raised prong terminal, ring and gasket. Wire should be inserted under prong, the prong bent down and soldered. Sealing compound should then be poured over the terminals. Punch required for this receptacle is 1½ inches in diameter.	25	250	77 lbs	.24
102704 ^a	With rings and gasket complete. Holes through the receptacle provide a ready means of reaching the upset terminal screws. The punch required for this receptacle is 1½ inches in diameter.	25	250	102 lbs	.30



P & S 102703



P & S 86

FOR METAL SIGNS AND OUTLET BOXES

Schedule "C"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
102703 ^a	With ring and gasket complete. The button on the back is readily removed without tools. Replacing the button after the contact is made completely encloses the contacts. Punch required for this receptacle is 1½ inches in diameter.	25	250	80 lbs	\$0.24
86 ^a	With ring and gasket complete. Wrench supplied in each box for tightening ring. The front of this receptacle is practically flush with the face of the sign, and may be painted to match the sign. The ring is made of non-corrosive gilder's metal, rich in copper. Punch required for this receptacle is 1½ inches in diameter.	25	250	92 lbs	.24

See pages elsewhere for list of outlet box covers which may be used with these receptacles.
Shade holder P & S 84 may be used.

^a National Electrical Code Standard. Illustrations are ¾ of full size.

**P & S RECEPTACLES
Sign and Decorative Receptacles**



P & S 61988



P & S 437

FOR METAL SIGNS AND OUTLET BOXES

Schedule "C"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
61988 ^A	With ring and gasket complete. The terminals are recessed in the grove, so sealing compound may be poured in.	25	250	80 lbs	\$0.24
437 ^A	With wide ring and gasket complete.	25	250	80 lbs	.24

In connecting receptacle No. 439, the wire should be inserted under prong, the prong bent down and soldered. Sealing compound should then be poured over the terminals.

Punches required for these receptacles are 1 1/2 inches in diameter.

See pages elsewhere for list of outlet box covers which may be used with these receptacles.

Shade holder P & S 84 may be used on the above receptacles.



P & S 61418



P & S 61417



P & S 464



P & S 45



P & S 430

DECORATIVE SOCKETS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
61418 ^A	Porcelain, with hooks. This socket may be used for temporary or permanent installation. Wire fastens under binding screw but may be soldered if wanted. The hooks are provided to suspend the socket from a messenger wire to take the strain off the current carrying wires.	10	250	116 lbs	\$0.36
61417 ^A	Temporary socket, porcelain. The binding screws have pointed ends to puncture the insulation and make contact with the conductor. We recommend the use of rubber covered stranded wire with this receptacle.	10	250	95 lbs	.29
464	Temporary socket, mica composition.	10	250	82 lbs	.36
45 ^A	Porcelain, without hooks. This socket may be connected to wires by contact binding screw and soldering. Contacts are concealed, but may be easily exposed for wiring by removing cap.	10	250	98 lbs	.30

**P & S SUSPENSION CLEATS
For Ready Wired Sockets**

Schedule "XA"

430 ^A	Cleat, to carry wires 3/4 inch apart.	100	100	14 lbs	\$0.10
291 ^A	Cleat, to carry wires 2 1/4 inches apart. Intended for use in decorative festoon work, to relieve conductor wires of strain. The porcelain cleat grips the conductor wires, and the hooks engage the messenger or strain carrying wire. We recommend their use where streamers are of any length.	100	100	25 lbs	.18

^A National Electrical Code Standard. Illustrations are 3/4 of full size.

P & S RECEPTACLES

Sign and Outlet Box Receptacles



P & S 61977



P & S 61777



P & S 61072

FOR METAL SIGNS AND OUTLET BOXES

Schedule "C"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
61977 [▲]	With fastening screws complete.	25	250	70 lbs	\$0.21
61777 [▲]	With fastening screws complete.	25	250	75 lbs	.21

The punch required for these receptacles is $1\frac{1}{8}$ inches in diameter.

See pages elsewhere for list of outlet box covers which may be used with these receptacles.

FOR WOOD SIGNS

Schedule "C"

61072 [▲]	With 1 inch skirt.	25	250	65 lbs	\$0.17
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The hole required for these receptacles is $1\frac{1}{8}$ inches in diameter.

Holes for supporting screws are spaced $1\frac{1}{2}$ inches on centers.



P & S 54



P & S 878



P & S 677



P & S 778

FOR METAL SIGNS AND OUTLET BOXES

Schedule "C"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
54 [▲]	With fastening screws complete. The punch required for this receptacle is $1\frac{1}{8}$ inches in diameter.	25	250	75 lbs	\$0.17
878 [▲]	Candelabra base, with ring and rubber gasket. The punch required for this receptacle is $1\frac{1}{8}$ inch in diameter.	25	250	22 lbs	.21
677 [▲]	Candelabra base, complete, with fastening screws. The punch required for this receptacle is $1\frac{1}{8}$ inch in diameter. Holes for supporting screws are spaced $1\frac{1}{2}$ inches on centers.	25	250	30 lbs	.20
778 [▲]	Candelabra base, complete, with fastening screws. The punch required for this receptacle is $1\frac{1}{8}$ inch in diameter. Holes for supporting screws are spaced $1\frac{1}{2}$ inches on centers.	25	250	20 lbs	.20

[▲] National Electrical Code Standard. Illustrations are $\frac{3}{4}$ of full size.
Wiring Devices

P & S RECEPTACLES

Sign Receptacles



P & S 61960

P & S Ready Wired Sign Receptacles are designed for use where signs or border lights are being constructed in considerable quantities, and where lights are to be placed at equal distances apart.

All terminals are soldered to the wire, after which they are made thoroughly weatherproof by compounding.

The necessary screws are supplied with each receptacle.

The punch required for these receptacles is 1½ inches in diameter.

Screw holes are spaced 1½ inches on centers.

The wire used is New Code double braid, rubber covered stranded wire.

These goods are not carried in stock already wired up. But the parts are stocked which enables the factory to assemble any order within a few hours of its arrival.

These receptacles may be supplied in strings of irregular lengths (to specifications) with whatever wire is required, remaining on the end of the string, absolutely eliminating waste of labor and material on the part of the user.

Extra wire on the end of the streamers will be charged for at 5½ cents per foot list, each conductor, for No. 14 and 6 cents per foot list, each conductor, for No. 12.

The list price for receptacles spaced more than 30 inches apart can be determined by adding 99 cents per hundred receptacles per inch to the 30 inch list on No. 14 wire and \$1.12 per hundred receptacles per inch to the 30 inch list on No. 12 wire.

Standard Package—250 of one number.

RECEPTACLES WIRED WITH NO. 14 WIRE

Schedule "C"

List No.	Centers	List Price per 100	List No.	Centers	List Price per 100	List No.	Centers	List Price per 100
61960 ^A	4 in.	\$31.20	66166 ^A	13 in.	\$39.30	66184 ^A	22 in.	\$47.40
61961 ^A	5 in.	32.10	66168 ^A	14 in.	40.20	66186 ^A	23 in.	48.30
61962 ^A	6 in.	33.00	66170 ^A	15 in.	41.10	66188 ^A	24 in.	49.20
61963 ^A	7 in.	33.90	66172 ^A	16 in.	42.00	66190 ^A	25 in.	50.10
61964 ^A	8 in.	34.80	66174 ^A	17 in.	42.90	66192 ^A	26 in.	51.00
61965 ^A	9 in.	35.70	66176 ^A	18 in.	43.80	66193 ^A	27 in.	51.90
61966 ^A	10 in.	36.60	66178 ^A	19 in.	44.70	66194 ^A	28 in.	52.80
66182 ^A	11 in.	37.50	66180 ^A	20 in.	45.60	66195 ^A	29 in.	53.70
66164 ^A	12 in.	38.40	66182 ^A	21 in.	46.50	66196 ^A	30 in.	54.60

RECEPTACLES WIRED WITH NO. 12 WIRE

Schedule "C"

List No.	Centers	List Price per 100	List No.	Centers	List Price per 100	List No.	Centers	List Price per 100
66197 ^A	4 in.	\$34.32	66206 ^A	13 in.	\$43.32	66215 ^A	22 in.	\$52.14
66198 ^A	5 in.	35.34	66207 ^A	14 in.	44.22	66216 ^A	23 in.	53.16
66199 ^A	6 in.	36.60	66208 ^A	15 in.	45.24	66217 ^A	24 in.	54.12
66200 ^A	7 in.	37.32	66209 ^A	16 in.	46.20	66218 ^A	25 in.	55.20
66201 ^A	8 in.	37.80	66210 ^A	17 in.	47.22	66219 ^A	26 in.	56.10
66202 ^A	9 in.	39.30	66211 ^A	18 in.	48.18	66220 ^A	27 in.	57.12
66203 ^A	10 in.	40.26	66212 ^A	19 in.	49.20	66221 ^A	28 in.	58.08
66204 ^A	11 in.	41.28	66213 ^A	20 in.	50.16	66222 ^A	29 in.	59.10
66205 ^A	12 in.	42.24	66214 ^A	21 in.	51.18	66224 ^A	30 in.	60.12

^A National Electrical Code Standard. Illustration is ¾ of full size.

P & S PORCELAIN RECEPTACLES

Metal Molding and Cleat Receptacles



FOR USE WITH NATIONAL METAL MOLDING

Schedule "B"

List No.	Description	Screws Spaced	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
38 ^A	With shade holder groove.....	2 1/4	10	100	66 lbs.	\$0.36

FOR USE WITH WOOD MOLDING

Schedule "B"

61670 ^A	With shade holder groove.....	2 1/4	10	250	74 lbs.	\$0.36
	Shade holder P & S 28 or 29 may be used.					
61770 ^A	Without shade holder groove.....	2 1/4	10	250	86 lbs.	.30

For Extra Large Edison Base

1500 WATTS-600 VOLTS

Schedule "B"

520	Without shade holder groove.....	2 1/8	10	50	50 lbs.	\$0.90
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CLEAT RECEPTACLES

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
61971 ^A	With inclosed terminal..... Holes for supporting screws are spaced 1 5/8 inches on centers. Wires are carried 1 inch from surface and 2 1/2 inches apart. Drain holes are provided in the bottom of the receptacle.	10	250	134 lbs.	\$0.30
61870 ^A	Used extensively in amusement parks and all outdoor electrical decorating. Pony, without shade holder groove..... Holes for supporting screws are spaced 1 5/8 inches on centers.	10	250	82 lbs.	.18
62358 ^A	This receptacle will fit a pony receptacle conduit cover made by Crouse-Hinds, which is used with 1/2, 3/4 and 1 inch types S, SV, SL, ST and SX condulets. With 1 inch base..... Holes for supporting screws are spaced 1 5/8 inches on centers.	10	250	103 lbs.	.22

PORCELAIN CLEAT RECEPTACLES

Schedule "B"

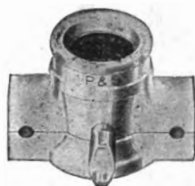
4013 ^A	With shade holder groove.....	10	250	115 lbs.	\$0.24
9402 ^A	Without shade holder groove..... Holes for supporting screws are spaced 2 3/8 inches on centers.	10	250	230 lbs.	.18

^ANational Electrical Code Standard. Illustrations are 3/8 of full size.

Wiring Devices

P & S SOCKETS AND RECEPTACLES

Porcelain Sockets and Receptacles



P & S 5



P & S 66612



P & S 64369

PORCELAIN CLEAT RECEPTACLES

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
5 ^A	Key, with enclosed terminals. Holes for supporting screws are spaced 1 inch on centers.	1	100	65 lbs	\$0.48
66612 ^A	Shade holder P & S 119 or 1190 may be used. With enclosed terminals. Holes for supporting screws are spaced 1 1/8 inches on centers.	10	250	117 lbs	.36
64369 ^A	Shade holder P & S 28 or 29 may be used. With enclosed terminals. Holes for supporting screws are spaced 1 1/8 inches on centers.	10	250	115 lbs	.30



P & S 423



P & S 116 1/2



P & S 422

PORCELAIN FIXTURE SOCKETS

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
423 ^A	Socket, with 1/2 inch aluminum cap. Above socket is fitted with 6 inches of New Code No. 14 stranded rubber covered wire.	10	100	35 lbs	\$0.72
0116 1/2 ^A	Fixture socket, with 3/8 inch polished brass cap.	10	100	35 lbs	.72
116 1/2 ^A	Fixture socket, with 3/8 inch polished brass cap. No extra charge for brush brass. All other finishes take one-half the advance for standard key sockets. Fixture sockets are fitted with 6 inches of No.18 rubber covered fixture wire.	10	100	35 lbs	.72

Sockets with longer wires furnished on special order. Extra wire 6 cents list per foot each conductor.
Shade holder P & S 119 or 1190 may be used.

MINIATURE PORCELAIN SOCKET

Schedule "XA"

422 ^A	Keyless receptacle or socket. Each receptacle is fitted with 6 inches of No. 20 stranded single braid rubber covered wire. Receptacles with longer wires furnished to order. Extra wire 7 cents list, per foot, each conductor. The punch required for this receptacle is 1/8 inches in diameter.	50	250	21 lbs	\$0.36
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^A National Electrical Code Standard. Illustrations are 3/8 of full size.

P & S SOCKETS & RECEPTACLES



P & S 61160



P & S 61161

PORCELAIN RECEPTACLES

660 Watts—600 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
61160 [▲]	With bottom wires..... Shade holder P & S 119 or 1190 may be used.	10	100	50 lbs	\$0.48
61161 [▲]	With side wires, without shade holder groove.....	10	100	74 lbs	.42
61163 [▲]	With side wires, with shade holder groove..... Shade holder P & S 119 or 1190 may be used with P & S 61163. Holes for supporting screws are spaced 2 inches on centers. Each receptacle is fitted with 6 inches of No. 14 stranded single braid New Code rubber covered wire. Receptacles with longer wire to order. Extra wire, 6 cents list, per foot, each conductor.	10	100	63 lbs	.48

P & S 80
PorcelainP & S 9366
PorcelainP & S 43310
Molded Mica

Shurlok

P & S 60666
Composition

WEATHERPROOF SOCKETS

660 Watts—600 Volts

Schedule "B"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
80 [▲]	Porcelain, weatherproof socket.....	25	250	83 lbs	\$0.15
9366 [▲]	Porcelain, weatherproof sockets.....	25	250	90 lbs	.24
43310 [▲]	Molded mica, weatherproof socket.....	25	250	75 lbs	.27
60666 [▲]	Black composition weatherproof socket..... These sockets are not supplied with extra long wires unless ordered in substantial quantities and ample time given for delivery. Each socket is fitted with 6 inches stranded rubber covered wire.	25	250	96 lbs	.29

WEATHERPROOF SOCKET Shurlok

Schedule "L"

43310 [▲]	Shurlok. Molded mica, weatherproof socket.....	25	100	28 lbs	\$0.50
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Shade holders P & S 119 or 1190 may be used on sockets listed above.

[▲] National Electrical Code Standard. Illustrations are 3/4 of full size.

Wiring Devices

P & S DECORATIVE SOCKETS



P & S 61420

Specifications

P & S ready wired decorative sockets are constructed in the following way:

The wire is permanently attached to the socket by mechanical means, and then soldered, so that a perfect electrical connection is insured between the wire and the socket.

The cap is then put in place, and a weatherproof compound poured through the hole in the cap, covering all the contacts and exposed metal, as well as filling up all the space inside the cap.

This compound is flush with the top of the cap, making the installation absolutely waterproof and weatherproof.

These goods are ordinarily shipped in barrels, for which no additional charge is made, but if specified on the order, they can be shipped packed on reels, for which there will be an extra charge to cover the cost of the reel.

While these ready wired decorative sockets are designed primarily for festooning, they are used with great success in outlining buildings, towers and spires.

P & S Ready Wired Porcelain Sockets

P & S ready wired decorative porcelain sockets, illustrated above, are wired with New Code stranded single braid rubber covered wire.

We can ship from factory on receipt of order Nos. 66087, 66093, 66099, 66114, 66122 and 66134.

Any of the other numbers can be supplied promptly, as a large stock of parts ready to be wired up are carried at factory, and any order can be filled within a few hours after its arrival.

These goods are put up in lengths of about 500 feet and will be shipped in these lengths unless otherwise specified.

Special lengths will be supplied (subject to specifications) and if wanted, additional lengths of wire can be supplied on each end of the streamer.

Extra wire on the end of the streamers will be charged for at 5½ cents per foot list, each conductor, for No. 14, and 6 cents per foot list, each conductor, for No. 12.

The list price for sockets spaced more than 30 inches apart can be determined by adding \$0.90 per hundred sockets, per inch, to the 30 inch list of No. 14 wire, and \$1.02 per hundred sockets, per inch, to the 30 inch list on No. 12 wire.

Standard package—250 of one List number.

SOCKETS WIRED WITH NO. 14 WIRE

Schedule "B"

List No.	Centers	List Price per 100	List No.	Centers	List Price per 100	List No.	Centers	List Price per 100
61420 ^A	4 in.	\$31.20	66088 ^A	13 in.	\$39.30	66097 ^A	22 in.	\$47.40
61421 ^A	5 in.	32.10	66089 ^A	14 in.	40.20	66098 ^A	23 in.	48.30
61422 ^A	6 in.	33.00	66090 ^A	15 in.	41.10	66099 ^A	24 in.	49.20
61423 ^A	7 in.	33.90	66091 ^A	16 in.	42.00	66100 ^A	25 in.	50.10
61424 ^A	8 in.	34.80	66092 ^A	17 in.	42.90	66101 ^A	26 in.	51.00
61425 ^A	9 in.	35.70	66093 ^A	18 in.	43.80	66102 ^A	27 in.	51.90
61426 ^A	10 in.	36.60	66094 ^A	19 in.	44.70	66103 ^A	28 in.	52.80
66086 ^A	11 in.	37.50	66095 ^A	20 in.	45.60	66104 ^A	29 in.	53.70
66087 ^A	12 in.	38.40	66096 ^A	21 in.	46.50	66105 ^A	30 in.	54.60

SOCKETS WIRED WITH NO. 12 WIRE

Schedule "B"

List No.	Centers	List Price per 100	List No.	Centers	List Price per 100	List No.	Centers	List Price per 100
66106 ^A	4 in.	\$34.32	66115 ^A	13 in.	\$43.32	66130 ^A	22 in.	\$52.14
66107 ^A	5 in.	35.34	66116 ^A	14 in.	44.22	66132 ^A	23 in.	53.16
66108 ^A	6 in.	36.60	66117 ^A	15 in.	45.24	66134 ^A	24 in.	54.12
66109 ^A	7 in.	37.32	66118 ^A	16 in.	46.20	66136 ^A	25 in.	55.20
66110 ^A	8 in.	37.80	66120 ^A	17 in.	47.22	66138 ^A	26 in.	56.10
66111 ^A	9 in.	39.30	66122 ^A	18 in.	48.18	66140 ^A	27 in.	57.12
66112 ^A	10 in.	40.26	66124 ^A	19 in.	49.20	66142 ^A	28 in.	58.08
66113 ^A	11 in.	41.28	66126 ^A	20 in.	50.16	66144 ^A	29 in.	59.10
66114 ^A	12 in.	42.24	66128 ^A	21 in.	51.18	66146 ^A	30 in.	60.12

^ANational Electrical Code Standard. Illustration is ¾ of full size.

P & S DECORATIVE SOCKETS



Specifications

P & S ready wired decorative sockets are constructed in the following way:

The wire is permanently attached to the socket by mechanical means, and then soldered, so that a perfect electrical connection is insured between the wire and the socket.

The cap is then put in place, and a weatherproof compound poured through the hole in the cap, covering all the contacts and exposed metal, as well as filling up all the space inside the cap.

This compound is flush with the top of the cap, making the installation absolutely waterproof and weatherproof.

These goods are ordinarily shipped in barrels, for which no additional charge is made, but if specified on the order, they can be shipped packed on reels, for which there will be an extra charge to cover the cost of the reel.

While these ready wired decorative sockets are designed primarily for festooning, they are used with great success in outlining buildings, towers and spires.

P & S Mica Ready Wired Sockets

The ready wired decorative mica sockets, illustrated and listed on this page, are wired up with New Code stranded single braid rubber covered wire.

Every device on this page is approved by the Underwriters' Laboratories.

A large supply of parts are carried at factory, so that any of the List numbers listed on this page can be supplied within a few hours after the arrival of the order.

These goods are put up in lengths of about 500 feet, and will be shipped in these lengths unless otherwise specified.

Special lengths may be supplied (subject to specifications) and, if wanted, extra lengths of wire can be supplied on each end of the streamer.

Extra wire on the ends of the streamer will be charged for at 5½ cents per foot list, each conductor, for No. 14, and 6 cents per foot list, each conductor, for No. 12.

The list price for sockets spaced more than 30 inches apart can be determined by adding \$0.90 per hundred sockets, per inch, to the 30 inch list on No. 14 wire, and \$1.02 per hundred sockets, per inch, to the 30 inch list on No. 12 wire.

Standard Package—250 of one List number.

SOCKETS WIRED WITH NO. 14 WIRE

Schedule "B"

List No.	Centers	List Price per 100	List No.	Centers	List Price per 100	List No.	Centers	List Price per 100
220 ^A	4 in.	\$37.20	230 ^A	13 in.	\$45.30	245 ^A	22 in.	\$53.40
221 ^A	5 in.	38.10	231 ^A	14 in.	46.20	246 ^A	23 in.	54.30
222 ^A	6 in.	39.00	232 ^A	15 in.	47.10	248 ^A	24 in.	55.20
223 ^A	7 in.	39.90	234 ^A	16 in.	48.00	249 ^A	25 in.	56.10
224 ^A	8 in.	40.80	235 ^A	17 in.	48.90	250 ^A	26 in.	57.00
225 ^A	9 in.	41.70	236 ^A	18 in.	49.92	251 ^A	27 in.	57.90
226 ^A	10 in.	42.60	318 ^A	19 in.	50.70	252 ^A	28 in.	58.80
228 ^A	11 in.	43.50	239 ^A	20 in.	51.60	253 ^A	29 in.	59.70
229 ^A	12 in.	44.40	240 ^A	21 in.	52.50	254 ^A	30 in.	60.60

SOCKETS WIRED WITH NO. 12 WIRE

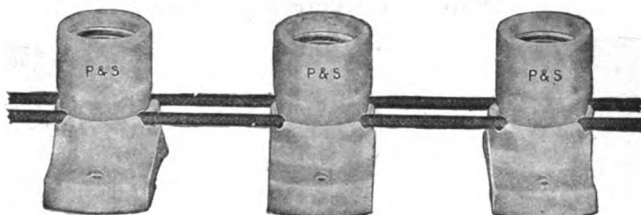
Schedule "B"

List No.	Centers	List Price per 100	List No.	Centers	List Price per 100	List No.	Centers	List Price per 100
255 ^A	4 in.	\$40.32	264 ^A	13 in.	\$49.32	273 ^A	22 in.	\$58.14
256 ^A	5 in.	41.34	265 ^A	14 in.	50.22	274 ^A	23 in.	59.16
257 ^A	6 in.	42.60	266 ^A	15 in.	51.24	275 ^A	24 in.	60.12
258 ^A	7 in.	43.32	267 ^A	16 in.	52.20	276 ^A	25 in.	61.20
259 ^A	8 in.	43.80	268 ^A	17 in.	53.22	277 ^A	26 in.	62.10
260 ^A	9 in.	45.30	269 ^A	18 in.	54.18	278 ^A	27 in.	63.12
261 ^A	10 in.	46.26	270 ^A	19 in.	55.20	279 ^A	28 in.	64.08
262 ^A	11 in.	47.28	271 ^A	20 in.	56.16	280 ^A	29 in.	65.10
263 ^A	12 in.	48.24	272 ^A	21 in.	57.18	281 ^A	30 in.	66.12

^ANational Electrical Code Standard. Illustration is ¾ of full size.

Wiring Devices

P & S DECORATIVE RECEPTACLES



P & S 63

Specifications

P & S ready wired decorative receptacles are constructed in the following way:

The wire is permanently attached to the receptacle by mechanical means, and then soldered, so that a perfect electrical connection is insured between the wire and the receptacle.

The cap is then put in place, and a weatherproof compound poured through the hole in the cap, covering all the contacts and exposed metal, as well as filling up all the space inside the cap.

This compound is flush with the top of the cap, making the installation absolutely waterproof and weatherproof.

These goods are ordinarily shipped in barrels, for which no additional charge is made, but if specified on the order, they can be shipped packed on reels, for which there will be an extra charge to cover the cost of the reel.

While these ready wired decorative receptacles are designed primarily for festooning, they are used with great success in outlining buildings, towers and spires.

P & S Porcelain Ready Wired Receptacles

The receptacles listed on this page are wired with New Code stranded single braid rubber covered wire. Every device is approved by the Underwriters' Laboratories.

A large supply of parts is carried at factory ready to assemble within a few hours of the arrival of the order.

These goods are put up in lengths of about 500 feet, and will be so shipped unless otherwise specified.

The supporting screw holes are spaced 2½ inches on centers.

Special lengths may be supplied (subject to specifications) and, if wanted, extra lengths of wire can be supplied on each end of the streamer.

Extra wire on the ends of the streamers will be charged for at 5½ cents per foot list, each conductor, for No. 14, and 6 cents per foot list, each conductor, for No. 12.

The list price for receptacles spaced more than 30 inches apart can be determined by adding \$0.90 per hundred receptacles, per inch, to the 30 inch list on No. 14 wire, and \$1.02 per hundred receptacles per inch, to the 30 inch list on No. 12 wire.

Standard Package—250 of one List number.

RECEPTACLES WIRED WITH NO. 14 WIRE

Schedule "B"

List No.	Centers	List Price per 100	List No.	Centers	List Price per 100	List No.	Centers	List Price per 100
63 ^A	4 in.	\$41.40	137 ^A	13 in.	\$49.50	172 ^A	22 in.	\$57.60
64 ^A	5 in.	42.30	143 ^A	14 in.	50.40	173 ^A	23 in.	58.50
65 ^A	6 in.	43.20	150 ^A	15 in.	51.30	174 ^A	24 in.	59.40
332 ^A	7 in.	44.10	158 ^A	16 in.	52.20	175 ^A	25 in.	60.30
292 ^A	8 in.	45.00	163 ^A	17 in.	53.10	179 ^A	26 in.	61.20
293 ^A	9 in.	45.90	167 ^A	18 in.	54.00	180 ^A	27 in.	62.10
294 ^A	10 in.	46.80	168 ^A	19 in.	54.90	182 ^A	28 in.	63.00
295 ^A	11 in.	47.70	169 ^A	20 in.	55.80	183 ^A	29 in.	63.90
403 ^A	12 in.	48.60	171 ^A	21 in.	56.70	184 ^A	30 in.	64.80

RECEPTACLES WIRED WITH NO. 12 WIRE

Schedule "B"

185 ^A	4 in.	\$44.52	194 ^A	13 in.	\$53.52	208 ^A	22 in.	\$62.34
186 ^A	5 in.	45.54	195 ^A	14 in.	54.42	209 ^A	23 in.	63.36
187 ^A	6 in.	46.80	196 ^A	15 in.	55.44	210 ^A	24 in.	64.32
188 ^A	7 in.	47.52	197 ^A	16 in.	56.40	212 ^A	25 in.	65.40
189 ^A	8 in.	48.00	296 ^A	17 in.	57.42	213 ^A	26 in.	66.30
190 ^A	9 in.	49.50	297 ^A	18 in.	58.38	214 ^A	27 in.	67.32
191 ^A	10 in.	50.46	205 ^A	19 in.	59.40	215 ^A	28 in.	68.28
192 ^A	11 in.	51.48	206 ^A	20 in.	60.36	218 ^A	29 in.	69.30
193 ^A	12 in.	52.44	207 ^A	21 in.	61.38	219 ^A	30 in.	70.32

^ANational Electrical Code Standard. Illustration is ¾ of full size.

P & S ROSETTES P & S Porcelain Rosettes



P & S 400



P & S 390



P & S 810

LITTLE GEM CLEAT ROSETTES

Schedule "XA"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
400 ^A	Fusible, two-piece.	10	250	115 lbs	\$0.23
76 ^A	Fuseless, two-piece. Holes for supporting screws are spaced 1½ inches on centers.	10	250	115 lbs	.22

LITTLE GEM CONCEALED ROSETTES

Schedule "XA"

390 ^A	Fusible, two-piece.	10	250	140 lbs	\$0.23
79 ^A	Fuseless, two-piece. Holes for supporting screws are spaced 1½ inches on centers. This rosette will fit Crouse-Hinds condulets, types G, GL, GF, GX, H and HA 5 and 10 ampere size.	10	250	140 lbs	.22

LITTLE GEM MOULDING ROSETTE

Schedule "XA"

810 ^A	Fusible, two-piece.	10	250	117 lbs	\$0.23
176 ^A	Fuseless, two-piece. Holes for supporting screws are spaced 1½ inches on centers.	10	250	117 lbs	.22

See pages elsewhere for list of outlet boxes, which may be used with these rosettes.



P & S 604



P & S 39



P & S 610

CONCEALED ROSETTE

Schedule "XA"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
604 ^A	Fuseless, two-piece.	10	250	125 lbs	\$0.25
605 ^A	Extra cap only. Holes for supporting screws are spaced 1½ inches on centers.	10	250	115 lbs	.16

ROSETTE FOR WOOD MOULDING

Schedule "XA"

610 ^A	Fuseless, two-piece. Not necessary to cut the moulding or wires. Loop up and over the terminal plates and run through the rosette. Holes for supporting screws are spaced 2½ inches on centers.	10	250	55 lbs	\$0.25
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^A National Electrical Code Standard. Illustrations are ¾ of full size.
Wiring Devices

P & S PENDENT SWITCHES



P & S 3000
($\frac{1}{2}$ Full Size)



P & S 16
($\frac{1}{2}$ Full Size)



P & S 17
($\frac{1}{2}$ Full Size)

P & S Pendent Switches

Pendent Cap, Brush Brass

These switches are provided with double bushings, the inner one having a hole $\frac{1}{8}$ inch in diameter, suitable for No. 16 approved lamp cord.

The inner bushing can be removed when larger cord is to be used, leaving another bushing with $\frac{1}{4}$ inch hole, suitable for No. 16 approved portable cord.

The shells automatically lock by a slight turn and have a recess in the bottom, which protects button from mechanical injury.

ONE CIRCUIT

Schedule "XA"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
3000 ^a	6 amperes, 125 volts; 3 amperes, 250 volts.....	25	100	33 lbs	\$0.72

No additional charge for polished brass. For all other finishes, add 15 cents to list.

This device contains two complete switches in the one casing, to control two groups of lights from one drop.

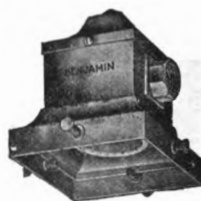
P & S Switch Bases

Schedule "XA"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wgt.	List Price Each
16 ^a	For concealed or cleat work..... This switch base will fit any standard 5 or 10 ampere switch and many wall sockets or receptacles..... Outside diameter, $2\frac{5}{8}$ inches.	25	200	55 lbs	\$0.08
62 ^a	For concealed or cleat work..... This base is intended for use with receptacles with large base, when so demanded by the local inspector. It may be used with 20 and 30 ampere standard snap switches. Outside diameter, $3\frac{1}{2}$ inches.	10	100	54 lbs	.23
17 ^a	For concealed, cleat or moulding work..... This switch base while designed for moulding work may be used with cleat or concealed construction. Will fit any standard 5 or 10 ampere snap switch.	25	200	60 lbs	08

^a National Electrical Code Standard.

BENJAMIN SOCKETS

No. 413
Angle SocketNo. 463
Mission Socket

Angle Sockets

Schedule 3

Angle sockets are designed for fixture, bracket, window, or showcase lighting, where the axis of the lamp is desired at an angle of 90 degrees with the attaching surface. They render angle nozzles unnecessary; thus make wiring easy. Nos. 597-599 are pull angle sockets with a reliable double break in series. Supporting bushing is attached to main shell. Cap connection is therefore relieved of all strain. The pull member is supplied with a short length of metal ribbon passing between reflector and lamp. This permits a comparatively straight downward pull regardless of size and form of reflector. Standard length chain is 8 inches; extra lengths list at 14 cents per foot. Standard finish is brush brass. For special finishes, add 6 cents list.

List No.	Description	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
411 [▲]	Keyless socket, $\frac{1}{8}$ inch	50	8	\$0.50
451 [▲]	Keyless socket, $\frac{1}{4}$ inch	50	8	.56
431 [▲]	Keyless socket, $\frac{3}{8}$ inch	50	8	.56
413	Key socket, $\frac{1}{8}$ inch	50	8	.54
453	Key socket, $\frac{1}{4}$ inch	50	8	.62
433	Key socket, $\frac{3}{8}$ inch	50	8	.62
597	Pull socket, $\frac{1}{8}$ inch	50	8	.92
598	Pull socket, $\frac{1}{4}$ inch	50	8	1.00
599	Pull socket, $\frac{3}{8}$ inch	50	8	1.00

Mission Sockets

Schedule 3

Mission Sockets consist of socket cover with shade holder and special porcelain receptacle. The cover constitutes the socket shell, to which a bushing is firmly attached on the side in case of the angle device, and in the cap, in case of the suspension device. It is wired by simply removing the cap. The square embossment at the base of the bushing will seat $\frac{3}{4}$ inch square casing. The use of the usual solid brass cube is therefore rendered unnecessary, while the wires lead straight in, instead of through the angular opening of the cube. They are regularly furnished unfinished. For finishes of any kind, add 14 cents list.

List No.	Description	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
443 [▲]	Keyless socket, $\frac{1}{8}$ inch side bushing	50	20	\$0.84
444 [▲]	Keyless socket, $\frac{1}{4}$ inch side bushing	50	20	.92
447 [▲]	Keyless socket, $\frac{1}{8}$ inch top bushing	50	20	.84
448 [▲]	Keyless socket, $\frac{1}{4}$ inch top bushing	50	20	.92
463	Key socket, $\frac{1}{8}$ inch side bushing	50	20	.90
464	Key socket, $\frac{1}{4}$ inch side bushing	50	20	.96
477	Key socket, $\frac{1}{8}$ inch top bushing	50	20	.90
478	Key socket, $\frac{1}{4}$ inch top bushing	50	20	.96

[▲] National Electrical Code Standard.

Wiring Devices

BENJAMIN SOCKETS



No. 4200
Socket



No. 4200
Showing Construction



No. 4242
Holder

Porcelain-Lined Sockets

MEDIUM SCREW BASE
(660W—600V)

Schedule 3

Porcelain-Lined Sockets are strong and highly insulated weatherproof sockets for medium screw base lamps. Socket terminals are widely apart. Binding terminals are separated from the enclosing shell by porcelain wall. A separable base permits ready access to the binding screws. Its parts are firmly held in place by a threaded clamping ring, or by the holders attached. They are thus serviceable for both in- and out-door work, e.g., where wires are run in exposed conduit; in outlining buildings; with large unit lamps in one-light fixtures; on 600-volt street railway circuits; in short, wherever there is need of a highly insulated keyless socket. Sockets will be supplied on special order in copper. For lamp grip add 14c list. For holders, see below. Brass holders are ventilated and have spring clips which prevent their loosening and falling.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
4200 ^A	With aluminum shell, tapped $\frac{1}{2}$ inch.....	50	15	\$0.84
4201 ^A	With aluminum shell, tapped $\frac{3}{8}$ inch.....	50	16	.84
4201M ^A	With aluminum shell, male $\frac{3}{8}$ inch.....	50	15	.84
4202 ^A	With brushed brass shell, tapped $\frac{1}{2}$ inch.....	50	15	.84
4203 ^A	With brushed brass shell, tapped $\frac{3}{8}$ inch.....	50	15	.84
4204 ^A	With copper shell, tapped $\frac{1}{2}$ inch.....	50	15	.84
4205 ^A	With copper shell, tapped $\frac{3}{8}$ inch.....	50	15	.84
4207	With brass shell, $\frac{1}{2}$ inch, with lamp grip and pull chain.....	50	15	1.40
4208	With brass shell, $\frac{3}{8}$ inch, with lamp grip and pull chain.....	50	15	1.40

Aluminum Holders

*Schedule 4

4215	2 $\frac{1}{4}$ inch Form "O" holder only.....	50	3	\$0.24
4216	2 $\frac{1}{4}$ inch Form "H" holder only.....	50	3	.36
4217	3 $\frac{1}{4}$ inch Form "A" holder only.....	50	3	.42
4239	4 inch holder only.....	50	4	.60

Brushed Brass Holders With Spring Clip

Schedule 3

4238A	2 $\frac{1}{4}$ inch Form "O" holder only.....	50	2	\$0.28
4240A	2 $\frac{1}{4}$ inch Form "H" holder only.....	50	3	.42
4242A	3 $\frac{1}{4}$ inch Form "A" holder only.....	50	8	.49
4244A	3 $\frac{1}{4}$ inch Form "H" holder only.....	50	7	.70
4246A	4 inch holder only.....	50	9	.84
4248A	5 inch holder only.....	50	9	1.12
4250A	6 inch holder only.....	50	13	1.54

*When ordered with sockets, Schedule 3 discounts apply.

Reducers

Schedule 3

This reducer is designed for adapting mogul screw base sockets for the use of medium screw base lamps. When attached, the center contact is lowered one-half inch, thus bringing the filament of the small base lamp to its proper position. Both threaded shells are made of copper.



No. 98

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
98	Reducer.....	50	3 $\frac{1}{2}$	\$0.35

^ANational Electrical Code Standard.

BENJAMIN SOCKETS



No. 4320



No. 4328



No. 61 Receptacle with Cover



No. 61

Unit-shell Sockets

Beaded Type				Threaded Type			
List No.		Std. Pkg.	List Price	List No.		Std. Pkg.	List Price
4320	Tapped, $\frac{1}{8}$ in.	100	\$0.42	4328	Tapped, $\frac{1}{8}$ in.	100	\$0.42
4322	Tapped, $\frac{1}{4}$ in.	100	.48	4330	Tapped, $\frac{1}{4}$ in.	100	.48
4324	Tapped, $\frac{3}{8}$ in.	100	.52	4332	Tapped, $\frac{3}{8}$ in.	100	.52
4326	With insulated bushing, $\frac{1}{2}$ in. opening..	100	.42	4334	With insulated bushing, $\frac{1}{2}$ in. opening..	100	.42

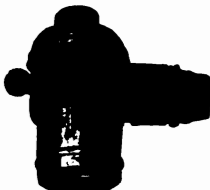
Threaded type sockets are used with threaded holder reflectors.

Car Receptacles

Receptacle No. 61 is a two-piece wall receptacle with concealed binding terminals and lamp grip. It measures $2\frac{1}{4}$ inches at the base.

†61	Receptacle with lamp grip	100	\$0.50
†650	Receptacle, with $2\frac{1}{4}$ in. polished brass cover	100	.70
†652	Receptacle, with $2\frac{1}{4}$ in. polished brass cover	100	.84

Supporting screw holes are spaced $1\frac{1}{4}$ inch on centers.



No. 496



No. 4420

Current Tap Sockets

Sockets are furnished with lever switch which controls the lamp. The plugs have reliable cord grips and are identical with those used on the No. 96 current tap. They can, therefore, be used interchangeably. In the pendent forms ample room is provided for knotting the cord.

List No.		Std. Pkg.	List Price
*496	Multiple, $\frac{1}{8}$ in.	50	\$1.26
*496 $\frac{1}{2}$	Series, $\frac{1}{8}$ in.	50	1.26
*497	Multiple, $\frac{1}{4}$ in.	50	1.26
*497 $\frac{1}{2}$	Series, $\frac{1}{4}$ in.	50	1.26
*498	Multiple, $\frac{3}{8}$ in.	50	1.34
*498 $\frac{1}{2}$	Series, $\frac{3}{8}$ in.	50	1.34
*499	Multiple, insulated bushing, $\frac{1}{2}$ in. opening.	50	1.26
*499 $\frac{1}{2}$	Series, insulated bushing, $\frac{1}{2}$ in. opening.	50	1.26

Standard metal finish is brush brass.

*250 watts, 250 volts. †660 watts, 600 volts.

Copper Cap Sockets—660 W., 600 V.

Without Bead, less Lamp Grip				Without Bead, with Lamp Grip			
List No.		Std. Pkg.	List Price	List No.		Std. Pkg.	List Price
*4400	$\frac{1}{8}$ in.	100	\$0.50	*4412	$\frac{1}{8}$ in.	100	\$0.56
*4402	$\frac{1}{4}$ in.	100	.56	*4414	$\frac{1}{4}$ in.	100	.64
*4404	$\frac{3}{8}$ in.	100	.56	*4416	$\frac{3}{8}$ in.	100	.64
*4406	$\frac{1}{2}$ in.	100	.64	*4418	$\frac{1}{2}$ in.	100	.70
With Bead, less Lamp Grip				With Bead, and Lamp Grip			
*4408	$\frac{1}{8}$ in.	100	\$0.50	*4420	$\frac{1}{8}$ in.	100	\$0.56
*4409	$\frac{1}{4}$ in.	100	.56	*4421	$\frac{1}{4}$ in.	100	.64
*4410	$\frac{3}{8}$ in.	100	.56	*4422	$\frac{3}{8}$ in.	100	.64
*4411	$\frac{1}{2}$ in.	100	.64	*4423	$\frac{1}{2}$ in.	100	.70

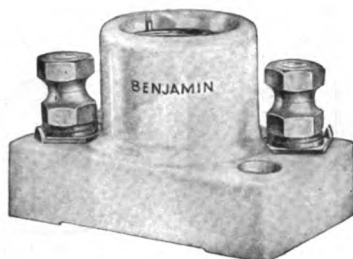
Standard finish is natural copper.

Wiring Devices

BENJAMIN SOCKETS



No. 412
Fiber Lined



Signal Socket
R. S. A. Binding Post



No. 455
Porcelain Lined

Benjamin Signal Sockets

Schedule 3 Discount

The construction of this socket is such that it may be placed at the bottom of a lantern, or, if a combination oil and electric lantern is used the socket may be placed on the side or at the top. In signal service the lamp receptacle or socket must at all times hold the lamp in absolute contact, ready to respond instantly to the movements of the switch.

List No.		Base	Height	Std. Pkg.	List Price
2073	1 light, R.S.A. Terminals.....	2 1/8 x 1 3/4 ins.	1 3/4	50	\$1.26
2074	1 light Type C Terminals.....	2 1/8 x 1 3/4 ins.	1 3/4	50	.84

Twin Sockets

Schedule 3

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
412 ^A	Twin socket, fiber lined, 1/8 inch.....	50	8	\$0.92
452 ^A	Twin socket, fiber lined, 3/4 inch.....	50	8	.98
432 ^A	Twin socket, fiber lined, 3/8 inch.....	50	8	.98
455	Twin socket, porcelain lined, 1/4 inch.....	50	14	.98
456	Twin socket, porcelain lined, 1/4 inch.....	50	14	1.06
457	Twin socket, porcelain lined, 3/8 inch.....	50	14	1.06

For special finishes except brush brass add 7 cents list.



No. 240
Keyless



No. 241
With Lever Switch

Drop Cord Sockets

Schedule 3

The Drop Cord Socket is a one-piece porcelain pendant socket with threaded bushing constituting the cap. The bushing has a 1/4 inch opening for accommodating reinforced cord, but will also grip individual wires in ordinary cord. Mfr. No. 241 has no positioning offsets, but is furnished with quick-break lever switch.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
240	Drop cord socket.....	100	26	\$0.35
241	Drop cord socket with lever switch.....	100	26	.42

^ANational Electrical Code Standard.

BENJAMIN MOGUL BASE SOCKETS



No. 4211



No. 69



No. 4274



No. 695

Porcelain-Lined Sockets

MOGUL SCREW BASE

660W-600V

Schedule 3

Porcelain-Lined Sockets are especially adapted for the use of Mogul screw base lamps. They are highly insulated, keyless sockets with a rating of 660 watts—600 volts. No. 4228 is the same as No. 4210 except that it has a two-piece holder for glassware designed to be supported from the inside, such as Alba reflectors and hemispheres. Both sockets may be ordered tapped $\frac{1}{8}$ inch without change in price. For copper casings and holders add 10 per cent.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
4210 ^a	With brushed brass shell, tapped $\frac{3}{8}$ inch.....	20	12	\$1.96
4211 ^a	With brushed brass shell and $\frac{3}{4}$ inch form "A" holder, tapped $\frac{3}{8}$ inch.....	20	14	2.46
4212 ^a	With brushed brass shell and 4 inch holder, tapped $\frac{3}{8}$ inch.....	20	15	2.66
4228 ^a	With brushed brass shell and two-piece holder, tapped $\frac{3}{8}$ inch.....	20	18	2.80

Porcelain Sockets

MOGUL SCREW BASE

660 W—600 V

Schedule 3

Porcelain Sockets are intended for Mogul screw base lamps. Nos. 69 and 169 are adapted for attaching to a surface or bracket by means of screws passing through the base. Screw holes are spaced $1\frac{1}{4}$ inches on centers. Nos. 4274 and 4276 have brass cover with bushing, and are adapted for interior work. Wires in No. 69 lead in at the sides; in other sockets at the base. They have spring center contact, and binding screws are accessible from the central opening. They are one-piece sockets for low-voltage circuits not requiring cut-out or short-circuiting mechanism. With fittings, No. 8-32 machine screws are furnished. For lamp grip add 14 cents list. Iron parts are galvanized.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
69	One-piece socket, open terminals.....	20	9	\$0.78
691	One-piece socket, open terminals, with lamp grip.....	20	9	.92
169 ^a	One-piece socket, concealed terminals.....	20	9	.78
692	One-piece socket, concealed terminals, with lamp grip.....	20	9	.92
693	Two-piece socket less lamp grip.....	20	..	1.12
695	Two-piece socket with lamp grip.....	20	..	.96
696	Two-piece socket less lamp grip.....	20	..	.96
698	Two-piece socket with lamp grip.....	20	..	1.12
4274	With brass cover, bushing tapped $\frac{3}{8}$ inch.....	20	10	1.40
4276	With brass cover, bushing tapped $\frac{1}{2}$ inch.....	20	10	1.40
3846	Cast fitting for sockets 69 and 169, tapped $\frac{1}{2}$ inch.....	20	5	.21
3847	Cast fitting for sockets 69 and 169, tapped $\frac{3}{8}$ inch.....	20	5	.26
2569	W. P. fitting for socket 169, tapped $\frac{3}{8}$ inch.....	20	4	.42
2571	Flange fitting for Nos. 693-698, $\frac{1}{2}$ inch.....	20	..	.42
2573	Flange fitting for Nos. 693-698, $\frac{3}{4}$ inch.....	20	..	.56
2575	Flange fitting for Nos. 693-698, 1 inch.....	20	..	.56
2577	Flange fitting for Nos. 693-698, 1 $\frac{1}{4}$ inch.....	20	..	.56
2669	W. P. fitting for socket 169, tapped $\frac{1}{2}$ inch.....	20	4	.26
2669	Brass holder, for sockets 69 and 169, $\frac{3}{4}$ inch.....	20	8	.50
2070	Brass holder, for socket 4274, $\frac{3}{4}$ inch.....	20	8	.50

^aNational Electrical Code Standard.

Wiring Devices

BENJAMIN SPECIALTIES



No. 903



Bushing for 903A
Counterbored for Heavy Cord



Bushing for 903C
with Set Screw Insulated Tip



No. 904



No. 907

Attachment Plugs

Attachment Plugs 903-903E are neat and practical. An ingeniously devised swivel shell—a feature protected by patents—makes it possible to attach and remove the plug quickly and securely without turning the device or twisting the cord. Each is provided with an effectual cord-gripping means contained in the cap, and will take either plain or reinforced cord up to $\frac{1}{2}$ inch in diameter. No. 903A has a counterbored bushing for accommodating heavy asbestos heater cord. No. 903C has a metal set screw with insulated tip for holding the outer braid. The entire cord is gripped—the ends thus kept from fraying. No. 903E is intended for use with small cord.

Attachment Plug No. 904 is like No. 903, except that it has a molded ring instead of fiber washer, and a bushing of smaller diameter. It is thus easier to insert the plug in a socket, where as in the case of certain forms of glassware, the available space for attaching is limited. No. 907 is a solid plug with the cord-gripping feature of No. 903, but has no swivel shell.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
903 ▲	Attachment Plug.....	100	9	\$0.50
903A ▲	Attachment Plug, with counter-bored bushing.....	100	9	.50
903C ▲	Attachment Plug, with insulated set screw tip.....	100	10	.56
903E ▲	Attachment Plug, with $\frac{3}{4}$ inch bushing.....	100	10	.50
904 ▲	Attachment Plug, with molded ring.....	100	10	.56

Schedule 3

907	Non-Swiveling Attachment Plug solid.....	100	9	\$0.21
919	Non-Swiveling Separable Plug.....	100	10	.35



No. 95



No. 96

Current Taps

Schedule 3

Current Taps 95-95½ have swivel shell whereby they may be attached and fixed in any desired position for leading out the cord, without turning the device. Porcelain parts are concealed. The liability to breakage is therefore minimized, and the finish may be made to correspond with the fixture. A bead on the shell permits the transfer of any standard shade holder, thus securing the proper relation of the shade to the lamp. A reliable grip holds the cord securely. Bushing with $\frac{1}{4}$ inch opening is regularly supplied.

Nos. 96-96½ likewise have swivel shell, and are designed to facilitate the attaching and detaching of portable devices. They are provided with lever switch which in case of No. 96 controls the lamp. The series form is adapted for use with devices where it is necessary to place the lamp in series to act as resistance. By means of the lever switch the plug connection may be short-circuited and the lamp left burning full. Standard finish is brush brass.

WITH BINDING SCREW CONNECTIONS

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
95 ▲	Current Tap, multiple.....	50	9½	\$0.70
95½ ▲	Current Tap, series.....	50	9½	.70

WITH PLUG CONNECTIONS AND SWITCH

96	Current Tap, multiple.....	50	10	\$1.12
96½	Current Tap, series.....	50	10	1.12
97	Current Tap, plug only.....	50	1½	.35

*National Electrical Code Standard.

BENJAMIN SOCKET CLUSTERS AND ADAPTERS

No. 853
Adjustable Socket ClusterNo. 952
Adjustable Socket ClusterNo. 922 1/2
Two-Light Adapter

Adjustable Socket Clusters

Schedule 1

Adjustable Socket Clusters are designed for use with ceiling or pendent dome fixtures, stand lamps in dining rooms, reading rooms, etc., where it is desirable to adjust and fix the lights in special relation to the sides of the dome or reflector. The socket may be turned to any position between two points 180 degrees apart, and locked by means of a screw. By removing the socket cap, easy access is gained to the binding screws. They are therefore easily wired. 2 and 4-light clusters may be ordered wired two in series for operating 110-volt Mazda lamps on 220-volt circuits. Standard finish is brush brass.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
852 ^A	2-light with 3/4 inch bushing	10	5	\$1.20
853 ^A	3-light with 3/4 inch bushing	10	6	1.56
854 ^A	4-light with 3/4 inch bushing	10	7	1.92
952	2-light with plug, wired	10	5	1.50
953	3-light with plug, wired	10	6	1.86
954	4-light with plug, wired	10	7	2.22
955	2-light with plug, wired with pull chain	10	5	2.22
956	3-light with plug, wired with pull chain	10	6	2.94
957	4-light with plug, wired with pull chain	10	7	3.66

Two-Light Adapters

Schedule 3

Two-Light Adapters are intended for doubling the outlets of a given socket, while adapting them for individual reflectors. No. 922 1/2 is especially serviceable for burning two lamps in series. They are furnished either with plug, wired, or with 3/4 inch bushing for stem, not wired. In the former case they are attached by means of a swivel shell. Outlets are at an angle of 14 degrees with the vertical, and with suitable reflectors permit the use of 25, 40 or 60-watt lamps. Standard finish is brush brass.

822 ^A	Multiple and series, 3/4 inch bushing	10	5	\$1.40
922	Multiple with plug, wired	10	5	1.76
922 1/2	Series with plug, wired	10	5	1.76

No. 91
Socket ExtensionNo. 99
Tungsten Adapter

Socket Extensions

Schedule 3

The Socket Extension offers a convenient means for attaching glassware where the socket outlets do not otherwise permit it. The shell is provided with a bead for taking standard shade holders. It increases the length of the socket only 1 1/4 inches, and is especially serviceable in connection with flush sockets or ceiling receptacles. Standard finish is dipped brass. For other finishes add 5 cents list.

List No.	Description	Std. Pkg.	Wt. Lbs.	List Price Each
91 ^A	Socket Extension only	50	5	\$0.35

Tungsten Adapters

Schedule 3

Tungsten Adapter is designed for changing the angle of lamps to the vertical where individual reflectors are desired. An efficient light distribution is thus secured. A swivel shell permits the complete revolution of the socket, while the hinged joint allows a wide range of angular adjustment. It may therefore be used to advantage in any case requiring a change in the angle of attaching. Standard finish is brushed brass.

99 ^A	Tungsten Adapter	25	5	\$0.96
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^ANational Electrical Code Standard.

Wiring Devices

CUTLER-HAMMER SWITCHES



**No. 7000
Porcelain**



**No. 7010
Porcelain**

Porcelain Pendant Switches 6 Amperes, 125 Volts; 3 Amperes, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7000 ^A	Single pole, porcelain.....	10	100	30	\$0.63
10 Amperes, 125 Volts; 5 Amperes, 250 Volts					
7010 ^A	Single pole, porcelain.....	10	100	45	\$0.89

NOTE: On the above standard package may be made up of unbroken cartons of assorted colors. Standard finish: Gray. White or brown will be furnished when specified.



**No. 7001
Porcelain, Brass Cap**



**No. 7006
Porcelain, Brass Cap**



**No. 7007
Brass Shell**

Porcelain Pendant Switches With Brass Cap 6 Amperes, 125 Volts; 3 Amperes, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7001 ^A	Single pole, brass cap threaded $\frac{1}{8}$ inch pipe.....	10	100	38	\$0.70
7002 ^A	Single pole, brass cap threaded $\frac{3}{8}$ inch pipe.....	10	100	38	.76
*7003 ^A	Single pole, for pendent use only.....	10	100	38	.70

NOTE: Standard package discount allowed on assortment (in unbroken cartons) of 100 List Nos. 7001, 7002 and 7003.

Standard finish: Gray. White or brown will be furnished when specified.

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

7004 ^A	Single pole, three-point, brass cap threaded $\frac{1}{8}$ inch pipe.....	10	50	20	\$0.89
7005 ^A	Single pole, three-point, brass cap threaded $\frac{3}{8}$ inch pipe.....	10	50	20	.95
*7006 ^A	Single pole, three-point, for pendent use only.....	10	50	20	.89

NOTE: Standard package discount allowed on assortment (in unbroken cartons) of 50 List Nos. 7004, 7005 and 7006.

Standard finish: Gray. White or brown will be furnished when specified.

Brass Shell Pendant Switch

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

7007 ^A	Brass shell, acorn type.....	10	100	15	\$0.63
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Standard finish: Polished brass. Brush brass finish no additional charge.

For switches in any other finish add 13 cents to list price. Standard package discount allowed on assortment of finishes in full cartons of 10 each.

* Cap of List No. 7003 and 7006 has composition bushing with $\frac{1}{16}$ inch hole for reinforced cord.

^A National Electrical Code Standard.

CUTLER-HAMMER SWITCHES

No. 7020
PorcelainNo. 7021
Brass Shell

Two-Circuit Pendent Switches

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7020*	Single pole, porcelain, with porcelain bushing.....	10	50	34	\$1.26

NOTE: Standard finish: Gray. White or brown will be furnished when specified.
Standard package may be made up of unbroken cartons of assorted colors.

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

7021*	Single pole, brass shell.....	10	50	20	\$1.26
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NOTE: Standard finish: Polished brass. Brush brass no additional charge.
For other finishes add 13 cents to list price.
Standard package discount allowed on assortment of finishes in full cartons of 10 each.

No. 7044
Three Heat Cord SwitchNo. 7040
Cord SwitchNo. 7150
Candelabra Switch

Feed Through or Cord Switch

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7044*	Three heat, single pole, brass shell, polished nickel.....	10	50	20	\$1.52
7040*	Single pole, brass shell, polished nickel.....	10	100	15	.76
7041*	Single pole brass shell, polished nickel.....	10	100	15	.76

NOTE: Cord switches are designed for use with flat irons, soldering irons, table stoves, toasters, vacuum cleaners, etc.

The No. 7041 switch is the same as No. 7040 in all respects except that knock-out bushings are supplied, thus providing a small opening for cords of small diameter and which can be adapted for larger reinforced cords simply by knocking out or cutting out with a penknife the inner collar of the bushings.

Push-Button Candelabra Switch

 $\frac{1}{2}$ Ampere, 125 Volts

7150*	Porcelain body, brass stem for 4 inch candle.....	20	100	20	\$1.14
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Standard push bars are $1\frac{1}{8}$ inches long. Bars $1\frac{3}{4}$ inches or 2 inches long substituted without extra charge if specified.

Extra stems, 8 cents each, std. pkg., 50. Extra push-bars, 13 cents each. Stems for 3 inch or 5 inch candle will be substituted without extra charge if specified. Price includes stem spider piece for supporting the switch, and fibre washer for holding the candle concentric with the stem and socket.

* National Electrical Code Standard.

Wiring Devices

CUTLER-HAMMER CANOPY AND DOOR SWITCHES



No. 7151



No. 7152



No. 7155



No. 7156

Push and Pull Canopy Switches

3 Amperes 125 Volts; 1 Ampere 250 Volts

List No.	Stem and Bushing		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7151 [▲]	$\frac{1}{8}$ ins.	For sheet metal Canopy.....	20	100	15	\$0.95
7152 [▲]	$\frac{1}{8}$ ins.	For cast metal Canopy.....	20	100	15	1.01
7154 [▲]	$\frac{1}{4}$ ins.		20	100	15	1.06
7155 [▲]	$\frac{1}{8}$ ins.	With knob threaded $\frac{1}{4}$ x 27 to receive standard bottom fixture knob.....	20	100	15	1.01

Standard finish: Polished brass. Brush brass or polished nickel finish no additional charge.

Standard package discounts allowed on assortments (in unbroken cartons) of 100, List Nos. 7151, 7152 and 7155

YOKE FOR CANOPY SWITCH NO. 7155

7156 [▲]	Copper plated steel yoke.....	50	50	1	\$0.07
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No. 7240



No. 7245



No. 7202



No. 7211

Door Switches With Plate AND APPROVED BOX FOR ARMORED CABLE

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7240 [▲]	Circuit closed when door is open.....	5	25	20	\$2.84
7241 [▲]	Circuit closed when door is closed.....	5	25	20	2.84

NOTE: The box is $1\frac{1}{2}$ inches wide x $2\frac{3}{4}$ inches long. The plate is $4\frac{5}{8}$ x $1\frac{1}{4}$ inches and will fit no other box.

Door Switches Without Box BUT WITH UNIVERSAL PLATE

7245 [▲]	Circuit closed when box is open.....	5	25	20	\$2.52
7246 [▲]	Circuit closed when door is closed.....	5	25	20	2.52

NOTE: The Universal plate is $5\frac{3}{8}$ x $1\frac{1}{8}$ inches. Standard package discounts allowed on assortment (in unbroken cartons) of 25, List Nos. 7240, 7241, 7245 and 7246.

Flush Switches

7201 [▲]	Single pole, 10 amp. 125 volts; 5 amp. 250 volts.....	..	100	62	\$0.91
7202 [▲]	Double pole, 10 amp. 125 and 250 volts.....	..	50	35	1.26
7203 [▲]	Three point, 10 amp. 125 volts; 5 amp. 250 volts.....	..	50	35	1.26

Struckup Brass Plates For Flush Switches

7211	For one switch.....	100 holes	25	\$0.28
7212	For two switches.....	100 holes	25	.66

[▲]6 Amperes 125 Volts; 3 Amperes 250 Volts.

NOTE: 100 single plates or the equivalent in gangs in assorted finishes is a standard package of push button flush plates. Polished brass, brush brass, polished bronze, oxidized copper and polished nickel are all standard finishes, no extra charge. Solid brass plates in gangs or tandem can be furnished.

Prices on application. [▲]National Electrical Code Standard.

CUTLER-HAMMER PLUGS AND RECEPTACLES



No. 7600



No. 7605



No. 7650



No. 7655

Attachment Plug

With Separable Cap, 660 Watts 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7600 [▲]	White porcelain base and cap	10	250	80	\$0.32
7601 [▲]	White porcelain base, black composition cap	10	250	80	.32
7602 [▲]	Black composition base and cap	10	250	80	.45

Split Attachment Plug

660 Watts 250 Volts

7605 [▲]	Black Thermoplex, heat resisting composition	25	100	10	\$0.26
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Cord Connector

660 Watts 250 Volts

7650 [▲]	Black composition	25	100	23	\$0.63
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Motor Attachment Plug

Separable Type

7655 [▲]	10 amperes 250 volts	10	100	23	\$0.63
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No. 7612



No. 7617



No. 7622

Flush Receptacles

For Attachment Plug Caps, 10 Amperes 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7611 [▲]	With brass plate for attaching plug with porcelain cap	10	50	40	\$1.26
7612 [▲]	With brass plate for attaching plug with composition cap	10	50	40	1.26
7613 [▲]	With brass plate without cap	10	50	40	1.07

Round Base Surface Receptacle

For Attachment Plug Caps, 10 Amperes 250 Volts

7616 [▲]	For concealed work, with porcelain cap	10	50	28	\$0.45
7617 [▲]	For concealed work, with composition cap	10	50	28	.45
7618 [▲]	For concealed work, without cap	10	50	28	.26

Rectangular Base Receptacle

For Attachment Plug Caps, 10 Amperes 250 Volts

7621 [▲]	For molding work, with porcelain cap	10	50	25	\$0.45
7622 [▲]	For molding work, with composition cap	10	50	25	.45
7623 [▲]	For molding work, without cap	10	50	25	.26

[▲]National Electrical Code Standard.

Wiring Devices

CUTLER-HAMMER SWITCHES AND SOCKETS



No. 7102
Porcelain Body



No. 7108
Porcelain Base



No. 7109
Slotted Base

Push-Button Surface Switches

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7102 ^a	Single pole, with label holder, rectangular base.....	10	100	32	\$0.45
7103 ^a	Single pole, without label holder, rectangular base.....	10	100	32	.45
7107 ^a	Single pole, with label holder, round base.....	10	100	32	.41
7108 ^a	Single pole, without label holder, round base.....	10	100	32	.41
7109 ^a	Single pole, with label holder, slotted base.....	10	100	32	.41
7110 ^a	Single pole, without label holder, slotted base.....	10	100	32	.41

Glazed in white only. Standard finish cap; polished nickel.

Standard package discounts allowed on assortment (in unbroken cartons) of 100, List Nos. 7102 and 7103 or Nos. 7107 and 7108 or Nos. 7109 and 7110.



No. 7113



No. 7120
Porcelain Base



No. 7400
Porcelain Socket

For National Metal Molding

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
7111 ^a	With label holder (one way base).....	10	100	32	\$0.51
7112 ^a	Without label holder (one way base).....	10	100	32	.51
7113 ^a	With label holder (two way base).....	10	100	32	.51
7114 ^a	Without label holder (two way base).....	10	100	32	.51

Standard package discounts allowed on assortment (in unbroken cartons) of 100, List Nos. 7111 and 7112 or 7113 and 7114.

Sub-Bases for Surface Switches

7120	Porcelain, for open wiring.....	20	100	25	\$0.07
7121	Porcelain, for end of molding.....	20	100	25	.07
7122	Porcelain, for concealed wiring.....	20	100	25	.07

NOTE: Standard package discounts allowed on assortment (in unbroken cartons) of 100.

Push-Button Porcelain Socket

660 Watts, 250 Volts

7400 ^a	Porcelain Socket, for pendant use.....	10	100	42	\$0.42
7401 ^a	Porcelain Socket, with brass nozzle, threaded $\frac{1}{8}$ in. pipe.....	10	100	42	.48
7405 ^a	Porcelain Socket, with brass nozzle, threaded $\frac{3}{8}$ in. pipe.....	10	100	42	.48

Standard finish: Gray. White, ivory and brown will be furnished when specified.

Standard package may be made up of unbroken cartons of assorted colors.

^a National Electrical Code Standard.

PAISTE MOLDING TABLET FITTINGS

Molding Tablet No. 4090— $\frac{1}{4}$ size
With Cover Off, Showing Method of WiringNo. 4109— $\frac{1}{4}$ size
With Cover Off, Showing Method of Wiring

Molding Tablets

Molding Tablets are used for making single or double branches in either 2- or 3-wire molding. The illustration is that of a single 2-wire branch on 2-wire molding, and besides the fact that it is an "approved" fitting, the economy in its use is enough to more than pay its original cost.

In using tablets it is not necessary to cut either the molding or the wires.

The wires in every case are carried right through, simply leaving enough slack to loop over the bottom part; the molding does not have to be cut, as the tablets set on top. The branch wires start off from set screws, and a neat cover conceals everything.

List No.		Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
4090	2-Wire single branch	10	250	130	\$0.44
4091	3-Wire single branch	5	100	120	.65
4092	3-to 2-Wire single branch	5	100	98	.58
4093	3-to 2-Wire double branch	5	100	110	.87
4094	2-Wire double branch	5	100	77	.65

Angle Molding Tablets

4107	2-Wire Angle Tablet	4	50	40	\$0.72
4108	3-Wire Angle Tablet	4	50	50	.87
4109	2-Wire Corner Tablet	4	50	53	.44

Molding Cross Over No. 4095— $\frac{1}{4}$ size
With Cover Off, Showing Running of WiresMolding Connector No. 4099— $\frac{1}{4}$ size
With Cover Off, Showing Method of Wiring

Molding Cross Overs

Cross Overs are for use where a new line of molding must be carried across another line already in place.

This Cross Over is very simple, consisting of a porcelain channel piece for the wire runways, with a neat porcelain cover over all.

List No.		Carton Quantity	Std. Pkg.	Pkg. Wt.	List Price Each
4095	2-Wire crossing 2-wire	10	250	95	\$0.32
4096	3-Wire crossing 3-wire	5	100	65	.29
4097	2-Wire crossing 3-wire	5	100	63	.29
4098	3-Wire crossing 2-wire	5	100	63	.29

Molding Connectors

4099	2-Wire Connector	10	250	85	\$0.35
4100	3-Wire Connector	4	100	81	.31

PATTERSON SURFACE RECEPTACLES AND PLUGS

10 and 20 Amperes—250 Volts



No. 3300
Conduit Type Surface Receptacle



No. 3200
Wood Molding Type Surface Receptacle

Conduit Types

Conduit type receptacles and plugs are specially adapted for conduit work on side walls, on account of having the surface of the porcelain flush with the brass face plate.

Surface Boxes, Receptacles and Plugs

List No.	Size Surface Plate	Size Pipe Tapped For	Ampere	Finish	Std. Pkg.	List Price Each
3300 ^A	3 x 2 1/8 ins.	1/2 in.	10	Brushed-brass	25	\$3.00
3350 ^A	3 x 2 1/8 ins.	1/2 in.	10	Black-enamel	25	2.10
3400 ^A	3 1/2 x 3 ins.	3/4 in.	20	Brushed-brass	10	4.20
3450 ^A	3 1/2 x 3 ins.	3/4 in.	20	Black-enamel	10	3.00

Surface Boxes and Receptacles, No Plugs

3300R ^A	3 x 2 1/8 ins.	1/2 in.	10	Brushed-brass	..	\$2.70
3350R ^A	3 x 2 1/8 ins.	1/2 in.	10	Black-enamel	..	1.80
3400R ^A	3 1/2 x 3 ins.	3/4 in.	20	Brushed-brass	..	3.60
3450R ^A	3 1/2 x 3 ins.	3/4 in.	20	Black-enamel	..	2.40

Surface Receptacle Plugs Only

502280 ^A	10 Ampere, Brass-covered, for Nos. 3300 and 3350 Receptacles.....	\$0.36
502281 ^A	20 Ampere, Steel-covered, for Nos. 3400 and 3450 Receptacles.....	.72

* Nos. 3400 and 3450 will be furnished with reducing nipples to take 1/2-inch conduit without charge when specially ordered.

Molding Types

Molding-type receptacles and plugs provide an easy first-class method of using 10 ampere and 20 ampere receptacles on a line of molding with minimum projection from wall. Wood-molding is cut square and runs at both ends, almost an inch inside of the metal casing which itself fits down close over all but the circular face of the receptacle.

Total depth from wall to front surface of receptacles is only 1 1/2 inches, in both 10 ampere and 20 ampere sizes.

FOR METAL-MOLDING

Surface Receptacles, Casings and Plugs

List No.	Size Over All	Ampere	Fits Metal Molding	Finish	Std. Pkg.	List Price Each
3125 ^A	3 1/4 x 2 1/4 ins.	10	2 Wire	Brushed-brass	25	\$1.80
3175 ^A	3 1/4 x 2 1/2 ins.	10	2 Wire	Black-enamel	25	1.20

FOR WOOD-MOLDING

Surface Receptacles, Casings and Plugs

List No.	Size Over All	Ampere	Fits Wood Molding	Finish	Std. Pkg.	List Price Each
3100 ^A	3 1/4 x 2 1/4 ins.	10	2 Wire No. 14	Brushed-brass	25	\$1.80
3150 ^A	3 1/4 x 2 1/2 ins.	10	2 Wire No. 14	Black-enamel	25	1.20
3200 ^A	3 1/2 x 2 3/4 ins.	20	2 Wire No. 10	Brushed-brass	10	3.00
3250 ^A	3 1/2 x 2 3/4 ins.	20	2 Wire No. 10	Black-enamel	10	2.40

Surface Receptacle Plugs Only

483 ^A	10 Ampere, Brass-covered, for Nos. 3100, 3125, 3175 and 3150 Receptacles.....	\$0.36
484 ^A	20 Ampere, Steel-covered, for Nos. 3200 and 3250 Receptacles.....	.72

NOTE: 20-Ampere Conduit and Molding Type Surface Receptacles and Plugs are regularly furnished non-reversing polarity pattern. 10-Ampere will be furnished non-reversing polarity pattern only when specially ordered and at an advance in list of 30 cents each.

^A National Electrical Code Standard.

"H & H" ROTARY SURFACE SWITCHES



SINGLE POLE, SMALL SIZE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2148 ^A	Solid Base.....	Plain	2 ins.	1 $\frac{1}{2}$ ins.	10	250	71	\$0.41
2161 ^A	Slotted Base.....	Plain	2 ins.	1 $\frac{1}{2}$ ins.	10	250	71	.41
2162 ^A	Solid Base.....	Indicating	2 ins.	1 $\frac{1}{2}$ ins.	10	250	73	.46
2163 ^A	Slotted Base.....	Indicating	2 ins.	1 $\frac{1}{2}$ ins.	10	250	73	.46

SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

20 ^A	Solid Base.....	Plain	2 1/4 ins.	1 1/4 ins.	10	100	30	\$0.53
120 ^A	Slotted Base.....	Plain	2 1/4 ins.	1 1/4 ins.	10	100	30	.52
220 ^A	Solid Base.....	Indicating	2 1/4 ins.	1 1/4 ins.	10	100	30	.58
320 ^A	Slotted Base.....	Indicating	2 1/4 ins.	1 1/4 ins.	10	100	30	.58

SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

2684**	Solid Base.....	Plain	2 ins.	1 1/4 ins.	10	100	28	\$0.52
2654**	Solid Base.....	Indicating	2 ins.	1 1/4 ins.	10	100	28	.58

*The above switches have a metal covered base.

SINGLE POLE

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

21 ^A	Solid Base.....	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	10	100	53	\$0.70
121 ^A	Slotted Base.....	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	10	100	53	.70
221 ^A	Solid Base.....	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	10	100	53	.78
321 ^A	Slotted Base.....	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	10	100	53	.78

SINGLE POLE

10 Amperes, 250 Volts

2983 ^A	Solid Base.....	Plain	2 1/2 ins.	1 3/4 ins.	10	100	54	\$0.95
2984 ^A	Slotted Base.....	Plain	2 1/2 ins.	1 3/4 ins.	10	100	54	.95
2985 ^A	Solid Base.....	Indicating	2 1/2 ins.	1 3/4 ins.	10	100	54	1.10
2986 ^A	Slotted Base.....	Indicating	2 1/2 ins.	1 3/4 ins.	10	100	54	1.10

SINGLE POLE

20 Amperes, 125 Volts

31	Solid Base.....	Plain	3 $\frac{3}{4}$ ins.	2 $\frac{1}{2}$ ins.	1	10	15	\$1.30
131	Slotted Base.....	Plain	3 $\frac{3}{4}$ ins.	2 $\frac{1}{2}$ ins.	1	10	15	1.30
231	Solid Base.....	Indicating	3 $\frac{3}{4}$ ins.	2 $\frac{1}{2}$ ins.	1	10	15	1.44
331	Slotted Base.....	Indicating	3 $\frac{3}{4}$ ins.	2 $\frac{1}{2}$ ins.	1	10	15	1.44

SINGLE POLE

30 Amperes, 125 Volts

40	Solid Base.....	Plain	3½ ins.	2 ½ ins.	1	10	17	41.88
140	Slotted Base.....	Plain	3½ ins.	2 ½ ins.	1	10	17	1.88
240	Solid Base.....	Indicating	3½ ins.	2 ½ ins.	1	10	17	2.02
340	Slotted Base.....	Indicating	3½ ins.	2 ½ ins.	1	10	17	2.02

The above switches may be converted into lock switches by the use of the Lock
ments.

When specified, round handles will be furnished on the above switches in 3, 5 and 10 ampere sizes without extra charge.

[▲]National Electrical Code Standard.

"H & H" ROTARY SURFACE SWITCHES



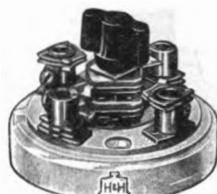
No. 432



No. 2152



No. 23



No. 43

DOUBLE POLE 5 Amperes, 250 Volts

Schedule "S"

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2085 ^A	Solid Base.....	Plain	2 1/8 ins.	1 1/8 ins.	10	100	35	\$0.81
2086 ^A	Slotted Base.....	Plain	2 1/8 ins.	1 1/8 ins.	10	100	35	.81
2087 ^A	Solid Base.....	Indicating	2 1/8 ins.	1 1/8 ins.	10	100	35	.93
2088 ^A	Slotted Base.....	Indicating	2 1/8 ins.	1 1/8 ins.	10	100	35	.93

DOUBLE POLE 10 Amperes, 250 Volts

22 ^A	Solid Base.....	Plain	2 1/4 ins.	1 3/4 ins.	10	100	54	\$0.95
122 ^A	Slotted Base.....	Plain	2 1/4 ins.	1 3/4 ins.	10	100	54	.95
222 ^A	Solid Base.....	Indicating	2 1/4 ins.	1 3/4 ins.	10	100	54	1.10
322 ^A	Slotted Base.....	Indicating	2 1/4 ins.	1 3/4 ins.	10	100	54	1.10

DOUBLE POLE 20 Amperes, 250 Volts

32 ^A	Solid Base.....	Plain	3 1/4 ins.	2 1/4 ins.	1	30	30	\$1.73
132 ^A	Slotted Base.....	Plain	3 1/4 ins.	2 1/4 ins.	1	30	30	1.73
432 ^A	Solid Base.....	Indicating	3 1/4 ins.	2 1/4 ins.	1	30	30	1.88
532 ^A	Slotted Base.....	Indicating	3 1/4 ins.	2 1/4 ins.	1	30	30	1.88

DOUBLE POLE 30 Amperes, 250 Volts

42 ^A	Solid Base.....	Plain	3 1/2 ins.	2 7/8 ins.	1	30	44	\$2.16
142 ^A	Slotted Base.....	Plain	3 1/2 ins.	2 7/8 ins.	1	30	44	2.16
442 ^A	Solid Base.....	Indicating	3 1/2 ins.	2 7/8 ins.	1	30	44	2.31
542 ^A	Slotted Base.....	Indicating	3 1/2 ins.	2 7/8 ins.	1	30	44	2.31

THREE-WAY 3 Amperes, 125 Volts; 1 Ampere, 250 Volts

2152 ^A	Solid Base.....	Plain	2 1/8 ins.	1 1/8 ins.	10	100	34	\$0.70
2153 ^A	Slotted Base.....	Plain	2 1/8 ins.	1 1/8 ins.	10	100	34	.70

THREE-WAY 5 Amperes, 125 Volts; 3 Amperes, 250 Volts

2089 ^A	Solid Base.....	Plain	2 1/8 ins.	1 1/8 ins.	10	100	35	\$0.81
2090 ^A	Slotted Base.....	Plain	2 1/8 ins.	1 1/8 ins.	10	100	35	.81

THREE-WAY 10 Amperes, 125 Volts; 5 Amperes, 250 Volts

23 ^A	Solid Base.....	Plain	2 1/4 ins.	1 3/4 ins.	10	50	27	\$0.95
123 ^A	Slotted Base.....	Plain	2 1/4 ins.	1 3/4 ins.	10	50	27	.95

THREE-WAY 20 Amperes, 125 Volts

33	Solid Base.....	Plain	3 1/4 ins.	2 1/4 ins.	1	10	17	\$1.73
133	Slotted Base.....	Plain	3 1/4 ins.	2 1/4 ins.	1	10	17	1.73

THREE-WAY 30 Amperes, 125 Volts

43	Solid Base.....	Plain	3 1/2 ins.	2 7/8 ins.	1	10	19	\$2.31
143	Slotted Base.....	Plain	3 1/2 ins.	2 7/8 ins.	1	10	19	2.31

The above switches may be converted into lock switches by the use of the Lock Attachments shown on following page.

When specified, round handles will be furnished on the above switches in 3, 5 and 10 ampere size, without extra charge.

^A National Electrical Code Standard.

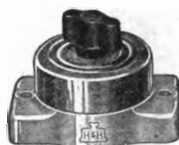
"H & H" ROTARY SWITCHES AND ATTACHMENTS



No. 24



No. 226



No. 2545



No. 3030

Rotary Surface Switches

FOUR-WAY

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

Schedule "S"

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
24 ^A	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	\$1.24
124 ^A	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	1.24

FOUR-WAY

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2959 ^A	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	12	\$2.74
2960 ^A	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	12	2.74

TRIPLE POLE

10 Amperes, 250 Volts

26 ^A	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	11	\$2.74
126 ^A	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	11	2.74
226 ^A	Solid Base.....	Indicating	2 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	11	2.88
326 ^A	Slotted Base.....	Indicating	2 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	11	2.88

TRIPLE POLE

30 Amperes, 250 Volts

2655 ^A	Solid Base.....	Plain	4 $\frac{1}{4}$ ins.	3 $\frac{1}{8}$ ins.	1	10	10	\$4.18
2656 ^A	Slotted Base.....	Plain	4 $\frac{1}{4}$ ins.	3 $\frac{1}{8}$ ins.	1	10	10	4.18
2657 ^A	Solid Base.....	Indicating	4 $\frac{1}{4}$ ins.	3 $\frac{1}{8}$ ins.	1	10	10	4.32
2658 ^A	Slotted Base.....	Indicating	4 $\frac{1}{4}$ ins.	3 $\frac{1}{8}$ ins.	1	10	10	4.32

Taplet and Wood Molding Switches

SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

2541 ^A	.....	Plain	.....	2 $\frac{3}{8}$ ins.	10	100	41	\$0.52
2542 ^A	.....	Indicating	.....	2 $\frac{3}{8}$ ins.	10	100	41	.58

DOUBLE POLE

5 Amperes, 250 Volts

2543 ^A	.....	Plain	.....	2 $\frac{3}{8}$ ins.	10	100	43	\$0.95
2544 ^A	.....	Indicating	.....	2 $\frac{3}{8}$ ins.	10	100	43	1.10

THREE-WAY

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

2545 ^A	Plain	2 $\frac{3}{8}$ ins.	10	100	43	\$0.95
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Switches for Mounting on $\frac{1}{2}$ Inch Condulets

SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

3003 ^A	.....	Plain	.....	1 $\frac{3}{4}$ ins.	10	100	42	\$0.52
3030 ^A	.....	Indicating	.....	1 $\frac{3}{4}$ ins.	10	100	42	.58

The above switches may be converted into lock switches by the use of the Lock Attachments shown below.
When specified, round handles will be furnished on the above switches in 3, 5 and 10 ampere size without extra charge.



Lock Attachments for Rotary Switches

Mfr. No.		Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
5001 ^A	Lock Attachment only, for 5 and 10 ampere 250 volt switch and for 3 and 5 ampere 600 volt switch.....	100	3	\$0.24
5010 ^A	Lock Attachment only, for 20 ampere 250 volt switch and for 15 and 20 ampere 600 volt switch.....	100	3	.24
5009 ^A	Lock Attachment only, for 30 ampere 250 volt switch and for 10 ampere 600 volt switch.....	100	3	.24
5002 ^A	Lock Key only, to fit all the above Lock Attachments.....	100	3	.09

*National Electrical Code Standard.

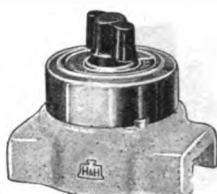
Wiring Devices

"H & H" ROTARY SURFACE SWITCHES

For Use With Metal Molding



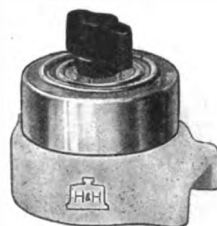
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No. 2397



No. 2298



No. 2359

SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

List No.			Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2291 [▲]	Single end.....	Plain	1 $\frac{1}{4}$ ins.	10	100	40	\$0.52
2391 [▲]	Single end.....	Indicating	1 $\frac{1}{4}$ ins.	10	100	40	.58
2292 [▲]	Double end.....	Plain	1 $\frac{1}{4}$ ins.	10	100	43	.52
2392 [▲]	Double end.....	Indicating	1 $\frac{1}{4}$ ins.	10	100	43	.58

DOUBLE POLE

5 Amperes, 250 Volts

2296 [▲]	Single end.....	Plain	1 $\frac{1}{4}$ ins.	10	100	43	\$0.95
2396 [▲]	Single end.....	Indicating	1 $\frac{1}{4}$ ins.	10	100	43	1.10
2297 [▲]	Double end.....	Plain	1 $\frac{1}{4}$ ins.	10	100	45	.95
2397 [▲]	Double end.....	Indicating	1 $\frac{1}{4}$ ins.	10	100	45	1.10

THREE-WAY

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

2298 [▲]	Single end.....	Plain	1 $\frac{1}{4}$ ins.	10	100	43	\$0.95
2299 [▲]	Double end.....	Plain	1 $\frac{1}{4}$ ins.	10	100	45	.95

SINGLE POLE

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2351 [▲]	Single end.....	Plain	1 $\frac{3}{4}$ ins.	10	100	40	\$0.84
2352 [▲]	Single end.....	Indicating	1 $\frac{3}{4}$ ins.	10	100	40	.93
2353 [▲]	Double end.....	Plain	1 $\frac{3}{4}$ ins.	10	100	40	.84
2354 [▲]	Double end.....	Indicating	1 $\frac{3}{4}$ ins.	10	100	40	.93

DOUBLE POLE

10 Amperes, 250 Volts

2355 [▲]	Single end.....	Plain	1 $\frac{3}{4}$ ins.	10	100	42	\$1.10
2356 [▲]	Single end.....	Indicating	1 $\frac{3}{4}$ ins.	10	100	42	1.24
2357 [▲]	Double end.....	Plain	1 $\frac{3}{4}$ ins.	10	100	42	1.10
2358 [▲]	Double end.....	Indicating	1 $\frac{3}{4}$ ins.	10	100	42	1.24

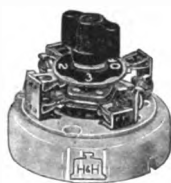
THREE-WAY

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2359 [▲]	Single end.....	Plain	1 $\frac{3}{4}$ ins.	10	100	42	\$1.10
2360 [▲]	Double end.....	Plain	1 $\frac{3}{4}$ ins.	10	100	42	1.10

The above switches may be converted into lock switches by the use of the Lock Attachments. When specified, round handles will be furnished on the above switches in 5 and 10 ampere sizes without extra charge.

[▲] National Electrical Code Standard.

"H & H" ROTARY SURFACE SWITCHES

No. 325



No. 2503



No. 2615



No. 2725

Electrolier Type**THREE SECTIONS. CONNECTIONS 1, 1 & 2, 1 & 2 & 3, OFF**

These switches operate as follows: First turn connects section One. Second turn connects sections One and Two. Third turn connects sections One, Two and Three. Fourth turn, Off.

5 Amperes, 125 Volts; 2 Amperes, 250 Volts*Schedule "S"**

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
25 ^A	Solid Base	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	\$1.10
125 ^A	Slotted Base	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	1.10
225 ^A	Solid Base	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	1.24
325 ^A	Slotted Base	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	1.24

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2501 ^A	Solid Base	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	30	\$2.02
2502 ^A	Slotted Base	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	30	2.02
2503 ^A	Solid Base	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	31	2.16
2504 ^A	Slotted Base	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	31	2.16

THREE SECTIONS. CONNECTIONS 1, 2, 3, OFF

These switches operate as follows: First turn connects section One. Second turn connects section Two. Third turn connects section Three. Fourth turn, Off.

***5 Amperes, 125 Volts; 2 Amperes, 250 Volts**

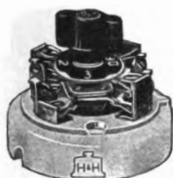
2615 ^A	Solid Base	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	\$1.10
2616 ^A	Slotted Base	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	1.10
2617 ^A	Solid Base	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	1.24
2618	Slotted Base	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{3}{4}$ ins.	10	30	17	1.24

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

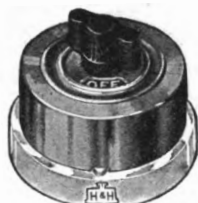
2725 ^A	Solid Base	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	29	\$2.02
2726 ^A	Slotted Base	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	29	2.02
2727 ^A	Solid Base	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	29	2.16
2728 ^A	Slotted Base	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{2}$ ins.	1	30	29	2.16

The above switches may be converted into lock switches by the use of the Lock Attachments.
 * When specified, round handles will be furnished on the above switches without extra charge.
 * National Electrical Code Standard.

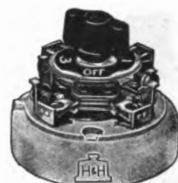
"H & H" ROTARY SURFACE SWITCHES



No. 2664



No. 2671



No. 629

Electrolier Type

TWO SECTIONS. CONNECTIONS 1, 2, 1 & 2, OFF

These switches operate as follows: First turn connects section One. Second turn connects section Two. Third turn connects sections One and Two. Fourth turn, Off.

***5 Amperes, 125 Volts; 2 Amperes, 250 Volts**

Schedule "S"

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2661 ^A	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	\$1.10
2662 ^A	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.10
2663 ^A	Solid Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24
2664 ^A	Slotted Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2669 ^A	Solid Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	\$2.02
2670 ^A	Slotted Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	2.02
2671 ^A	Solid Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	2.16
2672 ^A	Slotted Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	2.16

TWO SECTIONS. CONNECTIONS 1, 1 & 2, 2, OFF

These switches operate as follows: First turn connects section One. Second turn connects sections One and Two. Third turn connects section Two. Fourth turn, Off.

***5 Amperes, 125 Volts; 2 Amperes, 250 Volts**

429 ^A	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	\$1.10
529 ^A	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.10
629 ^A	Solid Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24
729 ^A	Slotted Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

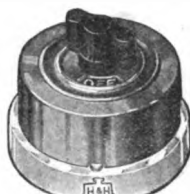
2598 ^A	Solid Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	\$2.02
2599 ^A	Slotted Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	2.02
2600 ^A	Solid Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	2.16
2591 ^A	Slotted Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{4}$ ins.	1	30	30	2.16

The above switches may be converted into lock switches by the use of the Lock Attachments.

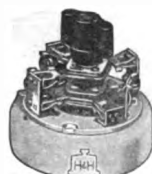
* When specified, round handles will be furnished on these switches without extra charge.

"H & H" ROTARY SURFACE SWITCHES

No. 329



No. 2507



No. 2721

Electrolier Type**TWO SECTIONS. CONNECTIONS 1, 1 & 2, 1, OFF**

These switches operate as follows: First turn connects section One. Second turn connects section One and Two. Third turn connects section One. Fourth turn, Off.

5 Amperes, 125 Volts; 2 Amperes, 250 Volts*Schedule "S"**

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
29 ^A	Solid Base.....	Plain	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	\$1.10
129 ^A	Slotted Base.....	Plain	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	1.10
229 ^A	Solid Base.....	Indicating	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	1.24
329 ^A	Slotted Base.....	Indicating	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	1.24

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2506 ^A	Solid Base.....	Plain	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	\$2.02
2506 ^A	Slotted Base.....	Plain	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	2.02
2507 ^A	Solid Base.....	Indicating	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	2.16
2508 ^A	Slotted Base.....	Indicating	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	2.16

TWO SECTIONS. CONNECTIONS 1, -OFF, 2, -OFF

These switches operate as follows: First turn connects section One. Second turn, Off. Third turn connects section Two. Fourth turn, Off.

***5 Amperes, 125 Volts; 2 Amperes, 250 Volts.**

2721 ^A	Solid Base.....	Plain	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	\$1.10
2722 ^A	Slotted Base.....	Plain	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	1.10
2723 ^A	Solid Base.....	Indicating	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	1.24
2724 ^A	Slotted Base.....	Indicating	2 ¹ / ₄ ins.	1 ³ / ₄ ins.	10	30	17	1.24

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2594 ^A	Solid Base.....	Plain	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	\$2.02
2595 ^A	Slotted Base.....	Plain	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	2.02
2596 ^A	Solid Base.....	Indicating	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	2.16
2597 ^A	Slotted Base.....	Indicating	3 ¹ / ₈ ins.	2 ¹ / ₂ ins.	1	30	30	2.16

The above switches may be converted into lock switches by the use of the Lock Attachments.

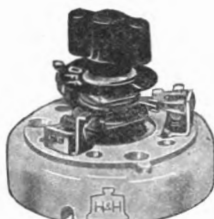
*When specified, round handles will be furnished on the above switches without extra charge.

^ANational Electrical Code Standard.

"H & H" ROTARY SURFACE SWITCHES



No. 2611



No. 2499



No. 2609



No. 2602

Electrolier Type

TWO SECTIONS. CONNECTIONS 1, 2, OFF

These switches operate as follows: First turn connects section One. Second turn connects section Two. Third turn, Off.

***5 Amperes, 125 Volts; 2 Amperes, 250 Volts**

Schedule "S"

List No.			Diameter of Base	Screw Holes Spaced on a Circle	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2611 ^A	Solid Base.....	Plain	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	\$1.10
2612 ^A	Slotted Base.....	Plain	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.10
2613 ^A	Solid Base.....	Indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24
2614 ^A	Slotted Base.....	Indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

2496 ^A	Solid Base.....	Plain	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	38	\$2.45
2497 ^A	Slotted Base.....	Plain	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	38	2.45
2498 ^A	Solid Base.....	Indicating	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	38	2.60
2499 ^A	Slotted Base.....	Indicating	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	38	2.60

TWO SECTIONS. CONNECTIONS 1 & 2, 1, OFF

These switches operate as follows: First turn connects sections One and Two. Second turn connects section One. Third turn, Off.

***5 Amperes, 125 Volts; 2 Amperes, 250 Volts.**

2607 ^A	Solid Base.....	Plain	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	\$1.10
2608 ^A	Slotted Base.....	Plain	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.10
2609 ^A	Solid Base.....	Indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24
2610 ^A	Slotted Base.....	Indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	17	1.24

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

2486 ^A	Solid Base.....	Plain	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	38	\$2.45
2487 ^A	Slotted Base.....	Plain	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	38	2.45
2488 ^A	Solid Base.....	Indicating	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	39	2.60
2489 ^A	Slotted Base.....	Indicating	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	39	2.60

TWO SECTIONS. CONNECTIONS 1, 1 & 2, OFF

***5 Amperes, 125 Volts; 2 Amperes, 250 Volts**

2602 ^A	Solid Base.....	Plain	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	16	\$1.10
2603 ^A	Slotted Base.....	Plain	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	16	1.10
2604 ^A	Solid Base.....	Indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	16	1.24
2605 ^A	Slotted Base.....	Indicating	2 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	10	30	16	1.24

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

2482 ^A	Solid Base.....	Plain	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	39	\$2.45
2483 ^A	Slotted Base.....	Plain	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	39	2.45
2484 ^A	Solid Base.....	Indicating	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	39	2.60
2485 ^A	Slotted Base.....	Indicating	3 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	1	30	39	2.60

The above switches may be converted into lock switches by the use of the Lock Attachments.

*When specified, round handles will be furnished on the above switches without extra charge.

*National Electrical Code Standard.

"H & H" ROTARY SURFACE SWITCHES

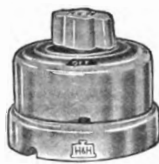
With Porcelain Covers and Handles



No. 2627



No. 2231



No. 2632



No. 2244

SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Schedule "S"

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2625 [▲]	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	30	17	\$0.75
2626 [▲]	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	30	17	.75
2627 [▲]	Solid Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	30	17	.81
2628 [▲]	Slotted Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	30	17	.81

SINGLE POLE

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2231 [▲]	Solid Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	30	25	\$0.93
2232 [▲]	Slotted Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	30	25	.93
2205 [▲]	Solid Base.....	Indicating	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	30	25	1.07
2206 [▲]	Slotted Base.....	Indicating	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	30	25	1.07

DOUBLE POLE

5 Amperes, 250 Volts

2629 [▲]	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	10	8	\$1.04
2630 [▲]	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	10	8	1.04
2631 [▲]	Solid Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	10	8	1.16
2632 [▲]	Slotted Base.....	Indicating	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	10	8	1.16

DOUBLE POLE

10 Amperes, 250 Volts

2244 [▲]	Solid Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	\$1.19
2245 [▲]	Slotted Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.19
2207 [▲]	Solid Base.....	Indicating	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33
2208 [▲]	Slotted Base.....	Indicating	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33

THREE-WAY

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

2633 [▲]	Solid Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	10	8	\$1.04
2634 [▲]	Slotted Base.....	Plain	2 $\frac{1}{8}$ ins.	1 $\frac{1}{8}$ ins.	1	10	8	1.04

THREE-WAY

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

2209 [▲]	Solid Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	\$1.19
2210 [▲]	Slotted Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.19

FOUR-WAY

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2234 [▲]	Solid Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	\$1.19
2235 [▲]	Slotted Base.....	Plain	2 $\frac{3}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.19



The above switches may be converted into lock switches by the use of the Lock Attachments. When specified, round handles will be furnished on the above switches in 3, 5, and 10 ampere sizes, without extra charge.

[▲] National Electrical Code Standard.

"H & H" ROTARY SURFACE SWITCHES

With Porcelain Covers and Handles



No. 2240



No. 2676



No. 2246

Electrolier Type

THREE SECTIONS. CONNECTIONS 1, 2, 3, OFF

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

Schedule "S"

List No.			Diameter of Base	Screw Holes Spaced on a Circle	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2747 ^A	Solid Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	\$1.19
2748 ^A	Slotted Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.19
2749 ^A	Solid Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33
2750 ^A	Slotted Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33

THREE SECTIONS. CONNECTIONS 1, 1 & 2, 1 & 2, 3, OFF

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2240 ^A	Solid Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	\$1.19
2241 ^A	Slotted Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.19
2242 ^A	Solid Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.33
2243 ^A	Slotted Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.33

TWO SECTIONS. CONNECTIONS 1, 2, 1 & 2, OFF

* 5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2673 ^A	Solid Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	\$1.19
2674 ^A	Slotted Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.19
2675 ^A	Solid Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33
2676 ^A	Slotted Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33

TWO SECTIONS. CONNECTIONS 1, 1 & 2, 1, OFF

* 5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2236 ^A	Solid Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	\$1.19
2237 ^A	Slotted Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.19
2238 ^A	Solid Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.33
2239 ^A	Slotted Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.33

TWO SECTIONS. CONNECTIONS 1, 1 & 2, 2, OFF

* 5 Amperes, 125 Volts; 2 Amperes, 250 Volts]

2246 ^A	Solid Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	\$1.19
2247 ^A	Slotted Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.19
2248 ^A	Solid Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.33
2249 ^A	Slotted Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	9	1.33

TWO SECTIONS. CONNECTIONS 1, 2, OFF

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2739 ^A	Solid Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	\$1.19
2740 ^A	Slotted Base	Plain	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.19
2741 ^A	Solid Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33
2742 ^A	Slotted Base	Indicating	2 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33

The above switches may be converted into lock switches by the use of the Lock Attachments. When specified, round handles will be furnished on the above switches in 3, 5, and 10 ampere sizes, without extra charge.

* Screws spaced on centers.

^A National Electrical Code Standard.

SURFACE SWITCHES AND HANDLES

With Porcelain Covers and Handles



No. 2731



No. 2736



No. 2746

"H & H" Rotary Surface Switches
Electroliner Type
TWO SECTIONS. CONNECTIONS 1, 1 & 2, OFF
5 Amperes, 125 Volts; 2 Amperes, 250 Volts

Schedule "S"

List No.			Diameter of Base	Screw Holes Spaced on a Circle	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2731 ^A	Solid Base	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	\$1.19
2732 ^A	Slotted Base	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.19
2733 ^A	Solid Base	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33
2734 ^A	Slotted Base	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33

TWO SECTIONS. CONNECTIONS 1 & 2, 1, OFF
5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2735 ^A	Solid Base	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	\$1.19
2736 ^A	Slotted Base	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.19
2737 ^A	Solid Base	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33
2738 ^A	Slotted Base	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33

TWO SECTIONS. CONNECTIONS 1, OFF, 2, OFF
5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2743 ^A	Solid Base	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	\$1.19
2744 ^A	Slotted Base	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.19
2745 ^A	Solid Base	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33
2746 ^A	Slotted Base	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{3}{4}$ ins.	1	10	10	1.33



No. 2910



No. 5004



No. 2157

Handles for Rotary Switches

Schedule "S"

List No.		Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2910	Round handle of rubber composition for 5 and 10 ampere 250 volt switch, and for 3 and 5 ampere 600 volt switch.	100	2 $\frac{1}{4}$	\$0.00
5004	Handle of rubber composition for 5 and 10 ampere 250 volt switch, and for 3 and 5 ampere 600 volt switch.	100	2	.00
5005	Handle of rubber composition for 20 ampere 250 volt switch and for 15 and 20 ampere 600 volt switch.	100	3 $\frac{1}{2}$	.00
4242	Handle of rubber composition for 30 ampere 250 volt switch and for 10 ampere 600 volt switch.	100	4	.00
2156	Handle of porcelain for 5 and 10 ampere 250 volt switch and for 3 and 5 ampere 600 volt switch.	100	3	.00
2157	Handle of porcelain for 20 ampere 250 volt switch and for 15 and 20 ampere 600 volt switch.	100	5	.00
2218	Handle of porcelain for 30 ampere 250 volt switch, and for 10 ampere 600 volt switch.	100	5	.00

^ANational Electrical Code Standard.

Wiring Devices

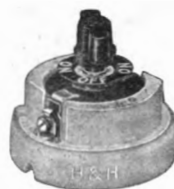
"H & H" BARRIER 600 VOLT SWITCHES



No. 2338



No. 2335



No. 350 1/2



No. 2166

For Electric Railway Use

5 Amperes, 600 Volts

FUSED SWITCHES

Schedule "S"

List No.		Diam. of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2335 ^A	Single pole, indicating, without fuse.....	.....	3 1/4 ins.	1	25	80	\$2.16
2336	Three-way, plain, without fuse.....	.....	3 1/4 ins.	1	25	80	2.16
2338 ^A	Two-circuit, indicating, without fuse.....	.....	3 1/4 ins.	1	25	80	2.16
2319 ^A	Fuse for above, 5 amperes, 600 volts.....	.....	3 1/4 ins.	10	100	1	.58
	Schedule "H".....	.....	3 1/4 ins.				

The above prices do not include fuses. Fuses will not be shipped with switches unless they are specifically ordered, and then they will be billed extra at the regular price.

SINGLE POLE

5 Amperes, 600 Volts

50 1/2 ^A	Solid Base.....	Plain	2 1/8 ins.	1 1/8 ins.	1	50	37	\$0.95
150 1/2 ^A	Slotted Base.....	Plain	2 1/8 ins.	1 1/8 ins.	1	50	37	.95
250 1/2 ^A	Solid Base.....	Indicating	2 1/8 ins.	1 1/8 ins.	1	50	37	1.10
350 1/2 ^A	Slotted Base.....	Indicating	2 1/8 ins.	1 1/8 ins.	1	50	37	1.10

SINGLE POLE

10 Amperes, 600 Volts

2164 ^A	Solid Base.....	Plain	3 1/8 ins.	2 1/8 ins.	1	50	74	\$2.02
2165 ^A	Slotted Base.....	Plain	3 1/8 ins.	2 1/8 ins.	1	50	74	2.02
2166 ^A	Solid Base.....	Indicating	3 1/8 ins.	2 1/8 ins.	1	50	74	2.16
2167 ^A	Slotted Base.....	Indicating	3 1/8 ins.	2 1/8 ins.	1	50	74	2.16

SINGLE POLE

20 Amperes, 600 Volts

241 1/2 ^A	Solid Base.....	Plain	3 1/2 ins.	2 1/8 ins.	1	50	76	\$2.31
341 1/2 ^A	Slotted Base.....	Plain	3 1/2 ins.	2 1/8 ins.	1	50	76	2.31
441 1/2 ^A	Solid Base.....	Indicating	3 1/2 ins.	2 1/8 ins.	1	50	76	2.45
541 1/2 ^A	Slotted Base.....	Indicating	3 1/2 ins.	2 1/8 ins.	1	50	76	2.45

DOUBLE POLE

5 Amperes, 600 Volts

3015 ^A	Solid Base.....	Plain	2 1/8 ins.	1 1/8 ins.	1	50	36	\$1.30
3016 ^A	Slotted Base.....	Plain	2 1/8 ins.	1 1/8 ins.	1	50	36	1.30
3017 ^A	Solid Base.....	Indicating	2 1/8 ins.	1 1/8 ins.	1	50	36	1.44
3018 ^A	Slotted Base.....	Indicating	2 1/8 ins.	1 1/8 ins.	1	50	36	1.44

DOUBLE POLE

10 Amperes, 600 Volts

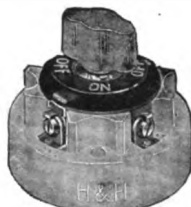
2168 ^A	Solid Base.....	Plain	3 1/8 ins.	2 1/8 ins.	1	50	74	\$2.45
2169 ^A	Slotted Base.....	Plain	3 1/8 ins.	2 1/8 ins.	1	50	74	2.45
2170 ^A	Solid Base.....	Indicating	3 1/8 ins.	2 1/8 ins.	1	50	74	2.60
2171 ^A	Slotted Base.....	Indicating	3 1/8 ins.	2 1/8 ins.	1	50	74	2.60

The above switches may be converted into lock switches by the use of the Lock Attachments.

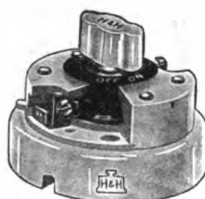
^A National Electrical Code Standard.

"H & H" BARRIER 600 VOLT SWITCHES

No. 57



No. 2176



No. 347



No. 162

For Electric Railway Use**THREE-WAY****5 Amperes, 600 Volts****Schedule "S"**

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
53½	Solid Base.....	Plain	2½ ins.	1½ ins.	1	50	37	\$1.30
153½	Slotted Base.....	Plain	2½ ins.	1½ ins.	1	50	37	1.30

THREE-WAY**10 Amperes, 600 Volts**

2172	Solid Base.....	Plain	3½ ins.	2½ ins.	1	50	74	2.02
2173	Slotted Base.....	Plain	3½ ins.	2½ ins.	1	50	74	2.02

**Two-Circuit Switches
FOR ARC-INCANDESCENT HEADLIGHTS****5 Amperes, 600 Volts**

57 ^A	Solid Base.....	Plain	2½ ins.	1½ ins.	1	50	37	\$1.30
157 ^A	Slotted Base.....	Plain	2½ ins.	1½ ins.	1	50	37	1.30
257 ^A	Solid Base.....	Indicating	2½ ins.	1½ ins.	1	50	37	1.44
357 ^A	Slotted Base.....	Indicating	2½ ins.	1½ ins.	1	50	37	1.44

10 Amperes, 600 Volts

2174	Solid Base.....	Plain	3½ ins.	2½ ins.	1	50	74	2.02
2175	Slotted Base.....	Plain	3½ ins.	2½ ins.	1	50	74	2.02
2176	Solid Base.....	Indicating	3½ ins.	2½ ins.	1	50	74	2.16
2177	Slotted Base.....	Indicating	3½ ins.	2½ ins.	1	50	74	2.16

20 Amperes, 600 Volts

47	Solid Base.....	Plain	3½ ins.	2½ ins.	1	50	76	2.32
147	Slotted Base.....	Plain	3½ ins.	2½ ins.	1	50	76	2.52
247	Solid Base.....	Indicating	3½ ins.	2½ ins.	1	50	76	2.67
347	Slotted Base.....	Indicating	3½ ins.	2½ ins.	1	50	76	2.67

The center spindle of the Nos. 47, 147, 247, 347 switches is not insulated from the current-carrying parts.

Sectional Switches for Car Heaters**10 Amperes, 600 Volts**

2193	Solid Base.....	Plain	3½ ins.	2½ ins.	1	50	75	\$2.02
2194	Slotted Base.....	Plain	3½ ins.	2½ ins.	1	50	75	2.02
2195	Solid Base.....	Indicating	3½ ins.	2½ ins.	1	50	75	2.16
2196	Slotted Base.....	Indicating	3½ ins.	2½ ins.	1	50	75	2.16

15 Amperes, 600 Volts

This is not a Barrier Switch.

799	Solid Base.....	Plain	4½ ins.	3½ ins.	1	10	35	4.32
800	Solid Base.....	Indicating	4½ ins.	3½ ins.	1	10	35	4.47

35 Amperes, 600 Volts. Reciprocating

162	Solid Base.....	Indicating	5½ ins.	4½ ins.	1	10	85	14.40
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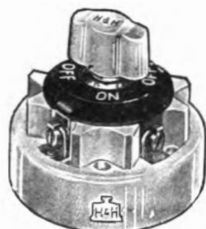
The above switches, except Nos. 47, 147, 247, 347, may be converted into lock switches by the use of the Lock Attachments.

^ANational Electrical Code Standard.

Wiring Devices

"H & H" BARRIER 600 VOLT SWITCHES

With Porcelain Covers and Handles



No. 2519



No. 2515



No. 2524

For Electric Railway Use

SINGLE POLE

5 Amperes, 600 Volts

Schedule "S"

List No.			Diameter of Base	Screws Spaced on Centers	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2421 ^A	Solid Base.....	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	11	\$1.19
2422 ^A	Slotted Base.....	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	11	1.19
2423 ^A	Solid Base.....	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	11	1.33
2424 ^A	Slotted Base.....	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	11	1.33

SINGLE POLE

10 Amperes, 600 Volts

2511 ^A	Solid Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	17	\$2.38
2512 ^A	Slotted Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	17	2.38
2513 ^A	Solid Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	17	2.52
2514 ^A	Slotted Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	17	2.52

DOUBLE POLE

10 Amperes, 600 Volts

2517 ^A	Solid Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	18	\$2.81
2518 ^A	Slotted Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	18	2.81
2519 ^A	Solid Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	18	2.96
2520 ^A	Slotted Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	18	2.96

THREE-WAY

5 Amperes, 600 Volts

2425 ^A	Solid Base.....	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	10	\$1.30
2426 ^A	Slotted Base.....	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	10	1.30

THREE-WAY

10 Amperes, 600 Volts

2515 ^A	Solid Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	17	\$2.38
2516 ^A	Slotted Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	17	2.38

TWO-CIRCUIT

5 Amperes, 600 Volts

2427 ^A	Solid Base.....	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	10	\$1.44
2428 ^A	Slotted Base.....	Plain	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	10	1.44
2429 ^A	Solid Base.....	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	10	1.59
2430 ^A	Slotted Base.....	Indicating	2 $\frac{5}{8}$ ins.	1 $\frac{1}{4}$ ins.	1	10	10	1.59

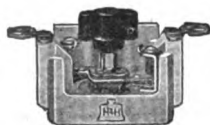
TWO-CIRCUIT

10 Amperes, 600 Volts

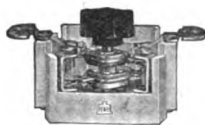
2521 ^A	Solid Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	20	\$2.38
2522 ^A	Slotted Base.....	Plain	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	20	2.38
2523 ^A	Solid Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	20	2.52
2524 ^A	Slotted Base.....	Indicating	3 $\frac{1}{8}$ ins.	2 $\frac{1}{8}$ ins.	1	10	20	2.52

The above switches may be converted into lock switches by the use of the lock attachments.

^ANational Electrical Code Standard.

"H & H" SWITCHES AND SWITCH PLATES

No. 601



No. 603



No. 3004



No. 2891

Rotary Flush Switches

Schedule "S"

List No.	Amperes		Without Plate	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
	125 Volts	250 Volts					
600 ^A	5	3	Single Pole, Plain	10	100	55	\$0.90
601 ^A	10	5	Single Pole, Plain	10	50	30	1.03
2881 ^A	10	5	Single Pole, Indicating	10	50	30	1.17
602 ^A	10	10	Double Pole, Plain	10	50	30	1.52
2882 ^A	10	10	Double Pole, Indicating	10	50	30	1.66
2263 ^A	5	3	Three-Way, Plain	10	50	30	1.19
603 ^A	10	5	Three-Way, Plain	10	50	30	1.52
604 ^A	5	2	Four-Way, Plain	10	10	8	1.52

Depth of switches without plates: 5 ampere size, single pole, $1\frac{1}{8}$ inches. 5 ampere size, three-way and four-way, $1\frac{1}{2}$ inches. 10 ampere size, all styles, $1\frac{1}{2}$ inches.

30 AMPERE, 250 VOLT ROTARY FLUSH SWITCHES

3061 ^A	Single Pole, Plain	1	10	25	\$3.60
3004 ^A	Double Pole, Plain	1	10	25	3.60
3054 ^A	Single Plate, $4\frac{1}{2} \times 4\frac{1}{2}$	10	10	12	1.44

These switches can be furnished with indicating dials. They can also be furnished in three-way, four-way and electroliner connections.

The above switches may be converted into lock switches by the use of the lock attachments.

Plates for Rotary Flush Switches

.040-Inch Struck-Up Plates

List No.		Size Ins.	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4067	For One Switch	$4\frac{1}{2} \times 2\frac{3}{4}$	25	*100	23	\$0.58

Standard Size Solid PlatesMade from $\frac{1}{8}$ -inch hard rolled brass.

Plain List No.	Indicating List No.	Style	Size Ins.	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4031 ^A	2891 ^A	Single	$4\frac{1}{2} \times 2\frac{3}{4}$	25	*100	40	\$0.76
4032 ^A	2892 ^A	2-Gang	$4\frac{1}{2} \times 4\frac{1}{2}$	10	*50	35	1.73
4033 ^A	2893 ^A	3-Gang	$4\frac{1}{2} \times 6\frac{1}{2}$	5	*	35	2.60
4034 ^A	2894 ^A	4-Gang	$4\frac{1}{2} \times 8\frac{1}{2}$	5	*	35	3.46
4035 ^A	2895 ^A	5-Gang	$4\frac{1}{2} \times 10$	1	*	35	4.32
4036 ^A	2896 ^A	6-Gang	$4\frac{1}{2} \times 11\frac{1}{2}$	1	*	35	5.19
4037 ^A	2897 ^A	7-Gang	$4\frac{1}{2} \times 13\frac{1}{2}$	1	*	35	6.05
4038 ^A	2898 ^A	8-Gang	$4\frac{1}{2} \times 15\frac{1}{2}$	1	*	35	6.92

Tandem PlatesMade from $\frac{1}{8}$ -inch hard rolled brass.

List No.	Style	Size Ins.	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4062 ^A	For Two Switches	$8\frac{1}{4} \times 2\frac{3}{4}$	1	*	35	\$1.73
4063 ^A	For Three Switches	$11\frac{3}{4} \times 2\frac{3}{4}$	1	*	35	2.60
4064 ^A	For Four Switches	$15\frac{3}{8} \times 2\frac{3}{4}$	1	*	35	3.46
4065 ^A	For Five Switches	$19 \times 2\frac{3}{4}$	1	*	35	4.32
4066 ^A	For Six Switches	$22\frac{5}{8} \times 2\frac{3}{4}$	1	*	35	5.19

* 100 single plates, or the equivalent in gangs is a standard package.

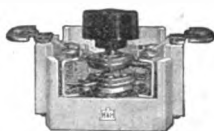
When specified, round handles will be furnished on the above switches in 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 ampere sizes, without extra charge.

^A National Electrical Code Standard.

"H & H" ROTARY FLUSH SWITCHES



No. 2886



No. 2681



No. 3055

Electrolier Type

TWO SECTIONS. CONNECTIONS 1, 1 & 2, 1, OFF

Schedule "S"

These switches operate as follows: First turn connects section One. Second turn connects sections One and Two. Third turn connects section One. Fourth turn, Off.

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

List No.		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
609 [▲]	Plain	10	10	8	\$1.52
2886 [▲]	Indicating	10	10	8	1.66

TWO SECTIONS. CONNECTIONS 1, 1 & 2, 2, OFF

These switches operate as follows: First turn connects section One. Second turn connects sections One and Two. Third turn connects section Two. Fourth turn, Off.

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

619 [▲]	Plain	10	10	8	\$1.52
2887 [▲]	Indicating	10	10	8	1.66

TWO SECTIONS. CONNECTIONS 1, 2, 1 & 2, OFF

These switches operate as follows: First turn connects section One. Second turn connects section Two. Third turn connects sections One and Two. Fourth turn, Off.

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

2681 [▲]	Plain	10	10	8	\$1.52
2888 [▲]	Indicating	10	10	8	1.66

THREE SECTIONS. CONNECTIONS 1, 1 & 2, 1 & 2 & 3, OFF

These switches operate as follows: First turn connects section One. Second turn connects sections One and Two. Third turn connects sections One, Two and Three. Fourth turn, Off.

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

605 [▲]	Plain	10	10	8	\$1.52
2885 [▲]	Indicating	10	10	8	1.66

THREE SECTIONS. CONNECTIONS 1, 2, 3, OFF

These switches operate as follows: First turn connects section One. Second turn connects section Two. Third turn connects section Three. Fourth turn, Off.

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

3055 [▲]	Plain	10	10	8	\$1.52
2980 [▲]	Indicating	10	10	8	1.66

Depth of switches without plate: 5 ampere size, 1 $\frac{3}{8}$ inches. 10 ampere size, 1 $\frac{1}{2}$ inches.

Supporting screw holes are spaced as follows, both on 5 ampere and 10 ampere switches:

Outside supporting screw holes, 3 $\frac{1}{2}$ inches on centers.

Inside supporting screw holes, 2 $\frac{1}{8}$ inches on centers.

The above switches may be converted into lock switches by the use of the Lock Attachment. When specified, round handles will be furnished on the above switches in 3, 5 and 10 ampere sizes, without extra charge.

[▲] National Electrical Code Standard.

"H & H" SWITCHES



No. 2081



No. 2083-Lock



No. 2967



No. 4401

*Push Button Switches

Schedule "S"

List No.	Amperes			Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
	125 Volts	250 Volts					
2081 ^A	10	5	Single Pole.....	10	100	56	\$0.65
2082 ^A	10	10	Double Pole.....	10	50	31	1.01
2083 ^A	10	5	Three-Way.....	10	50	31	1.01
2084 ^A	10	5	Four-Way.....	10	10	9	2.88

*LOCK PUSH BUTTON SWITCHES

List No.		Amperes			Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
		125 Volts	250 Volts					
2081 ^A	Lock	10	5	Single Pole.....	10	100	56	\$1.53
2082 ^A	Lock	10	10	Double Pole.....	10	50	31	1.88
2083 ^A	Lock	10	5	Three-Way.....	10	50	31	1.88
2084 ^A	Lock	10	5	Four-Way.....	10	10	8	3.60
5003 ^A	Key for Lock Push Button Switch.....				100	2		.22

"NUTMEG" PUSH SWITCHES

4401		10	5	Single Pole.....		100		.45
4403		10	5	Three-Way.....		50		.61

*Electrolier Type of Push Button Switches

This switch gives the same alternate, consecutive, or simultaneous control of a group of lights that can be obtained by using any other types of electrolier switches, and in addition it has a great advantage over other types because the lights can be extinguished at any time by simply pushing the black button.

This convenience appeals greatly to the householder who has hitherto had to snap an electrolier switch through all its different combinations before the lights could be put out.

The external appearance and dimensions are the same as the regular push button switches, and this switch fits all standard plates and wall cases.

THREE SECTION CONNECTIONS

This switch operates as follows:

	Pearl Button	Black Button
First Push:	Lights section One.	Off
Second Push:	Lights sections One and Two.	Off
Third Push:	Lights sections One and Two and Three.	Off

Schedule "S"

List No.	125 Volts	250 Volts	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2967 ^A	10 Amperes	5 Amperes	10	10	8	\$1.66

TWO SECTION CONNECTIONS

These switches operate as follows:

No. 2968—One, Off, One and Two, Off.

No. 3264—One, Off, Two, Off, One and Two, Off.

List No.	125 Volts		250 Volts		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2968 ^A	10 Amperes		5 Amperes		10	10	8	\$1.66
3264 ^A	10 Amperes		5 Amperes		10	10	8	1.66

*Depth of switches without plates, $1\frac{1}{4}$ inches. Outside supporting screw holes, $3\frac{1}{8}$ inches on centers. Inside supporting screw holes, $2\frac{1}{8}$ inches on centers.

* National Electrical Code Standard.

Wiring Devices

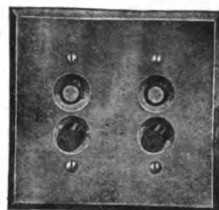
"H & H" SWITCH PLATES



No. 4077



No. 4081



No. 4052

Plates for Push Button Switches

Schedule "S"

List No.		Dimensions Height Length Inches Inches	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
4077	For One Switch.....	4½ x 2¾	25	*	23	\$0.26
4078	For Two Switches.....	4½ x 4½	10	*	20	.51
4079	For Three Switches.....	4½ x 6¾	5	*	19	.76

The above plates are stamped from .040-inch rolled brass and have reinforced bevelled edges to make them strong. The screw holes are deeply countersunk to rest upon the frame of the switch, so that the plate will not dip in under pressure of the screws.

WITH ROUNDED CORNERS AND EDGES

4081	For One Switch.....	4½ x 2¾	25	*	23	\$0.26
4082	For Two Switches.....	4½ x 4½	10	*	20	.51
4083	For Three Switches.....	4½ x 6¾	5	*	19	.76

The above plates are stamped from .040-inch rolled brass and have reinforced edges to make them strong. The screw holes are deeply countersunk.

WITH REGULAR SQUARE EDGES

2301	For One Switch.....	4½ x 2¾	25	*	32	\$0.63
2302	For Two Switches.....	4½ x 4½	10	*	25	1.26

The above plates are stamped from .060-inch rolled brass and are as strong and rigid as solid plates, and have the advantage of a hollowed back.

STANDARD SIZE SOLID PLATES

Made from ½-inch hard rolled brass.

4051	For One Switch.....	4½ x 2¾	25	*	40	\$0.63
4052	For Two Switches.....	4½ x 4½	10	*	35	1.26
4053	For Three Switches.....	4½ x 6¾	5	*	35	1.89
4054	For Four Switches.....	4½ x 8¾	5	*	35	2.52
4055	For Five Switches.....	4½ x 10	1	*	35	3.16
4056	For Six Switches.....	4½ x 11½	1	*	35	3.78
4057	For Seven Switches.....	4½ x 13¾	1	*	35	4.41
4058	For Eight Switches.....	4½ x 15¾	1	*	35	5.04

SMALL SIZE SOLID PLATES

Made from ½-inch hard rolled brass.

4041	For One Switch.....	4 x 2¼	1	*	30	\$0.63
4042	For Two Switches.....	4 x 4½	1	*	28	1.26
4043	For Three Switches.....	4 x 5½	1	*	28	1.89
4044	For Four Switches.....	4 x 7¾	1	*	28	2.52
4045	For Five Switches.....	4 x 9¾	1	*	28	3.16
4046	For Six Switches.....	4 x 11¾	1	*	28	3.78
4047	For Seven Switches.....	4 x 13¾	1	*	28	4.41
4048	For Eight Switches.....	4 x 15	1	*	28	5.04

On horizontal gang plates, switches in gang are spaced 1½ inches between centers.

TANDEM PLATES

Made from ½-inch hard rolled brass.

4072	For Two Switches.....	8½ x 2¾	1	*	35	\$1.35
4073	For Three Switches.....	11¾ x 2¾	1	*	35	1.89
4074	For Four Switches.....	15¾ x 2¾	1	*	35	2.52
4075	For Five Switches.....	19 x 2¾	1	*	35	3.16
4076	For Six Switches.....	22½ x 2¾	1	*	35	3.78

On tandem plates, switches are spaced 3½ inches between centers.

Tandem plates fit the standard wall cases.

*100 single plates, or the equivalent in gangs, is a standard package.

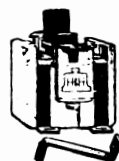
*National Electrical Code Standard.

"H & H" SWITCHES AND RECEPTACLES

No. 3048



No. 3065



No. 2272



No. 2958

Panel Board Switches

Schedule "S"

List. No.	Style	Ampere	Volts	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
*3048 [▲]	Push D. P.	10	250	1	50	35	\$1.66
*3065 [▲]	Rotary Ind. D. P.	10	250	1	50	26	1.44

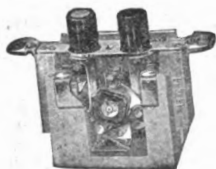
Adapter for Push Switch on Panel Board

2272 [▲]	Bus-Bar Connector for push switch	\$0.06					
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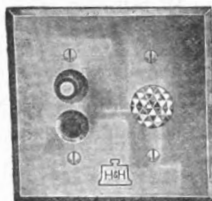
Metal Cap Rotary Panel Board Switches

2955 [▲]	D. P. Ind., sq. base with sq. corners.	10	250	10	100	53	\$1.32
2956 [▲]	D. P. Ind., round base.	10	250	10	100	53	1.24
2958 [▲]	D. P. Ind., sq. base with rd. corners.	10	250	10	100	53	1.32

* Porcelain bases with black composition covers entirely covering all current carrying parts, and matching the slate of the panel.



No. 2061



No. 4149



No. 2999



No. 3000

Momentary Contact Switches

For Use With Remote Control Devices

Schedule "H"

List. No.		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2061 [▲]	Switch without plate.	1	10	15	\$4.47
2363 [▲]	Switch without plate.	10	10	9	2.16

Mfr. No. 2061. Pressure on either button closes its respective single pole switch, and the release of the button opens the circuit with a quick snap.

This switch can be installed in the regular deep wall case, and takes the regular push button flush plate.

Mfr. No. 2363. This is a smaller switch that does not have the same quickness of snap nor length of break as the No. 2061.

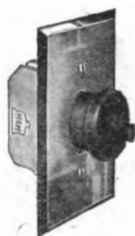
Pilot Lamp Receptacles

4149 [▲]	Comb. push plate and bull's eye, dimensions $4\frac{1}{2} \times 4\frac{1}{4}$	1	25	17	\$2.88
2999 [▲]	Recept. with 2 C. P. 125 volt candelabra base lamp.	10	25	17	1.44
3000 [▲]	Single plate ($4\frac{1}{2} \times 2\frac{3}{4}$) with bull's eye.	10	25	13	2.25
4152 [▲]	Comb. plate only ($4\frac{1}{2} \times 6\frac{3}{8}$) for push switch, pilot lamp and plug receptacle.	1	25	25	4.05

The receptacle base is $1\frac{3}{8}$ inches deep.

[▲] National Electrical Code Standard.

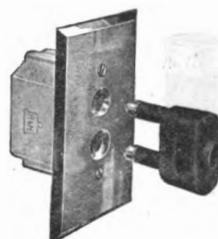
"H & H" RECEPTACLES AND SWITCHES



No. 2934



No. 2034



No. 2034

Base Board Receptacle

Schedule "H"

List No.		Amperes	Volts	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2934 ^A	Receptacle complete.....	10	250	1	30	35	\$1.44
3001 ^A	Base only.....	..	..	10	30	16	.58
3002 ^A	Plug only.....	..	..	10	30	7	.36
3011 ^A	Plate only.....	..	..	10	30	15	.63

Plates in gangs are spaced $1\frac{1}{4}$ inches between centers. Outside supporting screw holes are spaced $3\frac{1}{2}$ inches on centers. Inside supporting screw holes are spaced $2\frac{1}{4}$ inches on centers.

Dirt Proof Base Board Receptacle

2034 ^A	Receptacle complete.....	10	125	1	30	31	\$2.02
2001 ^A	Receptacle base.....	..	..	10	30	15	.72
2002 ^A	Receptacle plug.....	..	..	10	30	5	.36
2033 ^A	Single plate for receptacle.....	..	..	15	30	15	1.17

These receptacle plates may be furnished in gangs, and also in gang combinations with switch plates. Receptacles in gangs are spaced $1\frac{1}{4}$ inches between centers. Outside supporting screw holes are spaced $3\frac{1}{2}$ inches on centers. Inside supporting screw holes are spaced $2\frac{1}{4}$ inches on centers.



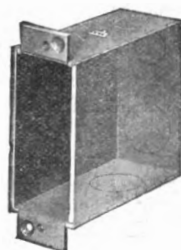
No. 2532



No. 2532



No. 2022



No. 3047

Pendent Switch

Schedule "H"

List No.		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2532 ^A	S. P. 6 amp. 125 v.; 3 amp. 250 v.....	10	100	32	\$0.72

Standard finish polished brass. No extra charge for brush brass.
For other finishes, except gold and silver, add 15 cents to the list price.

Automatic Door Switch

Schedule "S"

2022 ^A	S. P. 6 amp. 125 v.; 3 amp. 250 v.....	10	30	22	\$3.24
2023 ^A	S. P. 6 amp. 125 v.; 3 amp. 250 v.....	10	10	10	3.24

Mfr. No. 2022. Light on when door is opened. Mfr. No. 2023. Light on when door is closed. The shell of the switch is of sheet steel .081 inch in thickness. Dimensions of plate, $3\frac{3}{4} \times 1\frac{1}{4}$ inches. Opening required, $2\frac{3}{4} \times 1\frac{1}{4}$ inches. Depth, $1\frac{1}{4}$ inches.

Wall Case for Door Switch

Schedule "H"

A special wall case is made for this switch, to be used with flexible non-metallic conduit or with iron conduit, with knockout outlets for $\frac{5}{8}$ inch and $\frac{3}{4}$ inch conduit.

List No.		Dimensions	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
3047 ^A	For one door switch.....	$1\frac{1}{4} \times 2\frac{1}{8} \times 2\frac{3}{4}$ ins.	1	30	20	\$0.55

^A National Electrical Code Standard.

"H & H" WOOD MATS, SUB-BASES AND ACCESSORIES

No. 5007



No. 3010 No. 3009



No. 2990



No. 2991



No. 1556

"H & H" Conduit Fasteners

Brass Fasteners for Holding Flexible Conduit in Wall Cases Schedule "H"

List No.		Carton Quantity	List Price Per C
5007	1/4-inch Conduit Fastener	..	\$1.44
5008	3/8-inch Conduit Fastener	..	1.44

Wall Case Screw Extensions

These are hollow studs used to bring up the switch flush with the wall where the wall case is set too far back from the surface of the wall.

They are tapped for 1/2 inch supporting screws.

Schedule "H"

3009	Screw Extensions 1/4 inch long	..	\$2.31
3010	Screw Extensions 3/4 inch long	..	3.03

"H & H" Porcelain Sub-bases

For 5-Ampere Switches

Schedule "H"

List No.		Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2987 ^A	For cleat work	10	100	32	\$0.07
2988 ^A	For concealed work	10	100	30	.07
2989 ^A	For molding work	10	100	28	.07
2990 ^A	For molding terminal	10	100	30	.07

For 10-Ampere Switches

2991 ^A	For cleat work	10	100	46	\$0.09
2992 ^A	For concealed work	10	100	42	.09
2993 ^A	For molding work	10	100	42	.09
2994 ^A	For molding terminal	10	100	46	.09

Combination Style of Sub-base

This Sub-base is designed to use on either cleat, concealed or molding circuits. It is necessary to carry only this one style in stock to meet all these conditions.

1554 ^A	For 5-ampere switches	10	100	25	\$0.07
1556 ^A	For 10-ampere switches	10	100	30	.09
1558 ^A	For 20 and 30-ampere switches	10	30	30	.21

"H & H" Wood Mats

For Rotary Flush and Push Button Switches and Receptacles Schedule "H"

Mats for switches are stocked from one to eight in pine, oak, cherry and mahogany, and special mats in larger sizes or special woods can be made at slight additional cost.

2281 ^A	For One Switch	..	•	18	\$0.42
2282 ^A	For Two Switches	..	•	15	.56
2283 ^A	For Three Switches	..	•	15	.70
2284 ^A	For Four Switches	..	•	15	.84
2285 ^A	For Five Switches	..	•	15	.96
2286 ^A	For Six Switches	..	•	15	1.12
2287 ^A	For Seven Switches	..	•	15	1.26
2288 ^A	For Eight Switches	..	•	15	1.40

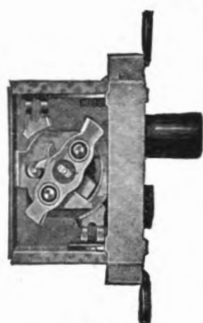
The prices above are for pine or oak finishes. For cherry or mahogany, add 14 cents per mat, to the above prices.

^A100 single wood mats, or their equivalent in gangs, shall constitute a standard package.

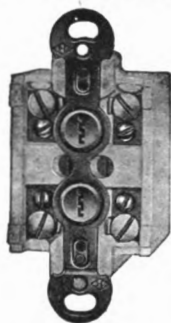
^ANational Electrical Code Standard.

Wiring Devices

DIAMOND "H" PUSH BUTTON SWITCHES



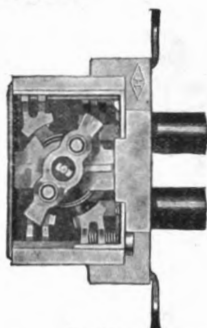
No. 50
Side View Showing
Enclosed Mechanism



No. 065
Lock Push Button
Switch



Key for Lock Switch
Push Button Type



No. 09
Mechanism of Momentary
Contact Switch

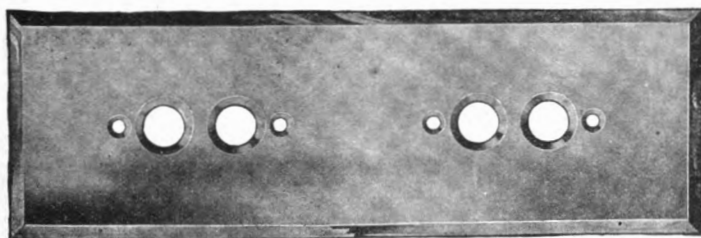
Push Button Switches

Laboratory Ratings. Single pole, 3 way and 4 way, 10 amperes, 125 volts—5 amperes, 250 volts.
Double pole, 10 amperes, 250 volts.
Shallow base, $1\frac{1}{2}$ inches deep. Switch supporting screws $3\frac{1}{2}$ inches center to center.

List No.		Std. Pkg.	List Price Each
†50	Single Pole, complete with plate.....	100	\$1.40
†60	Double Pole, complete with plate.....	50	1.60
†70	3 Way, complete with plate.....	50	1.60
†80	4 Way, complete with plate.....	10	3.00
†050	Single Pole, without plates.....	100	.92
†060	Double Pole, without plates.....	50	1.12
†070	3 Way, without plates.....	50	1.12
†080	4 Way, without plates.....	10	2.52
†055	Single Pole, lock type, without plate.....	100	1.48
†065	Double Pole, lock type, without plate.....	50	1.68
†075	3 Way, lock type, without plate.....	50	1.68
†085	4 Way, lock type, without plate.....	10	3.10

MOMENTARY CONTACT SWITCH

List No.		Std. Pkg.	List Price
9	Momentary Contact Switch, with plate.....	25	\$4.02
09	Momentary Contact Switch, without plate.....	25	3.54



2 Gang Tandem Plate

Push Button Switch Plates

All plates are made of hard brass, $\frac{1}{8}$ inch thick, with edges milled to the correct dimensions.
Plates of all standard sizes and standard finishes can be furnished at any time.

List No.	Dimensions	Std. Pkg.	List Price	List No.	Dimensions	Std. Pkg.	List Price
1	$2\frac{3}{4} \times 4\frac{1}{2}$ inches.....	*	\$0.48	6	$11\frac{1}{4} \times 4\frac{1}{2}$ inches.....	*	\$2.88
2	$4\frac{1}{8} \times 4\frac{1}{2}$ inches.....	*	.96	7	$13\frac{3}{8} \times 4\frac{1}{2}$ inches.....	*	3.36
3	$6\frac{3}{8} \times 4\frac{1}{2}$ inches.....	*	1.44	8	$15\frac{1}{8} \times 4\frac{1}{2}$ inches.....	*	3.84
4	$8\frac{1}{8} \times 4\frac{1}{2}$ inches.....	*	1.92	9	$17\frac{1}{4} \times 4\frac{1}{2}$ inches.....	*	4.32
5	$10 \times 4\frac{1}{2}$ inches.....	*	2.40	10	$19\frac{1}{8} \times 4\frac{1}{2}$ inches.....	*	4.80

Tandem Style

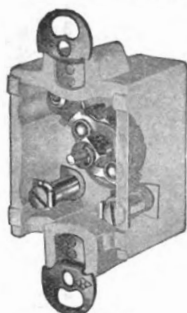
List No.	Dimensions	Std. Pkg.	List Price	List No.	Dimensions	Std. Pkg.	List Price
2	$2\frac{3}{4} \times 8\frac{7}{8}$ inches.....	*	\$0.96	4	$2\frac{3}{4} \times 16$ inches.....	*	\$1.92
3	$2\frac{3}{4} \times 12\frac{7}{8}$ inches.....	*	1.44	5	$2\frac{3}{4} \times 19\frac{3}{8}$ inches.....	*	2.40

*100 single plates or equivalent in gangs is a standard package.

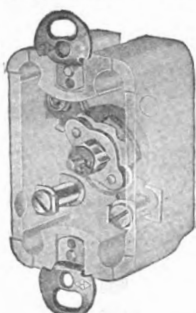
Polished nickel, polished brass, old or brush brass, polished bronze and oxidized copper are standard finishes.
For special finishes, add to list per switch \$0.16.

†100 push button switches assorted also constitute a standard package.

DIAMOND "H" ROTARY FLUSH SWITCHES



No. 0105



No. 0110



No. 0120



No. 0150 and 0160

Rotary Flush Switches

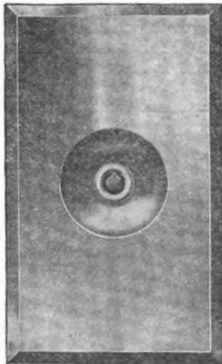
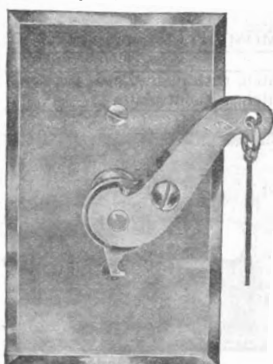
Rotary Flush Switches can be converted into lock switches by removing the handles and substituting a rotary lock attachment, which can be operated only by a special key. Supporting screw holes $3\frac{1}{2}$ inches center to center.

Without Plates

List No.	Style	Rating	Std. Pkg.	List Price
0105	Single Pole	5 amperes, 125 volts—3 amperes, 250 volts	100	\$0.82
0110	Single Pole	10 amperes, 125 volts—5 amperes, 250 volts	50	.96
0120	Double Pole	10 amperes, 125 volts—5 amperes, 250 volts	50	1.50
0130	3 Way	10 amperes, 125 volts—5 amperes, 250 volts	50	1.50
0140	4 Way	5 amperes, 125 volts—2 amperes, 250 volts	10	1.50
0150	2 Pt. El.	5 amperes, 125 volts—2 amperes, 250 volts	10	1.50
0160	3 Pt. El.	5 amperes, 125 volts—2 amperes, 250 volts	10	1.50

With Plates

List No.	Style	Rating	Std. Pkg.	List Price
105	Single Pole	5 amperes, 125 volts—3 amperes, 250 volts	100	\$1.64
110	Single Pole	10 amperes, 125 volts—5 amperes, 250 volts	50	1.78
120	Double Pole	10 amperes, 125 volts—5 amperes, 250 volts	50	2.32
130	3 Way	10 amperes, 125 volts—5 amperes, 250 volts	50	2.32
140	4 Way	5 amperes, 125 volts—2 amperes, 250 volts	10	2.32
150	2 Pt. El.	5 amperes, 125 volts—2 amperes, 250 volts	10	2.32
160	3 Pt. El.	5 amperes, 125 volts—2 amperes, 250 volts	10	2.32

Rotary Flush Lock Switch
Front View[Lock
KeyRotary Plate with Pull
AttachmentSingle Plate for Rotary
Flush Switches

Rotary Flush Lock Switches

Lock attachment, extra.. \$0.18

Key only, extra..... \$0.09

Pull attachment, extra.. \$1.50

Plates for Rotary Flush Switches

List No.	Dimensions	Std. Pkg.	List Price	List No.	Dimensions	Std. Pkg.	List Price
1	2 $\frac{3}{4}$ ins. x 4 $\frac{1}{2}$ ins.	*	\$0.82	6	11 $\frac{1}{2}$ ins. x 4 $\frac{1}{2}$ ins.	*	\$1.92
2	4 $\frac{1}{8}$ ins. x 4 $\frac{1}{2}$ ins.	*	1.64	7	13 $\frac{5}{8}$ ins. x 4 $\frac{1}{2}$ ins.	*	3.71
3	6 $\frac{5}{8}$ ins. x 4 $\frac{1}{2}$ ins.	*	2.46	8	15 $\frac{1}{8}$ ins. x 4 $\frac{1}{2}$ ins.	*	6.56
4	8 $\frac{1}{4}$ ins. x 4 $\frac{1}{2}$ ins.	*	3.28	9	17 $\frac{1}{4}$ ins. x 4 $\frac{1}{2}$ ins.	*	7.50
5	10 ins. x 4 $\frac{1}{2}$ ins.	*	4.10	10	19 $\frac{1}{8}$ ins. x 4 $\frac{1}{2}$ ins.	*	8.20
Tandem Style							
2	2 $\frac{3}{4}$ x 8 $\frac{1}{2}$ inches	*	\$1.64	4	2 $\frac{3}{4}$ x 16 inches	*	\$3.28
3	2 $\frac{3}{4}$ x 12 $\frac{1}{2}$ inches	*	2.46	5	2 $\frac{3}{4}$ x 19 $\frac{1}{2}$ inches	*	4.10

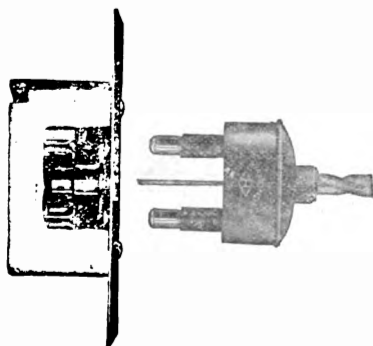
*100 single plates or equivalent in gangs is a standard package.

Special finishes, add to list per switch \$0.16. Polished nickel, polished brass, old or brush brass, polished bronze and oxidized copper are standard finishes.

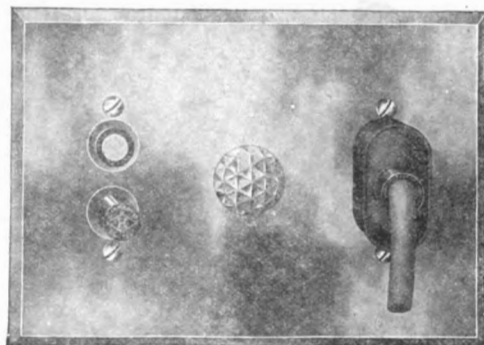
Gold and silver finishes are not included in the above price for special finish. Prices will be quoted on application.

Wiring Devices

DIAMOND "H" RECEPTACLES, PLATES AND SWITCHES



Receptacle with Plug Ready to Insert



Push Button
Switch

Indicating
Bull's-Eye
Combination Plate

Automatic
Receptacle

Flush Receptacles

These receptacles operate automatically by inserting or withdrawing the plug. Plates can be furnished either singly, in gangs or in combination gangs with push buttons, or rotary flush switches and bull's-eye receptacle.

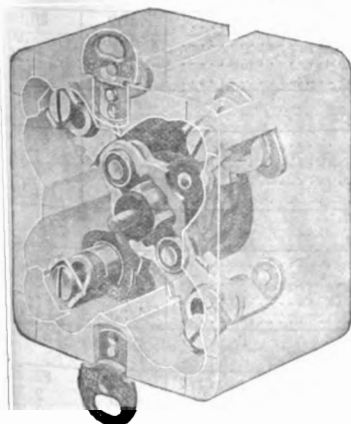
10 Amperes, 125 Volts—5 Amperes, 250 Volts

List No.		Std. Pkg.	List Price
650	Receptacle complete	200	\$1.90
651	Plate only	200	.90
652	Receptacle only	200	.62
653	Plug only	200	.42

Combination Plates without Switches

List No.	Combination	List Price
503540	Push Button Switch and Bull's-Eye	\$1.30
503541	Rotary Switch and Bull's-Eye	1.64
503542	Receptacle, Bull's-Eye and Push Button Switch	2.44
503543	Bull's-Eye Plate .....	.82
503544	Bull's-Eye Plate with Lamp Receptacle	1.26
503545	Receptacle and Push Button Switch	1.62

The price of a combination gang is the aggregate price of the units composing the gang.



No. 1322 Without Plate

Rotary Flush Switches

20 Ampere

20 Ampere Flush Switches have the same mechanism as the 20 ampere surface type which is enclosed in a heavy porcelain base which is practically unbreakable. They are made in both single and double pole types, either with or without indicating dial, as may be desired.

Single pole, 20 amperes, 125 volts.

Double pole, 20 amperes, 250 volts.

Base 3 x 3 x 2 1/4 inches deep.

Supporting screw holes 3 1/2 inches center to center.

Without Plates

List No.	Style	Std. Pkg.	List Price
1321	Single Pole	30	\$2.66
1322	Double Pole	30	3.04
1281	Wall Case	30	1.10

Plates for above switches \$1.02 each.

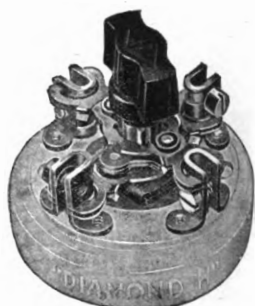
DIAMOND "H" SURFACE SWITCHES



Nos. 220 and 221



Nos. 122 and 222



Nos. 322 and 422

Surface Switches

SINGLE POLE

5 Amperes, 125 Volts—3 Amperes, 250 Volts

List No.	Style	Std. Pkg.	List Price
220	Concealed—Plain.....	100	\$0.58
D220	Concealed—Dial.....	100	.58
2200	Slotted—Plain.....	100	.58
D2200	Slotted—Dial.....	100	.58

SINGLE POLE

10 Amperes, 125 Volts—5 Amperes, 250 Volts

221	Concealed—Plain.....	100	\$0.74
D221	Concealed—Dial.....	100	.74
2210	Slotted—Plain.....	100	.74
D2210	Slotted—Dial.....	100	.74

SINGLE POLE

20 Amperes—125 Volts

321	Concealed—Plain.....	30	\$1.36
D321	Concealed—Dial.....	30	1.36
3210	Slotted—Plain.....	30	1.36
D3210	Slotted—Dial.....	30	1.36

SINGLE POLE

30 Amperes, 125 Volts

421	Concealed—Plain.....	30	\$1.70
D421	Concealed—Dial.....	30	1.70
4210	Slotted—Plain.....	30	1.70
D4210	Slotted—Dial.....	30	1.70

DOUBLE POLE

5 Amperes, 250 Volts

122	Concealed—Plain.....	100	\$0.96
D122	Concealed—Dial.....	100	.96
1220	Slotted—Plain.....	100	.96
D1220	Slotted—Dial.....	100	.96

DOUBLE POLE

10 Amperes, 250 Volts

222	Concealed—Plain.....	100	\$1.24
D222	Concealed—Dial.....	100	1.24
2220	Slotted—Plain.....	100	1.24
D2220	Slotted—Dial.....	100	1.24

DOUBLE POLE

20 Amperes, 250 Volts

322	Concealed—Plain.....	30	\$1.70
D322	Concealed—Dial.....	30	1.70
3220	Slotted—Plain.....	30	1.70
D3220	Slotted—Dial.....	30	1.70

DOUBLE POLE

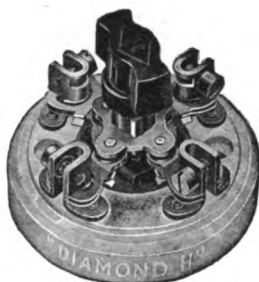
30 Amperes, 250 Volts

422	Concealed—Plain.....	30	\$2.16
D422	Concealed—Dial.....	30	2.16
4220	Slotted—Plain.....	30	2.16
D4220	Slotted—Dial.....	30	2.16

DIAMOND "H" SURFACE SWITCHES



Nos. 123 and 223



Nos. 124 and 224



Nos. 125 and 225
126 and 226

Surface Switches

3 WAY

10 Amperes, 125 Volts—5 Amperes, 250 Volts

List No.	Style	Std. Pkg.	List Price
223	Concealed	50	\$1.24
2230	Slotted	50	1.24

3 WAY

5 Amperes, 125 Volts—3 Amperes, 250 Volts

123	Concealed	100	\$0.96
1230	Slotted	100	.96

4 WAY

5 Amperes, 125 Volts—2 Amperes, 250 Volts

224	Concealed	30	\$1.24
2240	Slotted	30	1.24

4 WAY

3 Amperes, 125 Volts—1 Ampere, 250 Volts

124	Concealed	12	\$0.96
1240	Slotted	12	.96

2 POINT ELECTROLIER

5 Amperes, 125 Volts—2 Amperes, 250 Volts

225	Concealed—Plain	30	\$1.24
D225	Concealed—Dial	30	1.24
2250	Slotted—Plain	30	1.24
D2250	Slotted—Dial	30	1.24

2 POINT ELECTROLIER

3 Amperes, 125 Volts—1 Ampere, 250 Volts

125	Concealed—Plain	12	\$0.96
D125	Concealed—Dial	12	.96
1250	Slotted—Plain	12	.96
D1250	Slotted—Dial	12	.96

3 POINT ELECTROLIER

5 Amperes, 125 Volts—2 Amperes, 250 Volts

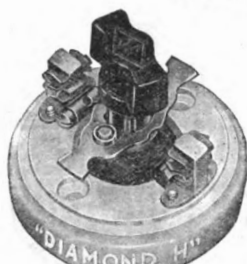
226	Concealed—Plain	30	\$1.24
D226	Concealed—Dial	30	1.24
2260	Slotted—Plain	30	1.24
D2260	Slotted—Dial	30	1.24

3 POINT ELECTROLIER

3 Amperes, 125 Volts—1 Ampere, 250 Volts

126	Concealed—Plain	12	\$0.96
D126	Concealed—Dial	12	.96
1260	Slotted—Plain	12	.96
D1260	Slotted—Dial	12	.96
	Lock Attachment only	25	.18
	Key only	25	.09
	Handles, 10 Amp.	25	.10
	Handles, 20 Amp.	25	.16

DIAMOND "H" SURFACE SWITCHES



No. 501—Single Pole



No. 503—3 Way



No. 506—2 Circuit

3 AMPERES—500 VOLTS—Single Pole

List No.	Style	Std. Pkg.	List Price
501	Concealed—Plain.....	50	\$0.68
D501	Concealed—Dial.....	50	.68
5010	Slotted—Plain.....	50	.68
D5010	Slotted—Dial.....	50	.68

3 WAY

503	Concealed—Plain.....	50	\$1.24
5030	Slotted—Plain.....	50	1.24

2 CIRCUIT—For Operating Two Circuits Alternately

506	Concealed—Plain.....	50	\$1.24
D506	Concealed—Dial.....	50	1.24
5060	Slotted—Plain.....	50	1.24
D5060	Slotted—Dial.....	50	1.24

3 CIRCUIT—For Operating Three Circuits in Succession

507	Concealed—Plain.....	24	\$1.24
D507	Concealed—Dial.....	24	1.24
5070	Slotted—Plain.....	24	1.24
D5070	Slotted—Dial.....	24	1.24

No. 802
Off-High-Med.-LowNo. 831
Off-Low-Med.-HighNo. 802
With Outside Dial

SERIES—PARALLEL HEATER TYPE

These switches have been specially designed for use on heating and cooking apparatus. They are arranged for three heats—"High-Medium-Low" or "Low-Medium-High" with an "Off" position, and are particularly suited to the control of ovens, hot plates, ranges, flatirons, etc.

Off—High—Medium—Low

801	1½ amperes, 250 volts, 400 watts.....	100	\$0.96
802	3 amperes, 250 volts, 800 watts.....	100	1.24
803	7½ amperes, 250 volts, 1800 watts.....	100	1.70
804	12 amperes, 250 volts, 3000 watts.....	30	2.16

Off—Low—Medium—High

830	1 ampere, 250 volts, 250 watts.....	100	\$0.96
831	2½ amperes, 250 volts, 700 watts.....	100	1.24
832	5 amperes, 250 volts, 1200 watts.....	100	1.70
833	8 amperes, 250 volts, 2000 watts.....	30	2.16

Wiring Devices

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Single Pole—Single Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH



**Switch Prices do
not Include Fuses**



Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540000	\$1.00	30	540021	\$1.48
60	540001	1.50	60	540022	3.04
100	540002	2.80	100	540023	4.14
200	540003	4.32	200	540024	6.38
300	540004	6.62	300		
400	540005	10.10	400	540025	12.12
600	540006	12.00	600	540026	17.32
800	540007	20.80	800	540027	26.34
1000	540008	23.60	1000	540028	30.34
1200	540009	27.34	1200	540029	35.68
1500	540010	41.00	1500		
2000	540011	52.50	2000		

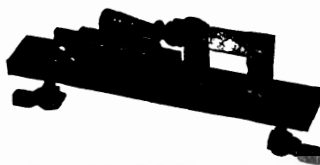
For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Single Pole—Single Throw—Unmounted

BACK CONNECTION—POLISHED FINISH



**Switch Prices do
not Include Fuses**



Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540030	\$1.20	30	540051	\$1.56
60	540031	1.86	60	540052	2.34
100	540032	3.16	100	540053	4.38
200	540033	4.84	200	540054	6.60
300	540034	7.38	300		
400	540035	10.52	400	540055	11.74
600	540036	12.70	600	540056	17.04
800	540037	22.32	800	540057	27.06
1000	540038	24.32	1000	540058	30.58
1200	540039	29.04	1200	540059	36.86
1500	540040	38.50	1500		
2000	540041	50.70	2000		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end. For plain finish back connected 30 to 400 Ampere switches deduct 10%, over 400 ampere 5%.

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only. Switches over 800 ampere equipped with Spade Handles.

For Quick Break Attachments see listing elsewhere. For Double Break Switches add 50%.

† 300 Ampere Fusible Switch not permitted by Code.

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Single Pole—Double Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

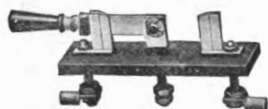
Switch Prices do
not Include Fuses

Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540060	\$1.48	30	540072	\$2.82
60	540061	3.04	60	540073	3.82
100	540062	4.14	100	540074	7.70
200	540063	6.62	200	540075	11.58
300	540064	10.76	300	540076	19.42
400	540065	13.06	400	540077	27.68
600	540066	18.04	600	540078	42.68
800	540067	28.00	800	540079	48.66
1000	540068	31.68	1000	540080	56.34
1200	540069	40.00	1200		
1500	540070	60.18	1500		
2000	540071	76.80	2000		

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Single Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do
not Include Fuses

Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540081	\$1.72	30	540093	\$3.28
60	540082	2.52	60	540094	3.82
100	540083	4.36	100	540095	6.82
200	540084	6.96	200	540096	10.64
300	540085	10.64	300	540097	19.18
400	540086	12.88	400	540098	25.08
600	540087	18.04	600	540099	42.90
800	540088	30.80	800	540100	48.68
1000	540089	34.10	1000	540101	54.92
1200	540090	42.50	1200		
1500	540091	54.92	1500		
2000	540092	76.04	2000		

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only. Switches over 800 Ampere equipped with **Spade Handles**. For plain finish back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

For Quick Break Attachments see listing elsewhere. For Double Break Switches add 50%.

† 300 Ampere Fusible Switch not permitted by Code.

Knife Switches, Fuses and Cut-Outs

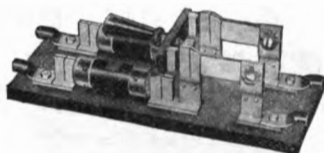
HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Double Pole—Single Throw—Mounted on Slate Base
FRONT CONNECTION—PLAIN FINISH



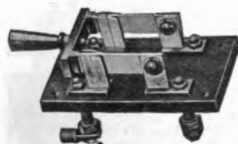
Switch Prices do not
Include Fuses



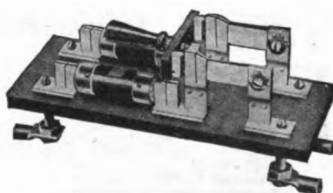
Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540102	\$1.50	30	540123	\$2.20
60	540103	2.22	60	540124	3.24
100	540104	4.20	100	540125	6.20
200	540105	6.46	200	540126	9.56
300	540106	9.92	300		
400	540107	12.70	400	540127	18.16
600	540108	18.00	600	540128	25.58
800	540109	30.00	800	540129	39.50
1000	540110	34.00	1000	540130	45.50
1200	540111	41.00	1200	540131	51.36
1500	540112	59.04	1500		
2000	540113	78.72	2000		

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Double Pole—Single Throw—Unmounted
BACK CONNECTION—POLISHED FINISH



Switch Prices do not
Include Fuses



Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540132	\$2.14	30	540153	\$2.78
60	540133	3.36	60	540154	4.24
100	540134	5.72	100	540155	7.94
200	540135	8.82	200	540156	11.98
300	540136	11.24	300		
400	540137	16.02	400	540157	21.32
600	540138	23.10	600	540158	29.74
800	540139	39.00	800	540159	49.20
1000	540140	42.50	1000	540160	53.38
1200	540141	50.70	1200	540161	64.32
1500	540142	67.20	1500		
2000	540143	92.16	2000		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connection at hinge end. For plain finish back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only. Switches over 800 Ampere equipped with Spade Handles.

For Quick Break Attachments see listing elsewhere. For Double Break Switches add 50%.

† 300 Ampere Fusible Switches not permitted by Code.

Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Double Pole—Double Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

Switch Prices do
not Include
Fuses

Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540162	\$2.20	30	540174	\$4.22
60	540163	3.24	60	540175	5.72
100	540164	6.20	100	540176	11.54
200	540165	9.92	200	540177	14.56
300	540166	13.52	300	540178	28.00
400	540167	19.56	400	540179	41.50
600	540168	26.00	600	540180	61.44
800	540169	42.00	800	540181	72.96
1000	540170	47.50	1000	540182	84.48
1200	540171	57.60	1200		
1500	540172	90.24	1500		
2000	540173	115.20	2000		

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%.

For further notes see bottom of page.

Double Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do
not Include Fuses

Without Fuse Connections 250 VOLTS D. C. AND A. C.			With Fuse Connections 250 VOLTS D. C. AND A. C.		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540183	\$3.10	30	540195	\$5.96
60	540184	4.60	60	540196	8.96
100	540185	7.94	100	540197	10.40
200	540186	7.50	200	540198	16.24
300	540187	16.24	300	540199	33.50
400	540188	23.40	400	540200	45.60
600	540189	31.50	600	540201	74.88
800	540190	53.76	800	540202	84.96
1000	540191	59.52	1000	540203	99.94
1200	540192	74.88	1200		
1500	540193	99.94	1500		
2000	540194	138.24	2000		

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only. Switches over 800 Ampere equipped with Spade Handles. For plain finish back connected 30 to 400 Ampere switches deduct 10%, over 400 Ampere 5%.

For Quick Break Attachments see listing elsewhere. For Double Break Switches add 80%.

† 300 Ampere Fusible Switch not permitted by Code.

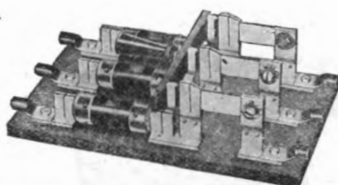
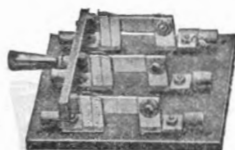
Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Three Pole—Single Throw—Mounted on Slate Base

FRONT CONNECTION—
PLAIN FINISH



Switch Prices do not
Include Fuses

Without Fuse Connections 250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540204	\$2.24
60	540205	3.34
100	540206	6.30
200	540207	9.68
300	540208	12.48
400	540209	19.04
600	540210	25.86
800	540211	45.00
1000	540212	48.96
1200	540213	59.04
1500	540214	88.96
2000	540215	118.08

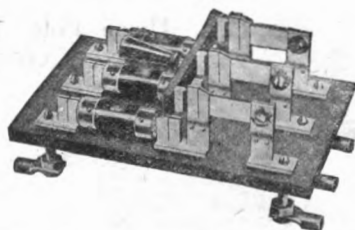
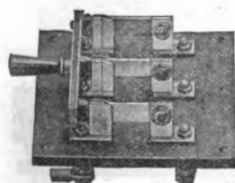
With Fuse Connections 250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	HIGH JAWS	
	List No.	List Price
30	540225	\$3.28
60	540226	4.84
100	540227	9.30
200	540228	12.04
300	540229	26.10
400	540230	36.76
600	540231	56.88
800	540232	75.52
1000	540233	77.04
1200		
1500		
2000		

For polished finish 30 to 200 Amperes add 30%, over 200 Amperes 20%. For further notes see bottom of page.

Three Pole—Single Throw—Unmounted

BACK CONNECTION—
POLISHED FINISH



Switch Prices do not
Include Fuses

Without Fuse Connections 250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540234	\$3.24
60	540235	5.04
100	540236	8.56
200	540237	11.10
300	540238	16.86
400	540239	24.04
600	540240	33.30
800	540241	56.16
1000	540242	61.20
1200	540243	76.04
1500	540244	100.80
2000	540245	138.24

With Fuse Connections 250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	HIGH JAWS	
	List No.	List Price
30	540255	\$4.20
60	540256	6.38
100	540257	11.92
200	540258	15.08
300	540259	30.76
400	540260	44.62
600	540261	70.86
800	540262	80.08
1000	540263	96.48
1200		
1500		
2000		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end. For plain finish back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only. Switches over 800 Ampere equipped with Spade Handles.

For Quick Break Attachments see listing elsewhere. For Double Break Switches add 50%.

300 Ampere Fusible Switches not permitted by Code.

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Three Pole—Double Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

Switch Prices do
not Include
FusesWithout Fuse Connections
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540264	\$3.28
60	540265	4.84
100	540266	9.30
200	540267	12.48
300	540268	20.28
400	540269	28.20
600	540270	39.00
800	540271	60.48
1000	540272	68.40
1200	540273	86.40
1500	540274	135.36
2000	540275	172.80

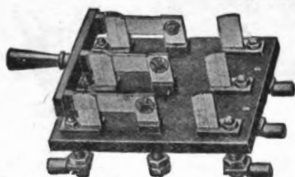
With Fuse Connections
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540276	\$6.34
60	540277	8.56
100	540278	14.56
200	540279	21.84
300		
400	540280	42.00
600	540281	59.76
800	540282	92.16
1000	540283	109.44
1200	540284	126.72
1500		
2000		

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Three Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do
not Include
FusesWithout Fuse Connections
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540285	\$4.66
60	540286	6.90
100	540287	11.92
200	540288	15.92
300	540289	24.34
400	540290	33.76
600	540291	47.26
800	540292	80.64
1000	540293	89.28
1200	540294	112.32
1500	540295	149.76
2000	540296	207.36

With Fuse Connections
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540297	\$8.94
60	540298	10.42
100	540299	15.60
200	540300	24.36
300		
400	540301	48.24
600	540302	65.68
800	540303	112.32
1000	540304	127.44
1200	540305	149.76
1500		
2000		

Fuseless Switches are furnished with Regular Jaws only. Fusible Switches are furnished with High Jaws only. Switches over 800 Ampere equipped with Spade Handles. For plain finish back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

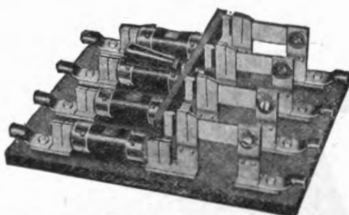
For Quick Break Attachments see listing elsewhere. For Double Break Switches add 50%.
† 300 Ampere Fusible Switch not permitted by Code.

Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES
NATIONAL ELECTRICAL CODE STANDARD
Four Pole—Single Throw—Mounted on Slate Base



**FRONT CONNECTION—
PLAIN FINISH**



Switch Prices do not
Include Fuses

**Without Fuse Connections
250 VOLTS D. C. AND A. C.**

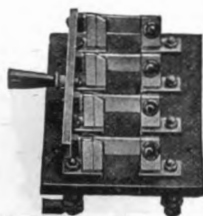
Amperes Capacity of Switch	List No.	List Price
30	540306	\$2.98
60	540307	4.42
100	540308	8.40
200	540309	10.82
300	540310	17.68
400	540311	25.94
600	540312	36.78
800	540313	57.60
1000	540314	65.23
1200	540315	78.72
1500	540316	118.08
2000	540317	157.44

**With Fuse Connections
250 VOLTS D. C. AND A. C.**

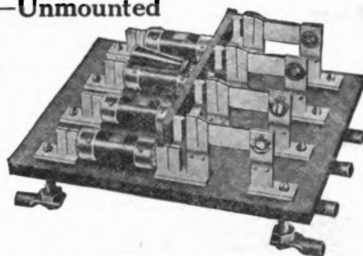
Amperes Capacity of Switch	HIGH JAWS	
	List No.	List Price
30	540327	\$4.38
60	540328	6.46
100	540329	10.40
200	540330	16.02
300		
400	540331	37.10
600	540332	49.98
800	540333	75.84
1000	540334	87.36
1200	540335	102.72
1500		
2000		

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Four Pole—Single Throw—Unmounted



**BACK CONNECTION—
POLISHED FINISH**



Switch Prices do not
Include Fuses

**Without Fuse Connections
250 VOLTS D. C. AND A. C.**

Amperes Capacity of Switch	List No.	List Price
30	540336	\$4.32
60	540337	6.70
100	540338	11.42
200	540339	14.78
300	540340	23.88
400	540341	32.72
600	540342	47.18
800	540343	74.88
1000	540344	81.60
1200	540345	101.38
1500	540346	134.40
2000	540347	184.32

**With Fuse Connections
250 VOLTS D. C. AND A. C.**

Amperes Capacity of Switch	HIGH JAWS	
	List No.	List Price
30	540357	\$5.56
60	540358	8.50
100	540359	13.32
200	540360	20.10
300		
400	540361	42.56
600	540362	60.68
800	540363	94.48
1000	540364	105.80
1200	540365	128.64
1500		
2000		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end. For plain finish back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only. Switches over 800 Ampere equipped with Spade Handles.

For Quick Break Attachments see listing elsewhere. Double Break Switches add 50%.

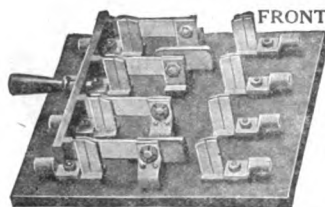
† 300 Ampere Fusible Switches not permitted by Code.

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Four Pole—Double Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

Switch Prices
do not In-
clude Fuses**Without Fuse Connections**
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540366	\$4.38
60	540367	6.46
100	540368	10.40
200	540369	16.64
300	540370	26.00
400	540371	37.60
600	540372	49.92
800	540373	80.64
1000	540374	91.20
1200	540375	115.20
1500	540376	180.48
2000	540377	230.40

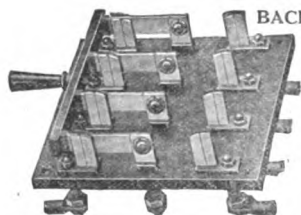
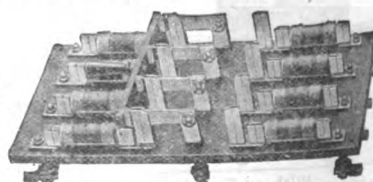
With Fuse Connections
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540378	\$8.44
60	540379	11.42
100	540380	19.36
200	540381	28.00
300		
400	540382	53.76
600	540383	79.68
800	540384	122.88
1000	540385	145.92
1200	540386	168.96
1500		
2000		

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Four Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do
not Include Fuses**Without Fuse Connections**
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540387	\$6.20
60	540388	9.18
100	540389	13.32
200	540390	21.22
300	540391	31.20
400	540392	45.00
600	540393	60.48
800	540394	107.52
1000	540395	119.04
1200	540396	149.76
1500	540397	199.68
2000	540398	276.48

With Fuse Connections
250 VOLTS D. C. AND A. C.

Amperes Capacity of Switch	List No.	List Price
30	540399	\$11.92
60	540400	11.66
100	540401	20.80
200	540402	21.20
300		
400	540403	64.32
600	540404	87.56
800	540405	149.76
1000	540406	169.92
1200	540407	199.68
1500		
2000		

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only. Switches over 800 Ampere equipped with Spade Handles. For plain finish back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

For Quick Break Attachments see listing elsewhere. For Double Break Switches add 50%.

† 300 Ampere Fusible Switch not permitted by Code.

Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts

Single Pole—Single Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

Switch Prices do not
Include Fuses

600 VOLTS

WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540408	\$1. 86	540415	\$1. 48	30	540418	\$2. 72	540424	\$2. 28
540409	2. 00	540416	1. 60	60	540419	2. 90	540425	2. 54
540410	3. 42	540417	2. 74	100	540420	4. 84	540426	4. 32
540411	5. 46			200	540421	7. 64		
540412	8. 46			†300				
540413	11. 62			400	540422	13. 48		
540414	12. 88			600	540423	18. 04		

For polished finish, 30 to 200 Ampere, add 30%; over 200 Ampere, 20%.
For further notes see bottom of page.

Single Pole—Single Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do not
Include Fuses

600 VOLTS

WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540427	\$2.62	540434	\$2.28	30	540437	\$3.30	540443	\$2.90
540428	2.74	540435	2.42	60	540438	3.68	540444	3.24
540429	4.44	540436	3.78	100	540439	5.82	540445	5.06
540430	6.56			200	540440	8.62		
540431	8.88			†300				
540432	11.44			400	540441	15.18		
540433	16.02			600	540442	20.90		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end.

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only.

†300 Ampere Fusible Switch not permitted by Code.

For Double Break Switches add 50%. For plain finish, back connected, 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts

Single Pole—Double Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

Switch Prices do
not include Fuses

600 VOLTS

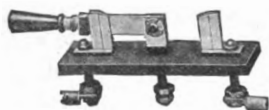
WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540446	\$3.28	540453	\$2.94	30	540456	\$4.64	540462	\$3.88
540447	3.44	540454	3.08	60	540457	5.06	540463	4.44
540448	5.06	540455	4.44	100	540458	8.54	540464	7.86
540449	8.20			200	540459	10.88		
540450	12.28			300				
540451	14.32			400	540460	20.60		
540452	18.32			600	540461	29.70		

For polished finish, 30 to 200 ampere, add 30%; above 200 ampere, 20%.

For further notes see bottom of page.

Single Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do
not include Fuses

600 VOLTS

WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540465	\$4.00	540472	\$3.36	30	540475	\$4.64	540481	\$3.96
540466	4.10	540473	3.48	60	540476	5.14	540482	4.44
540467	6.18	540474	5.06	100	540477	8.54	540483	7.52
540468	9.16			200	540478	10.60		
540469	12.04			300				
540470	16.02			400	540479	21.18		
540471	21.74			600	540480	28.60		

Fuseless Switches are furnished with Regular Jaws only. Fusible Switches are furnished with High Jaws only.

† 300 Ampere Fusible Switch not permitted by Code.

For Double Break Switches add 50%. For plain finish, back connected, 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts

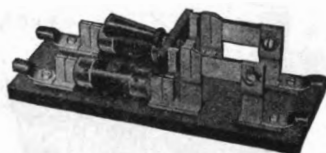
Double Pole—Single Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH



Switch Prices do not
Include Fuses

600 VOLTS

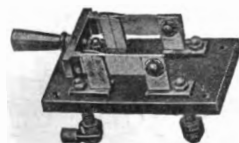


WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540484	\$3.36	540491	\$2.64	30	540494	\$4.86	540500	\$4.12
540485	3.60	540492	2.86	60	540495	5.30	540501	4.60
540486	6.20	540493	4.96	100	540496	8.82	540502	7.82
540487	9.92			200	540497	11.64		
540488	12.90			†300				
540489	17.68			400	540498	24.46		
540490	23.40			600	540499	31.50		

For polished finish, 30 to 200 ampere, add 30%; over 200 ampere, 20%.
For further notes see bottom of page.

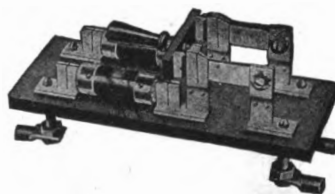
Double Pole—Single Throw—Unmounted

BACK CONNECTION—POLISHED FINISH



Switch Prices do not
Include Fuses

600 VOLTS



WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540503	\$4. 74	540510	\$4. 12	30	540513	\$5. 98	540519	\$5. 24
540504	4. 96	540511	4. 34	60	540514	6. 70	540520	5. 84
540505	8. 06	540512	6. 82	100	540515	10. 54	540521	9. 18
540506	11. 92			200	540516	12. 12		
540507	13. 52			†300				
540508	20. 80			400	540517	26. 50		
540509	28. 00			600	540518	37. 50		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end.

Fuseless Switches are furnished with Regular Jaws only. Fusible Switches are furnished with High Jaws only.

†300 Ampere Fusible Switch not permitted by Code.

For Double Break Switches add 50%. For plain finish, back connected, 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts

Double Pole—Double Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

Switch Prices
do not include
Fuses

600 VOLTS



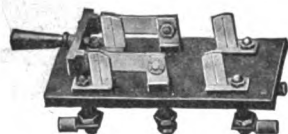
WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540522	\$5.84	540529	\$5.30	30	540532	\$8.36	540538	\$6.72
540523	6.20	540530	5.58	60	540533	9.18	540539	7.50
540524	9.18	540531	8.06	100	540534	13.00	540540	11.96
540525	12.48			200	540535	19.76		
540526	18.72			300				
540527	25.00			400	540536	36.00		
540528	32.00			600	540537	51.84		

For polished finish, 30 to 200 Ampere, add 30%; over 200 Ampere, 20%.

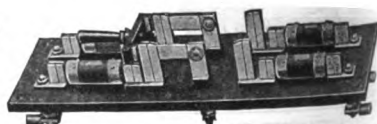
For further notes see bottom of page.

Double Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do
not include Fuses

600 VOLTS



WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540541	\$7.12	540548	\$6.04	30	540551	\$8.54	540557	\$7.16
540542	7.50	540549	6.34	60	540552	9.30	540558	8.06
540543	11.16	540550	9.18	100	540553	13.00	540559	11.44
540544	13.94			200	540554	19.24		
540545	21.84			300				
540546	28.00			400	540555	37.00		
540547	38.00			600	540556	49.92		

Fuseless Switches are furnished with Regular Jaws only. Fusible Switches are furnished with High Jaws only.

† 300 Ampere Fusible Switch not permitted by Code.

For Double Break Switches add 50%. For plain finish, back connected, 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts

Three Pole—Single Throw—Mounted on Slate Base

FRONT CONNECTION—PLAIN FINISH

Switch Prices do not
Include Fuses

600 VOLTS



WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540560	\$5.44	540567	\$4.22	30	540570	\$7.82	540576	\$6.62
540561	5.76	540568	4.58	60	540571	8.46	540577	7.36
540562	9.92	540569	7.94	100	540572	11.82	540578	10.50
540563	13.32			200	540573	18.64		
540564	20.61			†300				
540565	27.20			400	540574	37.60		
540566	36.00			600	540575	48.40		

For polished finish, 30 to 200 Ampere, add 30%; over 200 Ampere, 20%.

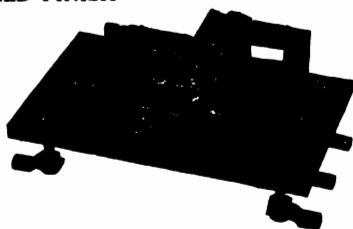
For further notes see bottom of page.

Three Pole—Single Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Switch Prices do not
Include Fuses

600 VOLTS



WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540579	\$7.60	540586	\$6.62	30	540589	\$9.60	540595	\$8.42
540580	7.94	540587	6.96	60	540590	10.72	540596	9.34
540581	10.82	540588	10.92	100	540591	14.16	540597	12.32
540582	15.98			200	540592	20.98		
540583	21.64			†300				
540584	32.00			400	540593	42.40		
540585	44.80			600	540594	56.08		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end.

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only.

† 300 Ampere Fusible Switch not permitted by Code.

For Double Break Switches add 50%. For plain finish, back connected, 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts

Three Pole—Double Throw—Mounted on Slate Base
FRONT CONNECTION—PLAIN FINISH

 Switch Prices
do not Include
Fuses

600 VOLTS



WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540598	\$9.48	540605	\$8.48	30	540608	\$11.28	540614	\$11.66
540599	9.88	540606	8.94	60	540609	19.72	540615	10.82
540600	12.32	540607	10.52	100	540610	20.80	540616	19.14
540601	19.98			200	540611	30.40		
540602	28.80			300				
540603	40.00			400	540612	55.30		
540604	49.16			600	540613	82.96		

For polished finish, 30 to 200 Ampere, add 30%; over 200 Ampere, 20%.
For further notes see bottom of page.

Three Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

 Switch Prices
do not Include
Fuses

600 VOLTS



WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540617	\$11.46	540624	\$9.68	30	540627	\$11.28	540633	\$11.46
540618	11.92	540625	10.12	60	540628	12.48	540634	10.82
540619	14.98	540626	12.22	100	540629	20.80	540635	18.32
540620	22.30			200	540630	29.60		
540621	33.60			300				
540622	44.80			400	540631	56.82		
540623	58.38			600	540632	79.84		

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only.

† 300 Ampere Fusible Switch not permitted by Code.

For Double Break Switches add 50%. For plain finish, back connected, 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts

Four Pole—Single Throw—Mounted on Slate Base

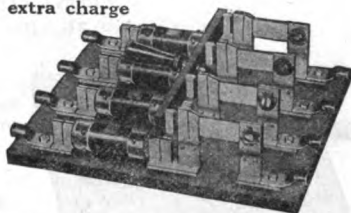
FRONT CONNECTION—PLAIN FINISH

Spade Handles furnished without extra charge



Switch Prices do not
Include Fuses

600 VOLTS



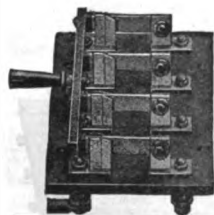
WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540636	\$7.48	540643	\$5.84	30	540646	\$10.74	540652	\$9.10
540637	7.92	540644	6.28	60	540647	11.64	540653	10.10
540638	11.44	540645	10.92	100	540648	16.26	540654	14.42
540639	18.32			200	540649	25.64		
540640	27.28			†300				
540641	37.40			400	540650	49.64		
540642	49.50			600	540651	66.54		

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Four Pole—Single Throw—Unmounted

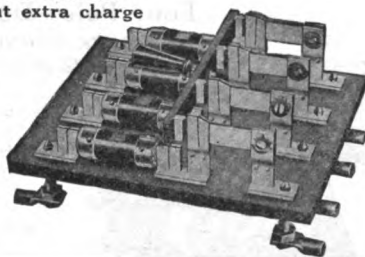
BACK CONNECTION—POLISHED FINISH

Spade Handles furnished without extra charge



Switch Prices do not
Include Fuses

600 VOLTS



WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540655	\$10.48	540662	\$9.10	30	540665	\$11.06	540671	\$11.56
540656	10.92	540663	9.56	60	540666	12.36	540672	10.76
540657	14.88	540664	12.60	100	540667	19.46	540673	16.94
540658	21.98			200	540668	27.72		
540559	28.60			†300				
540660	44.00			400	540669	55.98		
540661	59.14			600	540670	77.10		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end.

Fuseless Switches are furnished with **Regular Jaws** only. Fusible Switches are furnished with **High Jaws** only.

† 300 Ampere Fusible Switch not permitted by Code.

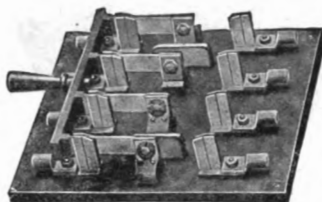
For Double Break Switches add 50%. For plain finish back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

600 Volts
Four Pole—Double Throw—Mounted on Slate Base
FRONT CONNECTION—PLAIN FINISH

Spade Handles furnished without extra charge


 Switch Prices
do not Include
Fuses

600 VOLTS

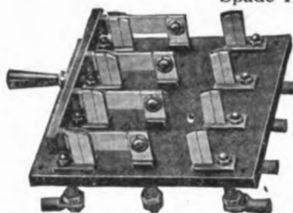

WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540674	\$10.94	540681	\$11.68	30	540684	\$15.52	540690	\$13.00
540675	11.44	540682	12.28	60	540685	16.94	540691	14.04
540676	16.94	540683	14.88	100	540686	27.50	540692	25.30
540677	26.40			200	540687	41.80		
540678	39.60			300				
540679	52.80			400	540688	76.04		
540680	67.60			600	540689	104.06		

For polished finish 30 to 400 Ampere add 30%, over 200 Ampere 20%. For further notes see bottom of page.

Four Pole—Double Throw—Unmounted

BACK CONNECTION—POLISHED FINISH

Spade Handles furnished without extra charge


 Switch Prices do
not Include Fuses

600 VOLTS


WITHOUT FUSE CONNECTION				Amperes Capacity of Switch	WITH FUSE CONNECTION			
WITH QUICK BREAK		WITHOUT QUICK BREAK			WITH QUICK BREAK		WITHOUT QUICK BREAK	
List No.	List Price	List No.	List Price		List No.	List Price	List No.	List Price
540693	\$13.24	540700	\$11.18	30	540703	\$15.52	540709	\$13.24
540694	13.74	540701	11.68	60	540704	17.16	540710	14.88
540695	20.60	540702	16.94	100	540705	27.50	540711	25.18
540696	29.48			200	540706	40.70		
540697	46.20			300				
540698	59.04			400	540707	78.16		
540699	80.26			600	540708	105.84		

Fuseless Switches are furnished with Regular Jaws only. Fusible Switches are furnished with High Jaws only.

† 300 Ampere Fusible Switch not permitted by Code.

For Double Break Switches add 50%. For plain finish, back connected 30 to 400 Ampere Switches deduct 10%, over 400 Ampere 5%.

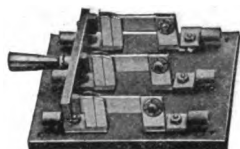
Knife Switches, Fuses and Cut-Outs

HIGH GRADE KNIFE SWITCHES

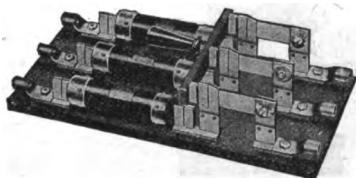
NATIONAL ELECTRICAL CODE STANDARD

500 VOLTS A. C. FUSED AND UNFUSED—FRONT CONNECTED—PLAIN FINISH

Three Pole—Single Throw



Switch Prices do not
Include Fuses



500 VOLTS A. C.

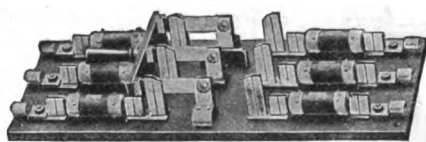
WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540748	\$3.10	30	540769	\$4.96
60	540749	3.34	60	540770	5.72
100	540750	6.30	100	540771	10.18
200	540751	9.68	200	540772	13.64
300	540752	12.48	300		
400	540753	19.04	400	540773	28.50
600	540754	25.96	600	540774	40.00
800	540755	45.00	800	540775	59.52
1000	540756	48.96	1000	540776	67.20
1200	540757	59.08	1200	540777	80.64
1500	540758	88.80			
2000	540759	118.08			

Three Pole—Double Throw



Switch Prices do
not Include
Fuses

500 VOLTS A. C.



WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540778	\$4.22	30	540790	\$9.30
60	540779	4.84	60	540791	11.16
100	540780	9.36	100	540792	16.64
200	540781	12.48	200	540793	24.44
300	540782	20.28	300		
400	540783	28.20	400	540794	48.00
600	540784	39.00	600	540795	69.12
800	540785	60.48	800	540796	105.60
1000	540786	68.40	1000	540797	115.20
1200	540787	86.40	1200	540798	134.40
1500	540788	135.36	1500		
2000	540789	172.80	2000		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end.

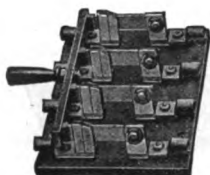
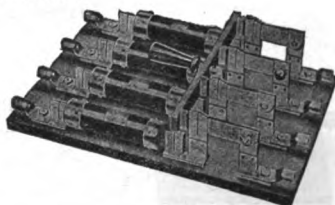
Single and Double Throw Fuseless Switches are furnished with **Regular Jaws** only. Single Throw Fused Switches are furnished with **High Jaws** only. Switches over 800 Ampere equipped with Spade Handles.

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For Double Break Switches add 50%.

† 300 Ampere Fusible Switch not permitted by Code.

HIGH GRADE KNIFE SWITCHES

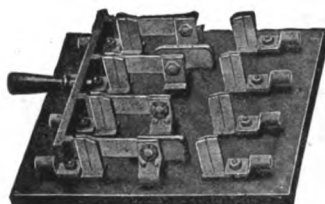
NATIONAL ELECTRICAL CODE STANDARD

500 VOLTS A. C. FUSED AND UNFUSED—FRONT CONNECTED—PLAIN FINISH
Four Pole—Single ThrowSwitch Prices do not
Include Fuses

500 VOLTS A. C.

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540799	\$4.10	30	540820	\$6.62
60	540800	4.42	60	540821	7.62
100	540801	8.40	100	540822	11.38
200	540802	10.82	200	540823	18.18
300	540803	17.68	300		
400	540804	25.94	400	540824	38.00
600	540805	36.78	600	540825	51.22
800	540806	57.60	800	540826	79.38
1000	540807	65.28	1000	540827	89.62
1200	540808	78.72	1200	540828	107.52
1500	540809	118.08	1500		
2000	540810	157.48	2000		

Four Pole—Double Throw

Switch Prices
do not In-
clude Fuses500 VOLTS
A. C.

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540829	\$5.72	30	540841	\$10.40
60	540830	6.46	60	540842	12.48
100	540831	10.40	100	540843	22.18
200	540832	16.64	200	540844	31.32
300	540833	26.00	300		
400	540834	37.60	400	540845	57.60
600	540835	49.92	600	540846	92.16
800	540836	80.64	800	540847	140.80
1000	540837	91.20	1000	540848	153.60
1200	540838	115.20	1200	540849	179.20
1500	540839	180.48	1500		
2000	540840	230.40	2000		

All Single Throw Switches furnished fused at handle end unless otherwise ordered. No extra charge for fuse connections at hinge end.

Single and Double Throw Fuseless Switches are furnished with **Regular Jaws** only. Single Throw Fused Switches are furnished with **High Jaws** only. Switches over 800 Ampere, equipped with Spade Handles.

For polished finish 30 to 200 Ampere add 30%, over 200 Ampere 20%. For Double Break Switches add 50%.

† 300 Ampere Fusible Switch not permitted by Code.

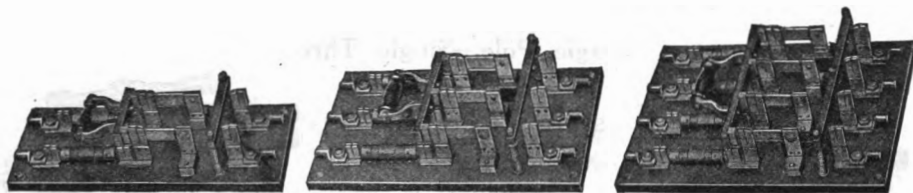
Knife Switches, Fuses and Cut-Outs

MOTOR STARTING SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

FOR ALTERNATING CURRENT MOTORS

PLAIN FINISH—FRONT CONNECTION—MOUNTED ON OILED SLATE BASES



**Double Pole—Double Throw
HIGH GRADE**

250 VOLTS			500 VOLTS		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540712	\$5.12	30	540715	\$6.52
60	540713	6.82	60	540716	8.06
100	540714	10.92	100	540717	12.10

PUNCHED CLIP

30	540718	\$4.06	30	540721	\$4.86
60	540719	5.14	60	540722	6.06
100	540720	10.70	100	540723	10.68

**Three Pole—Double Throw
HIGH GRADE**

250 VOLTS			500 VOLTS		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540724	\$6.82	30	540727	\$8.68
60	540725	9.06	60	540728	10.68
100	540726	14.56	100	540729	16.12

PUNCHED CLIP

30	540730	\$5.40	30	540733	\$6.48
60	540731	6.82	60	540734	8.10
100	540732	12.94	100	540735	14.22

**Four Pole—Double Throw
HIGH GRADE**

250 VOLTS			500 VOLTS		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540736	\$9.06	30	540739	\$11.54
60	540737	12.10	60	540740	11.96
100	540738	19.42	100	540741	21.54

PUNCHED CLIP

30	540742	\$7.22	30	540745	\$8.64
60	540743	9.08	60	540746	9.80
100	540744	17.26	100	540747	18.92

Switch prices do not include Fuses. Prices include Spade Handle.

PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

250 AND 600 VOLTS—FRONT CONNECTION

PLAIN FINISH—MOUNTED ON OILED SLATE BASE

Single Pole—Single Throw

 Switch Prices do not
 Include Fuses

250 Volts

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540890	\$0.46	30	540898	\$0.76
60	540891	.80	60	540899	1.28
100	540892	1.62	100	540900	2.58
200	540893	2.92	200	540901	4.76

600 Volts

With Quick Break Blades

30	540902	\$1.18	30	540910	\$1.84
60	540903	1.30	60	540911	2.12
100	540904	2.34	100	540912	3.90
200	540905	4.54	200	540913	7.02

Without Quick Break Blades

30	540914	\$0.88	30	540920	\$1.52
60	540915	1.04	60	540921	1.84
100	540916	2.06	100	540922	3.52

Single Pole—Double Throw

 Switch Prices do
 not Include Fuses

250 Volts

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540923	\$0.82	30	540927	\$1.68
60	540924	1.42	60	540928	2.38
100	540925	3.18	100	540929	5.40
200	540926	5.28	200	540930	10.60

600 Volts

Without Quick Break Blades

30	540931	\$1.82	30	540934	\$3.58
60	540932	2.06	60	540935	4.06
100	540933	4.22	100	540936	8.10

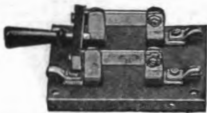
PUNCHED CLIP KNIFE SWITCHES.

NATIONAL ELECTRICAL CODE STANDARD

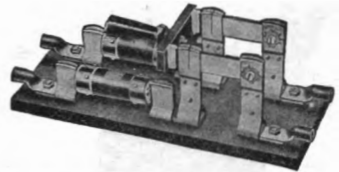
250 AND 600 VOLTS—FRONT CONNECTION

PLAIN FINISH—MOUNTED ON OILED SLATE BASE

Double Pole—Single Throw



Switch Prices do not
Include Fuses



250 Volts

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540937	\$0.74	30	540945	\$1.16
60	540938	1.32	60	540946	1.96
100	540939	2.70	100	540947	3.96
200	540940	4.86	200	540948	7.30

600 Volts

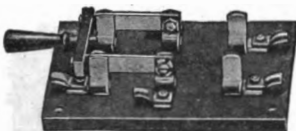
With Quick Break Blades

30	540949	\$1.96	30	540957	\$2.82
60	540950	2.16	60	540958	3.24
100	540951	3.90	100	540959	5.04
200	540952	7.56	200	540960	9.80

Without Quick Break Blades

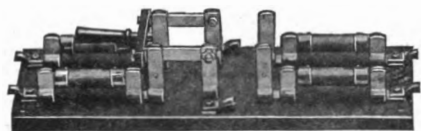
30	540961	\$1.46	30	540967	\$2.38
60	540962	1.74	60	540968	2.82
100	540963	3.42	100	540969	5.40

Double Pole—Double Throw



Switch Prices
do not Include
Fuses

250 Volts



WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	540970	\$1.26	30	540974	\$2.38
60	540971	2.16	60	540975	3.68
100	540972	4.86	100	540976	8.00
200	540973	8.10	200	540977	12.74

600 Volts

Without Quick Break Blades

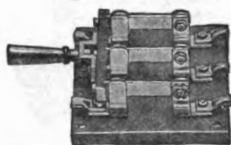
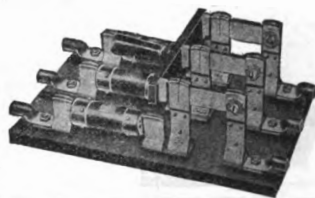
30	540978	\$2.38	30	540981	\$4.76
60	540979	2.82	60	540982	5.40
100	540980	5.62	100	540983	9.80

PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

250 AND 600 VOLTS—FRONT CONNECTION

PLAIN FINISH—MOUNTED ON OILED SLATE BASE

Three Pole—Single ThrowSwitch Prices do not
Include Fuses**250 Volts**

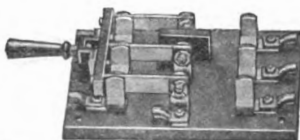
WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540984	\$1.10	30	540992	\$1.74
60	540985	2.00	60	540993	2.92
100	540986	4.06	100	540994	5.94
200	540987	7.30	200	540995	9.94

600 Volts**With Quick Break Blades**

30	540996	\$3.04	30	541004	\$4.50
60	540997	3.36	60	541005	5.20
100	540998	6.06	100	541006	9.52
200	540999	10.40	200	541007	15.68

Without Quick Break Blades

30	541008	\$2.28	30	541014	\$3.78
60	541009	2.70	60	541015	4.50
100	541010	5.30	100	541016	8.64

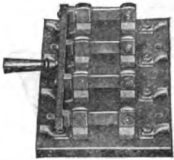
Three Pole—Double ThrowSwitch Prices
do not Include
Fuses**250 Volts**

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	541017	\$1.96	30	541021	\$3.80
60	541018	3.36	60	541022	5.88
100	541019	7.46	100	541023	11.62
200	541020	11.38	200	541024	20.40

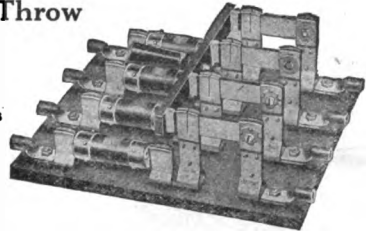
600 Volts**Without Quick Break Blades**

30	541025	\$4.00	30	541028	\$7.84
60	541026	4.66	60	541029	8.92
100	541027	9.30	100	541030	16.18

PUNCHED CLIP KNIFE SWITCHES
NATIONAL ELECTRICAL CODE STANDARD
250 AND 600 VOLTS—FRONT CONNECTION
PLAIN FINISH—MOUNTED ON OILED SLATE BASE
Four Pole—Single Throw



Switch Prices do not Include Fuses



250 Volts

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	541031	\$1.48	30	541039	\$2.30
60	541032	2.64	60	541040	3.90
100	541033	5.40	100	541041	7.90
200	541034	9.72	200	541042	13.24

600 Volts

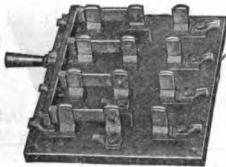
With Quick Break Blades

30	541043	\$4.12	30	541051	\$6.16
60	541044	4.54	60	541052	7.14
100	541045	8.10	100	541053	11.76
200	541046	14.42	200	541054	21.66

Without Quick Break Blades

30	541055	\$3.04	30	541061	\$5.24
60	541056	3.58	60	541062	6.16
100	541057	7.14	100	541063	10.78

Four Pole—Double Throw



Switch Prices do not
Include Fuses

250 Volts



WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	List No.	List Price
30	541064	\$2.78	30	541068	\$5.24
60	541065	4.76	60	541069	8.08
100	541066	10.60	100	541070	15.96
200	541067	15.20	200	541071	26.08

600 Volts

Without Quick Break Blades

30	541072	\$5.40	30	541075	\$9.80
60	541073	6.48	60	541076	11.28
100	541074	11.76	100	541077	22.54

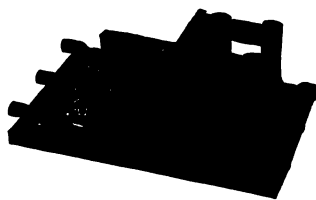
PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

500 VOLTS A. C. FUSED AND UNFUSED—FRONT CONNECTED—PLAIN FINISH

Three Pole

500 VOLTS A. C.


 Switch Prices do
not Include Fuses

SINGLE THROW

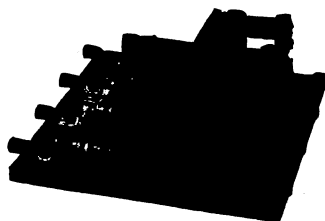
WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540850	\$1.74	30	540858	\$3.04
60	540851	2.00	60	540859	3.78
100	540852	4.06	100	540860	7.56
200	540853	7.32	200	540861	11.96

DOUBLE THROW

30	540862	\$2.88	30	540866	\$6.48
60	540863	3.36	60	540867	8.00
100	540864	7.46	100	540868	13.72
200	540865	11.38	200	540869	21.08

Four Pole

500 VOLTS A. C.

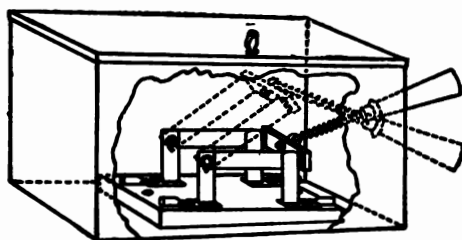

 Switch Prices do
not Include Fuses

SINGLE THROW

WITHOUT FUSE CONNECTION			WITH FUSE CONNECTION		
Amperes Capacity of Switch	List No.	List Price	Amperes Capacity of Switch	HIGH JAWS	
				List No.	List Price
30	540870	\$2.32	30	540878	\$4.00
60	540871	2.64	60	540879	5.20
100	540872	5.40	100	540880	10.06
200	540873	9.72	200	540881	15.88

DOUBLE THROW

30	540882	\$4.16	30	540886	\$8.64
60	540883	4.76	60	540887	10.24
100	540884	10.60	100	540888	19.20
200	540885	15.20	200	540889	28.16

KNIFE SWITCHES AND ATTACHMENTS



Security Knife Switches

Protected, Quick-Acting Security Knife Switches

25 Amperes—250 Volts

List No.	Pole	Size of Box	List Price Complete	List No.	Pole	Size of Box	List Price Complete
542184	2-ST, Not Fusible	8 x 6 x 5½	\$4.96	542186	2-ST, Fusible	11 x 6 x 5½	\$5.52
542185	3-ST, Not Fusible	8 x 8 x 5½	5.52	542187	3-ST, Fusible	11 x 8 x 5½	6.32

50 Amperes—250 Volts

542188	2-ST, Not Fusible	10 x 7 x 6	\$5.84	542190	2-ST, Fusible	13½ x 7 x 6	\$6.72
542189	3-ST, Not Fusible	10 x 11 x 6	6.72	542191	3-ST, Fusible	13½ x 11 x 6	7.84

100 Amperes—250 Volts

542192	2-ST, Not Fusible	11 x 8 x 7	\$7.04	542194	2-ST, Fusible	17½ x 8 x 7	\$10.08
542193	3-ST, Not Fusible	11 x 12 x 7	8.32	542195	3-ST, Fusible	17½ x 12 x 7	11.20



Style X



Style Y

Spade Handles

	List Price Each			List Price Each	
	Plain	Polished		Plain	Polished
30 to 80 amperes.....	\$0.62	\$0.94	300 to 600 amperes.....	\$1.30	\$2.00
100 to 200 amperes.....	.94	1.24	800 to 1500 amperes.....	2.48	3.10

Fire Underwriters' Rule

Auxiliary Break or the equivalent are recommended for switches designed for over 300 volts and less than 100 amperes and will be required on switches designed for use in breaking current greater than 100 amperes at a pressure of more than 300 volts.



Quick Break Attachments

250 Volt

List Price Each Blade

600 Volt

	30A	60A	100A	200A	300A	400A	600A
Single Throw							
Plain.....	\$0.68	\$0.76	\$0.94	\$1.12	\$1.30	\$1.50	\$1.86
Polished.....	.88	.94	1.18	1.38	1.62	1.86	2.30
Double Throw							
Plain.....	1.38	1.50	1.86	2.24	2.62	2.98	3.72
Polished.....	1.74	1.86	2.36	2.74	3.24	3.72	4.60

Quick Break Attachments for larger switches, price on application.

ENCLOSED FUSE HOLDERS

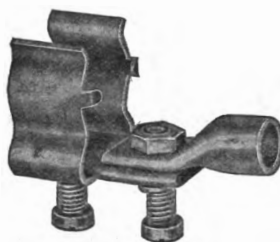
Ferrule Contact 250 and 600 Volts



3 to 30 Amperes
Front Connection



3 to 30 Amperes
Back Connection



31 to 60 Amperes
Front Connection



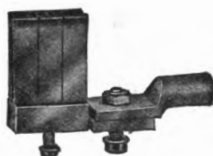
31 to 60 Amperes
Back Connection

30 AND 60 AMPERE

FRONT CONNECTION, PLAIN FINISH		Amperes Capacity	Volts	BACK CONNECTION, POLISHED FINISH	
List No.	List Price			List No.	List Price
540012	\$0.24	3-30	250	540016	\$0.30
540013	.32	3-30	600	540017	.42
540014	.39	31-60	250	540018	.54
540015	.52	31-60	600	540019	.70

Knife Blade Contact

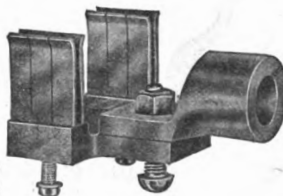
250 or 600 Volts



100 to 1000 Amperes
Front Connection



100 to 1000 Amperes
Back Connection



800 to 2000 Amperes
Front Connection



800 to 2000 Amperes
Back Connection

SINGLE HOLDER

FRONT CONNECTION, PLAIN FINISH		Amperes Capacity	BACK CONNECTION, POLISHED FINISH	
List No.	List Price		List No.	List Price
540042	\$0.60	100	540048	\$1.08
540043	.98	200	540049	1.68
540044	2.28	400	540050	3.84
540045	3.00	600	540114	5.40
540046	4.92	800	540115	9.84
540047	6.30	1000	540116	12.10

DOUBLE HOLDER

540117	Prices on application	800	540144	Prices on application
540118		1000	540145	
540119		1200	540146	
540120		1600	540147	
540121		2000	540148	

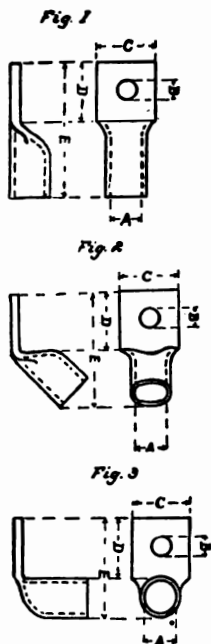
Front connected holders are listed plain finish. Back connected holders are listed polished finish. For polished finish add 30%. For plain finish deduct 5%.

Front connected holders are furnished with short screws requiring heads to be countersunk.

Back connected holders are furnished with studs long enough for two inch mounting.

TERMINALS AND CONNECTORS

Drawn Copper Terminals



No. 540149

No. 540216

No. 540221

List No.	Amp.	DIMENSIONS					List Price per 100
		A	B	C	D	E	
540149	30	1/8	1/4	1/8	5/8	1 1/8	\$6.00
540150	60	1/8	1/4	1/8	5/8	1 1/8	7.00
540151	80	1/8	1/4	1/8	5/8	1 1/8	10.00
540152	100	1/8	1/4	1/8	1	2 3/8	15.00
540955	200	1/8	1/4	1 1/8	1 1/4	2 3/8	30.00
540216	30	1/8	1/4	1/8	5/8	1 1/8	7.60
540217	60	1/8	1/4	1/8	5/8	1 1/8	8.80
540218	80	1/8	1/4	1/8	5/8	1 1/8	12.60
540219	100	1/8	1/4	1/8	1	1 1/8	18.60
540220	200	1/8	1/4	1 1/8	1 1/4	2 1/2	36.00
540221	30	1/8	1/4	1/8	5/8	1 1/8	9.00
540222	60	1/8	1/4	1/8	5/8	1 1/8	10.50
540223	80	1/8	1/4	1/8	5/8	1 1/8	15.00
540224	100	1/8	1/4	1/8	1	1 1/8	22.40
540246	200	1/8	1/4	1 1/8	1 1/4	2	42.00

Standard Cast Copper Terminals



Single Wire

Twin Wire

List No.	DIMENSIONS		List Price each		List No.	DIMENSIONS		List Price each
	Wire Hole A	Bolt Hole B				Wire Hole A	Bolt Hole B	
540247	1/8 wire hole	1/4	\$0.12		540322	1/8 wire hole	1/4	\$0.18
540248	1/8 wire hole	1/4	.14		540323	1/8 wire hole	1/4	.21
540249	1/4 wire hole	1/4	.17		540324	1/4 wire hole	1/4	.30
540250	3/8 wire hole	1/4	.30		540325	3/8 wire hole	1/4	.46
540251	1/2 wire hole	1/4	.60		540326	1/2 wire hole	1/4	.90
540252	5/8 wire hole	1/4	.90		540348	5/8 wire hole	1/4	1.36
540253	3/4 wire hole	1/4	1.20		540349	3/4 wire hole	1/4	1.80
540254	1 wire hole	1/4	1.80		540350	1 wire hole	2 holes	2.70
540318	1 1/4 wire hole	1/4	2.40		540351	1 1/4 wire hole	2 holes	3.60
540319	1 1/2 wire hole	1/4	3.60		540352	1 1/2 wire hole	4 holes	5.26
540320	1 3/4 wire hole	2 holes	4.80		540353	1 3/4 wire hole	4 holes	7.06
540321	2 wire hole	2 holes	6.00		540354	2 wire hole	4 holes	8.86

Round End furnished when so specified.

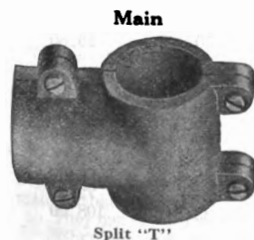
Right Angle terminals and terminals of 45 deg.

Use list price for twin wire terminals.



Solid "T"

Bus Bar Connectors



Split "T"

SOLID "T"				SPLIT "T"			
List No.	Dimensions		List Price each	List No.	Dimensions		List Price each
	Main	Branch			Main	Branch	
540355	1/4	1/4 or less	\$0.60	540766	1/4	1/4 or less	\$0.76
540356	3/8	3/8 or less	.90	540767	3/8	3/8 or less	1.14
540760	1/2	1/2 or less	1.28	540768	1/2	1/2 or less	1.50
540761	5/8	5/8 or less	1.50	540811	5/8	5/8 or less	1.96
540762	3/4	3/4 or less	1.96	540812	3/4	3/4 or less	2.34
540763	1	1 or less	2.34	540813	1	1 or less	2.86
540764	1 1/4	1 1/4 or less	3.16	540814	1 1/4	1 1/4 or less	3.76
540765	1 1/2	1 1/2 or less	4.66	540815	1 1/2	1 1/2 or less	5.64

NOTE: In ordering, state size of wire or cable to be used, and amperes of current, also size of hole for bolt or stud in flat end. State whether solid or stranded wire.

WIRE CONNECTORS



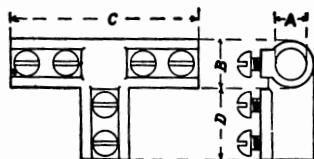
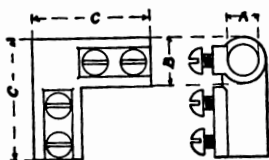
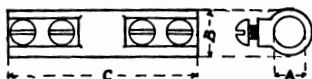
"L" Type



Straight Type



"T" Type



STRAIGHT CONNECTORS

List No.	DIMENSIONS			Std. Pkg.	List Price Each
	A	B	C		
540816	1/4	7/8	2 1/4	100	\$0.38
540817	3/8	1 1/8	2 1/2	100	.46
540818	1/2	3/4	3	100	.76
540819	5/8	1	3 1/2	50	.90
540854	3/4	1 1/4	4	50	1.14

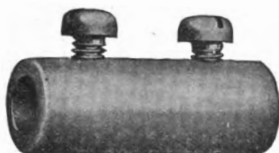
"L" CONNECTORS

List No.	DIMENSIONS			Std. Pkg.	List Price Each
	A	B	C		
540855	1/4	7/8	1 3/8	50	\$0.46
540856	3/8	1 1/8	1 1/2	50	.68
540857	1/2	3/4	1 1/8	50	.84
540874	5/8	1	2 1/4	25	.90
540875	3/4	1 1/4	2 3/8	25	1.14

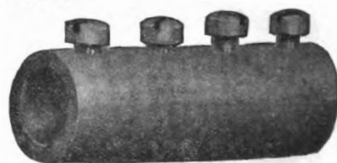
"T" CONNECTORS

List No.	DIMENSIONS				Std. Pkg.	List Price Each
	A	B	C	D		
540876	1/4	7/8	2 1/4	1 1/8	30	\$0.68
540877	3/8	1 1/8	2 1/2	1 1/8	30	.76
540894	1/2	3/4	3	1 1/8	30	1.18
540895	5/8	1	3 1/2	1 3/8	15	1.36
540896	3/4	1 1/4	4	1 5/8	10	1.50

Straight Wire Connectors



Straight Wire Connector—2 screws



Straight Wire Connector—4 screws

TWO SCREWS

List No.	Outside Diam.	Diam. Wire Hole	Size Wire	Std. Pkg.	List Price per 100
540897	1/4 in.	1/16 in.	Nos. 12 and 14 wire.....	100	\$7.02
540906	1/8 in.	1/16 in.	Nos. 8 and 10 wire.....	100	7.98
540907	3/8 in.	1/16 in.	No. 6 wire.....	100	8.88
540908	1/2 in.	1/16 in.	No. 4 wire.....	100	10.32
540909	1 1/8 in.	1/16 in.	No. 2 wire.....	100	14.04
540917	1 1/8 in.	1/16 in.	No. 1-0 wire.....	50	15.48
540918	1 1/2 in.	1/8 in.	No. 2-0 wire.....	50	16.80

FOUR SCREWS

List No.	Outside Diam.	Diam. Wire Hole	Size Wire	Std. Pkg.	List Price per 100
540919	1 1/8 in.	1/16 in.	No. 1-0 wire.....	50	\$24.00
540941	5/8 in.	1/16 in.	No. 2-0 wire.....	50	27.00
540942	3/4 in.	1/16 in.	No. 3-0 wire.....	50	36.00
540943	7/8 in.	1/16 in.	No. 4-0 wire.....	50	48.00
540944	1 in.	1/16 in.	300,000 c.m.....	25	60.00
540953	1 1/8 in.	1/16 in.	400,000 c.m.....	25	72.00
540954	1 1/2 in.	1 in.	600,000 c.m.....	25	108.00

* Sizes for Solid Wire.

Broken Packages, 20% extra.

Connectors will be drilled for standard wire, when so specified, without extra charge.

Knife Switches, Fuses and Cut-Outs

DOSSERT WIRE CONNECTORS

Dossert Solderless Connectors

These devices are used to connect conductors and make neat and strong joints without the use of solder.

2-WAY CONNECTORS

Type A—Standard Connector



Type A—2-Way, Showing Detail

Type A Connectors are for use on cables, stranded or solid wires, rods and tubing. They should not be used on a conductor that is to be subjected to heavy tensile strain.

In ordering Type A Connectors for concentric laid cables give circular millage of cable, or exact diameter of cable, or exact diameter of one wire and number of wires.

Type A for solid wires, rods and tubing. Give gauge number of wire, or exact diameter of rod, wire or tube, or circular millage of rod.

Type A for rope laid and flexible cable. State that cable is rope laid or flexible and give circular millage, or gauge number, or exact diameter, or send sample of cable. The diameter for given size of rope laid or flexible cable is considerably larger than that of the same size of concentric laid cable.

Type B—Strain Connector



Part Cross-Sectional View of Type B 2-Way



2-Way Type C



Elbow

Type B Connectors are for use on stranded wires or cables, and are designed to make a joint which will withstand heavy tensile strains. They are not made for wires smaller than No. 0.

It is necessary to know the number of wires in a cable in furnishing Type B Connectors, for the reason that the diameter of the core over which the inner ring fits varies according to the number of wires in the cable.

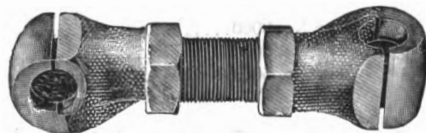
Type C—High Voltage Connector

Type C Connectors are made with round nuts and nipples for use on high tension circuits.

Elbow

This elbow makes an admirable right angle connection, especially where a right angle bend is to be made with a solid conductor going into panels and in connection with oil switches.

Prices on the above several types, see following page.



Type Z Equalizer

Type Z Equalizer

Type Z Equalizer, which is a combination of two Cable Taps, is used to equalize the load between two power cables that run parallel, or at right angles, to each other. The connections are made in the same manner that a Cable Tap is secured to the main cable.

They can be furnished for equalizing the load on any two sizes of feeder.

When ordering, give the distance between centers of cables, circular millage of cable, and state whether cables are concentric or rope laid, and whether they are parallel or at right angles to each other.

Prices on application.

DOSSERT WIRE CONNECTORS

Dossert Solderless Connectors

For illustrations of the several types of Dossert Connectors listed below, see preceding page. When ordering by list numbers for sizes from No. 14 to No. 0000 always specify whether stranded or solid.

Type A 2-Way Connectors			Type B 2-Way Connectors *		Type C 2-Way Connectors		2-Way Elbows	
Size of Cable	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each
*14 to 4	541816	\$0.48	541847	\$0.48	541878	\$0.48	541909	\$0.48
* 3 to 1	541817	.60	541848	.60	541879	.60	541910	.60
0	541818	.72	541849	.72	541880	.72	541911	.72
00	541819	.90	541850	.90	541881	.90	541912	.90
000	541820	1.08	541851	1.08	541882	1.08	541913	1.08
0000	541821	1.32	541852	1.32	541883	1.32	541914	1.32
250000	541822	1.56	541853	1.56	541884	1.56	541915	1.56
300000	541823	1.84	541854	1.84	541885	1.84	541916	1.84
350000	541824	2.10	541855	2.10	541886	2.10	541917	2.10
400000	541825	2.40	541856	2.40	541887	2.40	541918	2.40
450000	541826	2.76	541857	2.76	541888	2.76	541919	2.76
500000	541827	3.12	541858	3.12	541889	3.12	541920	3.12
550000	541828	3.48	541959	3.48	541890	3.48	541921	3.48
600000	541829	3.82	541860	3.82	541891	3.82	541922	3.82
650000	541830	4.14	541861	4.14	541892	4.14	541923	4.14
700000	541831	4.42	541862	4.42	541893	4.42	541924	4.42
750000	541832	4.70	541863	4.70	541894	4.70	541925	4.70
800000	541833	5.00	541864	5.00	541895	5.00	541926	5.00
850000	541834	5.28	541865	5.28	541896	5.28	541927	5.28
900000	541835	5.58	541866	5.58	541897	5.58	541928	5.58
1000000	541836	6.00	541867	6.00	541898	6.00	541929	6.00
1100000	541837	6.60	541868	6.60	541899	6.60	541930	6.66
1200000	541838	7.20	541869	7.20	541900	7.20	541931	7.20
1300000	541839	7.80	541870	7.80	541901	7.80	541932	7.80
1400000	541840	8.40	541871	8.40	541902	8.40	541933	8.40
1500000	541841	9.00	541872	9.00	541903	9.00	541934	9.00
1600000	541842	9.60	541873	9.60	541904	9.60	541935	9.60
1700000	541843	10.20	541874	10.20	541905	10.20	541936	10.20
1800000	541844	10.80	541875	10.80	541906	10.80	541937	10.80
1900000	541845	11.40	541876	11.40	541907	11.40	541938	11.40
2000000	541846	12.00	541877	12.00	541908	12.00	541939	12.00

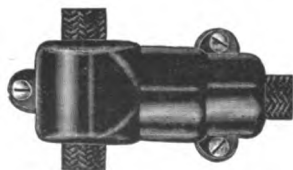
* Prices of 14 to 4 inclusive, and 3 to 1 inclusive, respectively, are the same, but in ordering state exact size wanted, as inner bore of sleeve must be drilled to fit wire to be connected up.



2-Way Connector

Insulated Covers for Cable Taps

	List Price Each
For No. 0000.....	\$1.20
For No. 300,000 C.M.....	1.32
For No. 500,000 C.M.....	2.40



Detail of Insulating Cover for 3-Way

Insulated 3-Way Connector

Insulating cover for 3-way connector takes wires from No. 14 to No. 4, inclusive.

List No.	List Price Each
542172 Insulator and connector complete.....	\$1.72
542173 Insulator only.....	1.00
542174 Connector only.....	.72

See page elsewhere for additional sizes of insulating covers

Knife Switches, Fuses and Cut-Outs

DOSSERT WIRE CONNECTORS



Cable Tap



3-Way



Y Connector

Dossert Solderless Connectors

Cable Taps

The Cable Tap is used to connect a branch wire, rod or bleeder to a main wire, rod or feeder. It does not splice the main, but simply clamps on to it.

The Cable Tap can be furnished to connect any size branch wire to any size main wire.

3-Way Connector

The 3-way is used to make a main line splice and to connect a branch wire at the joint.

"Y" Connector

The "Y" is used to make a 3-way splice when the cables are not at right angles to each other. It can be furnished to connect any three sizes or combinations of wire, cable or rod.

When ordering by list numbers for sizes from No. 14 to No. 0000 always specify whether stranded or solid.

Cable Taps		3-Way Connector	"Y" Connector
Size of Cable	List Price Each	List Price Each	List Price Each
*14 to 4	\$0.72	\$0.72	\$0.72
* 3 to 1	.90	.90	.90
0	1.08	1.08	1.08
00	1.34	1.34	1.34
000	1.62	1.62	1.62
0000	1.98	1.98	1.98
250000	2.34	2.34	2.34
300000	2.74	2.74	2.74
350000	3.14	3.14	3.14
400000	3.60	3.60	3.60
450000	4.14	4.14	4.14
500000	4.68	4.68	4.68
550000	5.22	5.22	5.22
600000	5.74	5.74	5.74
650000	6.20	6.20	6.20
700000	6.64	6.64	6.64
750000	7.06	7.06	7.06
800000	7.48	7.48	7.48
850000	7.92	7.92	7.92
900000	8.36	8.36	8.36
1000000	9.00	9.00	9.00
1100000	9.90	9.90	9.90
1200000	10.80	10.80	10.80
1300000	11.70	11.70	11.70
1400000	12.60	12.60	12.60
1500000	13.50	13.50	13.50
1600000	14.40	14.40	14.40
1700000	15.30	15.30	15.30
1800000	16.20	16.20	16.20
1900000	17.10	17.10	17.10
2000000	18.00	18.00	18.00

*Prices of 14 to 4 inclusive, and 3 to 1 inclusive, respectively, are the same, but in ordering state exact size wanted, as inner bore of sleeve must be drilled exactly to fit wire to be connected up.

DOSSERT WIRE CONNECTORS



Front Connected Lug



Back Connected Lug



Angle Lug



Swivel Lug

Dossert Cast Lugs

All lugs are regularly furnished with contact surfaces, undrilled, but if desired bolt holes will be drilled according to specifications without extra charge.

When ordering by list numbers for sizes from No. 14 to No. 0000 always specify whether stranded or solid.

Front Connected Lug			Back Connected Lug		Angle Lug		Swivel Lugs Pair	
Size of Cable	List No.	List Price Each	List No.	List Price Each	List No.	List Price Each	List No.	List Price Per Pair
*14 to 4	542033	\$0.36	542064	\$0.36	542095	\$0.36	542126	\$0.72
* 3 to 1	542034	.46	542065	.46	542096	.46	542127	.92
0	542035	.54	542066	.54	542097	.54	542128	1.08
00	542036	.68	542067	.68	542098	.68	542129	1.36
000	542037	.82	542068	.82	542099	.82	542130	1.64
0000	542038	1.00	542069	1.00	542100	1.00	542131	2.00
250000	542039	1.18	542070	1.18	542101	1.18	542132	2.36
300000	542040	1.38	542071	1.38	542102	1.38	542133	2.76
350000	542041	1.58	542072	1.58	542103	1.58	542134	3.16
400000	542042	1.80	542073	1.80	542104	1.80	542135	3.60
450000	542043	2.08	542074	2.08	542105	2.08	542136	4.16
500000	542044	2.34	542075	2.34	542106	2.34	542137	4.68
550000	542045	2.62	542076	2.62	542107	2.62	542138	5.24
600000	542046	2.88	542077	2.88	542108	2.88	542139	5.76
650000	542047	3.10	542078	3.10	542109	3.10	542140	6.20
700000	542048	3.32	542079	3.32	542110	3.32	542141	6.64
750000	542049	3.54	542080	3.54	542111	3.54	542142	7.08
800000	542050	3.74	542081	3.74	542112	3.74	542143	7.48
850000	542051	3.96	542082	3.96	542113	3.96	542144	7.92
900000	542052	4.18	542083	4.18	542114	4.18	542145	8.36
1000000	542053	4.50	542084	4.50	542115	4.50	542146	9.00
1100000	542054	4.96	542085	4.96	542116	4.96	542147	9.92
1200000	542055	5.40	542086	5.40	542117	5.40	542148	10.80
1300000	542056	5.86	542087	5.86	542118	5.86	542149	11.72
1400000	542057	6.30	542088	6.30	542119	6.30	542150	12.60
1500000	542058	6.76	542089	6.76	542120	6.76	542151	13.52
1600000	542059	7.20	542090	7.20	542121	7.20	542152	14.40
1700000	542060	7.66	542091	7.66	542122	7.66	542153	15.32
1800000	542061	8.10	542092	8.10	542123	8.10	542154	16.20
1900000	542062	8.56	542093	8.56	542124	8.56	542155	17.12
2000000	542063	9.00	542094	9.00	542125	9.00	542156	18.00

* Prices of 14 to 4 inclusive, and 3 to 1 inclusive, respectively, are the same, but in ordering state exact size wanted, as inner bore of sleeve must be drilled exactly to fit wire to be connected up.

Reducers

Reducers are made in 2-ways and 3-ways. The accompanying cut shows a 2-way reducer.

Any combination of reduction can be effected by means of these reducers, and they are used to a great extent in connecting solid round busses on switchboards to feeder cables.

To ascertain the list price of a 2-way reducer, take one-half of the price of a regular 2-way of the corresponding size of each end. For example: Reducer from 500000 C.M. to No. 0000.



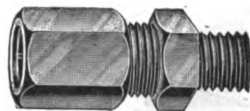
Reducer

$\frac{1}{2}$ of 2-way for 500000 C.M.	\$1.56
$\frac{1}{2}$ of 2-way for No. 0000 .....	.66
The list price would then be	\$2.22

DOSSERT WIRE CONNECTORS



Stud Connector, Type F



Stud Connector, Type M

Dossert Solderless Connectors

Type F

Stud Connector Type F is used to connect a wire or cable to a stud or threaded rod.

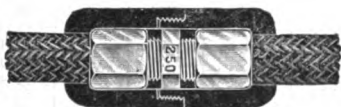
When ordering Type F Stud Connectors, give diameter and number of threads per inch of stud or rod that the connector is screwed onto, the circular millage of cable or gauge number of wire, and state whether wire is solid or stranded.

Type M

Type M is used to connect wires or cables to flat strips or blocks.

When ordering Type M Stud Connectors, give diameter and length of stud and number of threads per inch, the circular millage of cable or gauge number of wire, and state whether wire is solid or stranded.

List price of Type F and Type M Stud Connectors same as a two-way of corresponding size less 20%, except when special large diameter or length of stud is specified.



Detail of Insulating Cover



Insulated Joint Complete

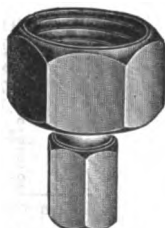
Dossert Insulating Covers

For Use with Connectors

The material used in the manufacture of this cover is heat-resisting, non-hygroscopic, of good dielectric strength and mechanically very strong. The arrangement is in two parts, with a threaded coupling and shoulders which lock against the ends of the connectors, thus holding firmly in position as shown in above sectional view. The cover here, as shown above, is for conductors from No. 0, B. & S. Gauge, to 250,000 cir. mils. A wide range of conductor openings is provided to accommodate various thicknesses of insulation. This cover can be furnished for a number of types and sizes of Dossert connectors.

List No.	Description	List Price Each
542157	Connector and cover for No. 1 to No. 14 C.M. Conductor.....	\$0.92
542209	Connector and cover for No. 4 to No. 14 Conductor.....	.72
542158	Connector and cover for No. 0 Conductor.....	1.28
542159	Connector and cover for No. 00 Conductor.....	1.44
542160	Connector and cover for No. 000 Conductor.....	1.80
542161	Connector and cover for No. 0000 Conductor.....	2.04
542162	Connector and cover for 250,000 C.M. Conductor.....	2.28

Grounding Device



Grounding Device

The Grounding Cap is used for connecting ground wires to the end of a pipe. One end of the cap is threaded to take a stranded gas pipe, while the other end is fitted with a compression nut and tapered sleeve, by means of which the wire is connected to cap.

When ordering, give size of gas pipe and circular millage or gauge number of wire, and state whether stranded or solid conductor.

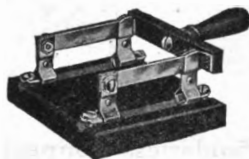
List No.	Size Wire	Size Pipe Inches	List Price Each
542163	No. 14 to 1	$\frac{3}{8}$	\$0.48
542164	No. 14 to 1	$\frac{1}{2}$	.54
542165	No. 14 to 1	$\frac{3}{4}$	.76
542166	No. 14 to 1	1	.90
542167	No. 0 to 0000	$\frac{1}{2}$	.90
542168	No. 0 to 0000	$\frac{3}{4}$	.96
542177	No. 0 to 0000	1	1.02

Any other sizes desired will be made according to specifications.

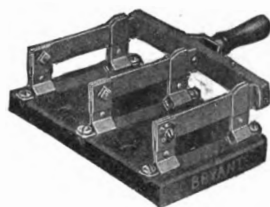
BRYANT BABY KNIFE SWITCHES



No. 1636



No. 1638



No. 1640

SLATE BASE—250 VOLTS

Single Pole—Mounted

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1636	15 Ampere, S. P., S. T.	10	100	45	\$0.58
1637 [▲]	30 Ampere, S. P., S. T.	10	100	50	.72
1654	15 Ampere, S. P., D. T.	5	50	35	.98
1655 [▲]	30 Ampere, S. P., D. T.	5	50	37	1.21

Single Pole—Unmounted

Schedule "H"

1642	15 Ampere, S. P., S. T.	1	100	..	\$0.58
1643 [▲]	30 Ampere, S. P., S. T.	1	100	..	.72
1648	15 Ampere, S. P., S. T., Fusible	1	50	..	.67
1649 [▲]	30 Ampere, S. P., S. T., Fusible	1	50	..	.82
1660	15 Ampere, S. P., D. T.	1	50	..	.98
1661 [▲]	30 Ampere, S. P., D. T.	1	50	..	1.21
1666	15 Ampere, S. P., D. T., Fusible	1	25	..	1.16
1667 [▲]	30 Ampere, S. P., D. T., Fusible	1	25	..	1.42

Double Pole—Mounted

Schedule "H"

1638	15 Ampere, D. P., S. T.	5	100	100	\$0.72
1639 [▲]	30 Ampere, D. P., S. T.	5	100	105	.87
1656	15 Ampere, D. P., D. T.	5	50	75	1.24
1657 [▲]	30 Ampere, D. P., D. T.	5	50	78	1.50

Double Pole—Unmounted

Schedule "H"

1644	15 Ampere, D. P., S. T.	1	100	..	\$0.72
1645 [▲]	30 Ampere, D. P., S. T.	1	100	..	.87
1650	15 Ampere, D. P., S. T., Fusible	1	50	..	.90
1651 [▲]	30 Ampere, D. P., S. T., Fusible	1	50	..	1.07
1662	15 Ampere, D. P., D. T.	1	50	..	1.24
1663 [▲]	30 Ampere, D. P., D. T.	1	50	..	1.50
1668	15 Ampere, D. P., D. T., Fusible	1	25	..	1.59
1669 [▲]	30 Ampere, D. P., D. T., Fusible	1	25	..	1.90

Triple Pole—Mounted

Schedule "H"

1640	15 Ampere, T. P., S. T.	5	25	40	\$1.50
1641 [▲]	30 Ampere, T. P., S. T.	5	25	45	1.88
1658	15 Ampere, T. P., D. T.	1	10	24	2.02
1659 [▲]	30 Ampere, T. P., D. T.	1	10	26	2.37

Triple Pole—Unmounted

Schedule "H"

1646	15 Ampere, T. P., S. T.	1	25	..	\$1.50
1647 [▲]	30 Ampere, T. P., S. T.	1	25	..	1.88
1652	15 Ampere, T. P., S. T., Fusible	1	25	..	1.76
1653 [▲]	30 Ampere, T. P., S. T., Fusible	1	25	..	2.18
1664	15 Ampere, T. P., D. T.	1	10	..	2.02
1665 [▲]	30 Ampere, T. P., D. T.	1	10	..	2.37
1670	15 Ampere, T. P., D. T., Fusible	1	10	..	2.54
1671 [▲]	30 Ampere, T. P., D. T., Fusible	1	10	..	2.97

Mounted switches are plain finished, but will be furnished polished on special order at 20 per cent. advance.

Unmounted switches are furnished in polished finish and with back connections suitable for switch-board 1½ inches thick, unless ordered otherwise. Plain finish switches will be furnished on special order at the same price.

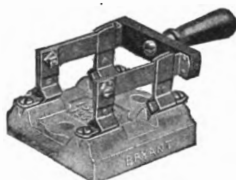
[▲] National Electrical Code Standard.

Knife Switches, Fuses and Cut-Outs

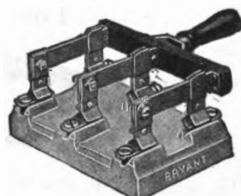
BRYANT BABY KNIFE SWITCHES



Mfr. No. 1436



Mfr. No. 1438



Mfr. No. 1440

PORCELAIN BASE—125 VOLTS

Single Pole—Mounted

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1436	15 Ampere, S. P., S. T.	10	100	40	\$0.49
1437 [▲]	30 Ampere, S. P., S. T.	10	100	45	.64
1454	15 Ampere, S. P., D. T.	10	50	25	.87
1455 [▲]	30 Ampere, S. P., D. T.	10	50	27	1.07

Single Pole—Unmounted

Schedule "H"

1442	15 Ampere, S. P., S. T.	1	100	..	\$0.49
1443 [▲]	30 Ampere, S. P., S. T.	1	100	..	.64
1448	15 Ampere, S. P., S. T., Fusible	1	50	..	.58
1449 [▲]	30 Ampere, S. P., S. T., Fusible	1	50	..	.74
1460	15 Ampere, S. P., D. T.	1	50	..	.87
1461 [▲]	30 Ampere, S. P., D. T.	1	50	..	1.07
1466	15 Ampere, S. P., D. T., Fusible	1	25	..	1.04
1467 [▲]	30 Ampere, S. P., D. T., Fusible	1	25	..	1.27

Double Pole—Mounted

Schedule "H"

1438	15 Ampere, D. P., S. T.	10	100	65	\$0.61
1439 [▲]	30 Ampere, D. P., S. T.	10	100	70	.72
1456	15 Ampere, D. P., D. T.	5	50	55	1.07
1457 [▲]	30 Ampere, D. P., D. T.	5	50	58	1.30

Double Pole—Unmounted

Schedule "H"

1444	15 Ampere, D. P., S. T.	1	100	..	\$0.61
1445 [▲]	30 Ampere, D. P., S. T.	1	100	..	.72
1450	15 Ampere, D. P., S. T., Fusible	1	50	..	.78
1451 [▲]	30 Ampere, D. P., S. T., Fusible	1	50	..	.93
1462	15 Ampere, D. P., D. T.	1	50	..	1.07
1463 [▲]	30 Ampere, D. P., D. T.	1	50	..	1.30
1468	15 Ampere, D. P., D. T., Fusible	1	25	..	1.42
1469 [▲]	30 Ampere, D. P., D. T., Fusible	1	25	..	1.69

Triple Pole—Mounted

Schedule "H"

1440	15 Ampere, T. P., S. T.	5	25	30	\$1.30
1441 [▲]	30 Ampere, T. P., S. T.	5	25	32	1.59

Triple Pole—Unmounted

Schedule "H"

1446	15 Ampere, T. P., S. T.	1	25	..	\$1.30
1447 [▲]	30 Ampere, T. P., S. T.	1	25	..	1.59
1452	15 Ampere, T. P., S. T., Fusible	1	25	..	1.56
1453 [▲]	30 Ampere, T. P., S. T., Fusible	1	25	..	1.89
1464	15 Ampere, T. P., D. T.	1	10	..	1.73
1465 [▲]	30 Ampere, T. P., D. T.	1	10	..	2.16
1470	15 Ampere, T. P., D. T., Fusible	1	10	..	2.25
1471 [▲]	30 Ampere, T. P., D. T., Fusible	1	10	..	2.62

Mounted Switches are plain finish, but will be furnished polished on special order at 20 per cent. advance. Unmounted Switches are furnished in polished finish and with back connections suitable for switchboard $1\frac{1}{2}$ inches thick, unless ordered otherwise. Plain Finish Switches will be furnished on special order at the same price.

[▲] National Electrical Code Standard.

BRYANT BABY KNIFE SWITCHES For Battery and Telephone Circuits



Mfr. No. 1001



Mfr. No. 974

PORCELAIN BASE TYPE "A" SINGLE POLE

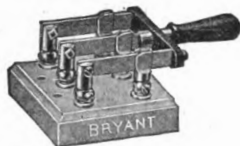
Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1001	15 Ampere, S. P., S. T.	10	100	25	\$0.49
977	30 Ampere, S. P., S. T.	10	100	27	.64
1039	15 Ampere, S. P., D. T.	10	50	18	.87
1040	30 Ampere, S. P., D. T.	10	50	20	1.07

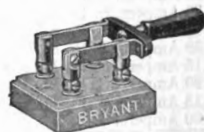
PORCELAIN BASE—TYPE "A" DOUBLE POLE

Schedule "H"

974	15 Ampere, D. P., S. T.	10	100	40	\$0.61
978	30 Ampere, D. P., S. T.	10	100	45	.72
1041	15 Ampere, D. P., D. T.	5	50	33	1.07
1042	30 Ampere, D. P., D. T.	1	50	35	1.30



Mfr. No. 1052



Mfr. No. 1102

PORCELAIN BASE—TYPE "A" TRIPLE POLE

Schedule "H"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1052	15 Ampere, T. P., S. T.	1	25	20	\$1.30
979	30 Ampere, T. P., S. T.	1	25	23	1.59

SLATE BASE—TYPE "A" TRIPLE POLE

Schedule "H"

1158	15 Ampere, T. P., D. T.	1	10	15	\$1.73
1159	30 Ampere, T. P., D. T.	1	10	17	2.02

TYPE "A" UNMOUNTED

Schedule "H"

1048	15 Ampere, S. P., S. T.	1	100	..	\$0.49
1054	30 Ampere, S. P., S. T.	1	100	..	.64
1050	15 Ampere, S. P., D. T.	1	50	..	.87
1056	30 Ampere, S. P., D. T.	1	50	..	1.07
1049	15 Ampere, D. P., S. T.	1	100	..	.61
1055	30 Ampere, D. P., S. T.	1	100	..	.72
1051	15 Ampere, D. P., D. T.	1	50	..	1.07
1057	30 Ampere, D. P., D. T.	1	50	..	1.30
1053	15 Ampere, T. P., S. T.	1	25	..	1.30
1058	30 Ampere, T. P., S. T.	1	25	..	1.59
1150	15 Ampere, T. P., D. T.	1	10	..	1.73
1151	30 Ampere, T. P., D. T.	1	10	..	2.02

PORCELAIN BASE—TYPE "B"

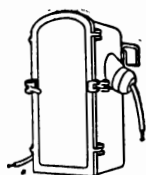
Schedule "H"

1245	15 Ampere, S. P., S. T.	10	100	25	\$0.29
1246	30 Ampere, S. P., S. T.	10	100	27	.44
1102	15 Ampere, D. P., S. T.	10	100	60	.51
1074	30 Ampere, D. P., S. T.	10	100	65	.64

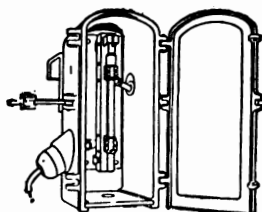
Mounted Switches are plain finish, but will be furnished polished on special order at 20 per cent. advance.
Unmounted Switches are furnished in polished finish and with back connections suitable for switchboard 1½ inches thick, unless ordered otherwise. Plain Finish Switches will be furnished on special order at the same price.

Knife Switches, Fuses and Cut-Outs

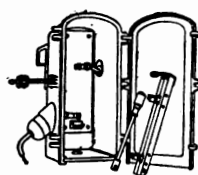
MATTHEWS FUSE SWITCH



Ready to Hang



Showing Inside of Box



Showing Switch Removed

Points of Merit

The Matthews Fuse Switch combines in one device two very important and desirable pieces of apparatus required in the operation of overhead primary lines, viz: a fuse block and a primary line disconnecting switch.

It is a self indicating trouble finder. When fuse blows because of trouble on the line, it throws the section protected by that particular switch into darkness. The customers call in and report "lights out." Reference to service maps shows the exact location of this box and the trouble is then located with ease. The bottom opening is covered with a white mica "telltale." When fuse is blown it is removed. Trouble man is saved an unnecessary climb if he sees it in place from the ground.

The Matthews Fuse Switch eliminates the trouble, damage and danger caused by the recurrent surge of the line when fuse blocks are used. This is because the expulsion fuse discharges its gases positively and breaks the arc.

Its uses cover a wide range of effective protection; it can be employed as a line disconnecting switch, cribbing switch or branch main switch. It can be employed as a limit switch on consumers' connections where there is any question as to whether (for short periods) more energy than that for which they have contracted is being used.

Matthews Fuse Switch has a reasonable first cost. Its cost of installation is very low (it being only necessary to hook over cross arm and connect the leading in wires). Low cost of actual fuse renewals and low cost of maintenance.

Figures 1, 2, 3 and 4 show the operation of the device. By observing these cuts it will be seen that a troubleman cannot be injured. Matthews Fuse Switches fulfill admirably the requirements understood by the expression "safety first." This is why it has been endorsed by the leading liability insurance companies and the Public Utilities Commissions of many states.

The Type "F" Matthews Fuse Switch is furnished in wood boxes only. It is designed for voltages ranging from 1,100 to 6,600 and capacities from 60 to 100 amperes inclusive. The Type "H" Matthews Fuse Switch is furnished in wood boxes only. It is designed for voltages ranging from 6,600 to 14,000 and for capacities up to 75 amperes. The Type "H" is displacing the more expensive and less efficient oil switch.

Each fuse switch is furnished complete, including fuse cartridge, hanger, "leading in" wires, insulators and fuse wire for one charge.

List Type Designat'n	Box	Capacity		Wt. Each	*List Price Each		
		Volts	Amperes		Less than 12	12 to 24	25 or More
A	Iron	6,600 or less	60 or less	50 lbs.	\$31.50	\$29.00	\$26.50
B	Wood	6,600 or less	60 or less	35 lbs.	31.50	29.00	26.50
F	Wood	6,600 or less	60 to 100	50 lbs.	43.00	40.00	38.00
H	Wood	6,600 to 14,000	75 or less	110 lbs.	87.00	82.80	78.60

Extra Expulsion Fuse Cartridges

List Types	*List Price Each
A and B Fuse Cartridge	\$1.50
F Fuse Cartridge	3.00
H Fuse Cartridge	6.00

NOTE: Types A and B were formerly known as Nos. 1 and 1W. Type H was formerly known as No. 2.

*Delivery F. O. B. Factory, St. Louis, Mo. For warehouse deliveries, write nearest house.

"D & W" ENTRANCE CUT-OUTS
NATIONAL ELECTRICAL CODE STANDARD

Mfr. No. 25050

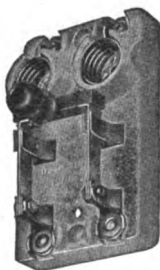


Mfr. No. 25051

60 Amperes, 250 Volts

For Cartridge Fuses

List No.	Ampere Capacity	Volts	Description	Std. Pkg.	Pkg. Net Wt.	*List Price Each
25050	31-60	125	Double Pole.....	10	42 lbs.	\$1.95
25051	31-60	125	Triple Pole.....	5	30 lbs.	2.52



Mfr. No. 25028



Mfr. No. 25029

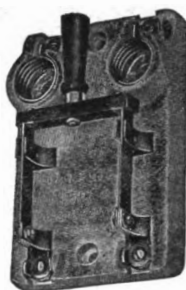
30 Amperes, 125 Volts

For Plug Fuses

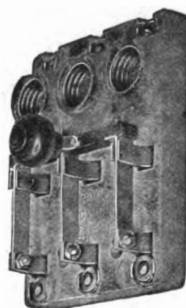
List No.	Ampere Capacity	Volts	Description	Std. Pkg.	Pkg. Net Wt.	*List Price Each
25028	30	125	Double Pole.....	100	180	\$1.90
25029	30	125	Double Pole, Single Branch.....	100	180	2.50

*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries write nearest
Knife Switches, Fuses and Cut-Outs

"D & W" ENTRANCE CUT-OUTS AND SWITCH BOXES
NATIONAL ELECTRICAL CODE STANDARD



Mfr. No. 25030



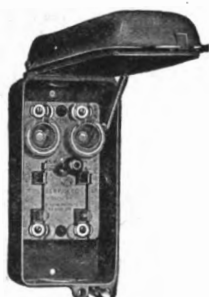
Mfr. No. 25031

30 Amperes, 125 Volts

For Plug Fuses

List No.	Ampere Capacity	Volts	Description	Std. Pkg.	Pkg. Net Wt.	*List Price Each
*25030	30	125	Double Pole.....	100	200	\$1.00
25031	30	125	Triple Pole.....	50	175	1.40

* These Cut-outs are spaced and were formerly approved for 250 Volts.



Mfr. No. 25022
For Conduit Connection



Mfr. No. 25033
For Open Wiring

Switch Boxes with Cut-Outs

With Cover Hinged on End

List No.	Type	Ampere Capacity	Volts	Description	Std. Pkg.	Pkg. Net Wt.	*List Price Each
25022	J-6	30	125	Double Pole.....	25	160	\$3.24
25023	J-7	30	125	Double Pole.....	25	225	3.78
25024	J-8	30	125	Triple Pole.....	25	340	4.32

With Cover Hinged on Side

25032	J	30	125	Double Pole.....	25	160	\$3.24
25033	J-2	30	125	Double Pole.....	25	225	3.78
25034	J-3	30	125	Triple Pole.....	25	340	4.32

*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries write nearest house.

BRYANT ENTRANCE SWITCHES AND BOXES



Mfr. No. 1695



Mfr. No. 1692

DOUBLE POLE, 30 AMPERES, 125 VOLTS

Schedule "I"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1695*	Fuses at the top.....	1	100	170	\$1.08
1981*	Fuses at the bottom.....	1	100	170	1.08

TRIPLE POLE, 30 AMPERES, 125 VOLTS

Schedule "I"

1693*	Fuses at the top, same style handle as No. 1695.....	1	50	150	\$1.68
1986*	Fuses at the bottom, same style handle as No. 1695.....	1	50	150	1.68

DOUBLE POLE, 30 AMPERES, 125 VOLTS

Schedule "I"

1692	Fuses at the top.....	1	100	240	\$1.20
1985	Fuses at the bottom.....	1	100	240	1.20



No. 1851



No. 1852



No. 1984



No. 1987

Bryant Panel Switches

30 Ampere, Double Pole, Single Branch

Schedule "I"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
1851*	Fuses at the top.....	1	100	210	\$1.20
1982*	Fuses at the bottom.....	1	100	210	1.20

30 Ampere, Double Pole, Double Branch

Schedule "I"

1852*	For Vertical Mains.....	1	50	180	\$2.52
1983*	For Horizontal Mains.....	1	50	180	2.52

30 Ampere, T. P. to D. P., Double Branch

Schedule "I"

1947*	For Vertical Mains.....	1	50	220	\$2.40
1984*	For Horizontal Mains.....	1	50	220	2.40

30 Ampere, Double Pole, Single Branch

Schedule "I"

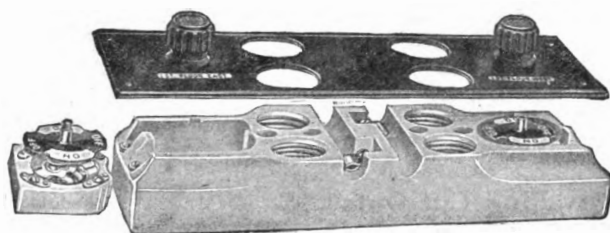
1694	Fuses at the top.....	1	50	130	\$1.32
1987	Fuses at the bottom.....	1	50	130	1.32

* These Switches were approved for use on 250-Volt circuits prior to the change of rules adopted by the Underwriters' National Electrical Association at their meeting of March, 1909. We continue to list them as they have greater spacings than the 125-Volt switches of the same description listed above, and may, on that account, be preferred by some, although it will be understood that they will only be approved when installed on circuits of 125 volts and under.

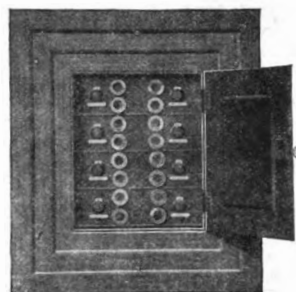
* National Electrical Code Standard.

Knife Switches, Fuses and Cut-Outs

PERKINS PANEL SWITCHES



No. 2599



Panel Switch Cabinet

Perkins Panel Switches

Schedule "S"

Each Branch is fitted with a 10-Ampere Double Pole Indicating Snap Switch, which is mounted on a separate porcelain base and may be removed without disturbing either main or branch connections.

**WITH CONTINUOUS COVER
WITH CONNECTIONS FOR PLUG FUSES
10 Amperes, 125 Volts**

List No.	Description	Dimensions	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2598 ^A	D. P., Single Branch.....	6 ⁵ / ₁₆ x 3 ins.	1	10	..	\$2.88
2599 ^A	D. P., Double Branch.....	10 ¹ / ₂ x 3 ins.	1	10	..	3.60
2600 ^A	T. P. to D. P., Double Branch.....	11 ¹ / ₄ x 3 ins.	1	10	..	4.68



No. 2300



No. 2536

**WITH CONNECTIONS FOR PLUG FUSES
10 Amperes, 125 Volts**

Schedule "S"

List No.	Description	Dimensions	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2400 ^A	D. P., Single Branch.....	6 ⁵ / ₁₆ x 3 ins.	1	10	15	\$2.31
2300 ^A	D. P., Double Branch.....	10 ¹ / ₂ x 3 ins.	1	10	17	3.24
2360 ^A	T. P. to D. P., Double Branch.....	11 ¹ / ₄ x 3 ins.	1	10	20	4.32

**WITH CONNECTIONS FOR CARTRIDGE FUSES
10 Amperes, 250 Volts**

Schedule "S"

List No.	Description	Dimensions	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
2534 ^A	D. P., Single Branch.....	7 ³ / ₁₆ x 3 ins.	1	10	..	\$2.31
2535 ^A	D. P., Double Branch.....	12 x 3 ins.	1	10	..	3.24
2536 ^A	T. P. to D. P., Double Branch.....	13 ¹ / ₂ x 3 ins.	1	10	..	4.32

^A National Electrical Code Standard.

BRYANT CUT-OUTS
30 Amperes, 125 Volts


Mfr. No. 62569



Mfr. No. 62965



Mfr. No. 61935

Plug Cut-Outs

Schedule "1"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
62569 ^a	Single Pole, Main	10	150	70	\$0.22
62965 ^a	Double Pole, Main	10	150	100	.36
61935 ^a	Double Pole, Single Branch	5	100	95	.39



Mfr. No. 8020



Mfr. No. 62587



Mfr. No. 62199

Plug Cut-Outs

Schedule "1"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
8020 ^a	Double Pole, Single or Double Cross-over Branch	5	150	165	\$0.44
62587 ^a	Double Pole, Double Branch	5	100	160	.75
62199 ^a	Triple to Double Pole, Double Branch	5	100	170	.77



Mfr. No. 62165



Mfr. No. 8042



Mfr. No. 62135

Plug Cut-Outs

Schedule "1"

List No.	Description	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
62165 ^a	Triple Pole, Main	5	100	102	\$0.53
8042 ^a	Triple Pole, Single Branch	1	75	195	.75
62135 ^a	Triple Pole, Double Branch	1	50	150	1.08

^aNational Electrical Code Standard.

Knife Switches, Fuses and Cut-Outs

FUSE PLUGS



No. 66341



Paiste No. 2203
Fuse Plug Complete



Paiste No. 203
Fusette



Paiste No. 200
Holder



Cross Section
View
"Paiste Fusette"
Schedule "I"

Bryant "Pyrotite" Fuse Plugs

Mica Cap

List No.	Capacity Amperes	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each	List No.	Capacity Amperes	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
66327 ^A	3	500	45	\$0.09	66335 ^A	15	500	45	\$0.09
66329 ^A	6	500	45	.09	66337 ^A	20	500	45	.09
66331 ^A	10	500	45	.09	66339 ^A	25	500	45	.09
66333 ^A	12	500	45	.09	66341 ^A	30	500	45	.09

Carton quantity for fuse plugs is 100.

The above fuses can also be furnished with solid brass caps on special order. Add to list price, \$0.006. For Plug Fuses with Special Finish Caps, add to list price 4 cents.

^A National Electrical Code Standard.

Paiste "Fusette" Fuse Plugs

This fuse plug with renewable core is a great improvement in plug fuses, which means great economy in fuse plug expense. This fuse plug consists of two parts; the interchangeable holder, into which will fit all the fusettes from 3 amperes to 30 amperes, and the fusette or fuse carrying part. The fusettes are carried in a small porcelain core, called the "Fusette," which is inserted in a permanent holder made up of the cap and screw shell for inserting into the plug cut-out. When a fuse blows only this little fuse core is thrown away and the holder saved for use with a new "Fusette." These new fuse plugs are "approved" fittings for use on all 125-volt circuits, and have given an unusually reliable and accurate record for overload or short circuit. Cross section view shows the position of fuse strip and contact sleeve.

Fuse Plug Complete

List No.	Capacity Amperes	Carton Quantity	Std. Pkg.	List Price Each	List No.	Capacity Amperes	Carton Quantity	Std. Pkg.	List Price Each
2203	3	50	500	\$0.09	2215	15	50	500	\$0.09
2206	6	50	500	.09	2220	20	50	500	.09
2210	10	50	500	.09	2225	25	50	500	.09
2212	12	50	500	.09	2230	30	50	500	.09

Fusette Only

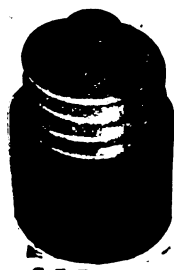
List No.	Capacity Amperes	Std. Pkg.	List Price Each	List No.	Capacity Amperes	Std. Pkg.	List Price Each
203	3	500	\$0.06	215	15	500	\$0.06
206	6	500	.06	220	20	500	.06
210	10	500	.06	225	25	500	.06
212	12	500	.06	230	30	500	.06

Holder Only

List No.	Description	Carton Quantity	Std. Pkg.	List Price Each
200	Holder only.....	50	500	\$0.05

G. E. Enclosed Fuse Plugs

60 Amperes, 250 Volts



G. E. Enclosed
Fuse Plug

List No.	Amp. Capacity	List Price	Refilling List Price
10979	10	\$0.60	\$0.30
10980	20	.60	.30
10981	30	.60	.30
10982	40	.60	.30
10983	50	.60	.30
10984	60	.60	.30

FUSE LINKS AND WIRE



Standard Car Fuses

These fuses are made with copper terminals and flat fuse strips. Length, center to center of slots, 2¼ inches. Standard package contains 100 fuses.

List No.	Ampere Capacity	Style	List Price per 100	List No.	Style	Ampere Capacity	List Price per 100
541411	50	Round	\$4.20	541415	Flat	150	\$5.04
541412	75	Flat	4.20	541416	Flat	200	6.00
541413	100	Flat	4.20	541417	Flat	225	7.20
541414	125	Flat	5.04	541418	Flat	250	7.20



Round Fuse Wire

½ to 100 Amperes

List No.	Safe Carrying Capacity Amperes	Best Lengths for Use, and Fusing Currents for such Lengths.		Lgth. per Lb.		Mils. Diam.	One Package Contains	List Price per Lb.
		Inches	Amperes	Ft.	In.			
541419	⅜	1½	¾	10800		5	2 oz.	.....
541420	⅜	1½	1	2700		10	2 oz.	.....
541421	½	1½	3½	950		17	2 oz.	\$3.30
541422	¾	1½	3¾	810		18½	8 oz.	3.30
541423	1	1½	4¾	670		20	8 oz.	1.32
541424	2	1½	6	430		25	8 oz.	1.26
541425	3	1½	6¾	370		27	8 oz.	1.20
541426	4	1½	8	300		30	1 lb.	1.20
541427	5	2	9	220		35	1 lb.	1.20
541428	6	2	10½	185		38	1 lb.	1.02
541429	7	2	12½	140		44	1 lb.	1.02
541430	8	2	13¾	120		47	1 lb.	.96
541431	9	2	17	93		54	1 lb.	.96
541432	10	2	19½	80		58	1 lb.	.96
541433	12	3	19	70		62	1 lb.	.96
541434	14	3	21	60		68	1 lb.	.96
541435	15	3	22½	52		70	1 lb.	.90
541436	16	3	24	49		75	1 lb.	.90
541437	18	3	27	43		80	1 lb.	.90
541438	20	4	27	36		85	1 lb.	.90
541439	25	4	30	32		90	1 lb.	.90
541440	30	4	35	26		100	1 lb.	.90
541441	35	4	40	22		110	1 lb.	.90
541442	40	4	46	18		120	2 lbs.	.90
541443	45	4	49	17		125	2 lbs.	.90
541444	50	4	63	12	6	145	2 lbs.	.84
541445	60	5	70	10	3	160	2 lbs.	.84
541446	70	5	78	9		175	2 lbs.	.84
541447	75	5	83	8	3	180	2 lbs.	.84
541448	80	5	88	7	6	190	2 lbs.	.84
541449	90	5	94	6	8	200	2 lbs.	.84
541450	100	5	110	5	6	220	2 lbs.	.84
542202	125	5	135	4	2	255	5 lbs.	.84
542203	150	5	165	3	2	290	5 lbs.	.84
542204	175	5	200	2	5	330	5 lbs.	.84
542205	200	5	240	1	11	365	5 lbs.	.84

All fuse wire is carefully wound on spools having heavy flanges, which effectually protect the soft fusible metal from abrasion or other mechanical injury; these are then placed in small cans that are properly labeled and sealed so that fuse wire may be stored away for an indefinite time without the slightest depreciation in quality or appearance. For the number of feet per pound, diameter in mils., and the proper length to obtain best results at rated capacity, see above.

Knife Switches, Fuses and Cut-Outs

FUSE RIBBON AND LINK FUSES



Fuse Ribbon

List No.	Mfr. No.	Carrying Capacity Amperes	Standard Length Inches	Size in Inches	Feet per Lbs.	List Price per Lb.
541451	35315	50	4	.36 x .047	13	\$0.72
541452	35325	60	4	.44 x .047	10	.72
541453	3533	70	4	.47 x .047	9.55	.72
541454	3534	75	4	.50 x .047	9.1	.72
541455	3535	80	4	.375 x .078	7.1	.72
541456	3536	90	4	.44 x .078	6.1	.72
541457	3537	100	4	.44 x .094	5.2	.60
541458	3538	115	4	.375 x .125	4.4	.60
541459	3539	125	4	.50 x .094	4.4	.60
541460	3540	150	4	.57 x .094	4	.60
541461	3541	175	4	.64 x .094	3.5	.60
541462	3542	190	4	.75 x .094	3	.60
541463	3543	200	4	.875 x .094	2.6	.60
541464	3544	225	4	1. x .094	2.2	.60
541465	3545	250	4 1/2	1. x .110	1.9	.60
541466	3546	275	4 1/2	1. x .130	1.65	.60
541467	3547	300	4 1/2	1. x .150	1.4	.60
541468	3548	350	4 1/2	1.94 x .075	1.43	.60
541469	3549	400	4 1/2	1. x .20	1.1	.60
541470	3550	450	4 1/2	1.125 x .20	.97	.60
541471	3551	500	4 1/2	1.25 x .20	.85	.60
541472	3552	550	4 1/2	1.37 x .20	.78	.60
541473	3553	600	4 1/2	1.50 x .20	.70	.60

Standard package 10 lbs. assorted.



5 A Terminal. Slot 3/8 Inch
6 A Terminal. Slot 1/2 Inch

8 A Terminal. Slot 5/8 Inch

10 C Terminal. Slot 3/4 Inch

Open Link Fuses

"A" terminals have one slot parallel and one slot perpendicular to the center line of the link, "B" terminals have both slots parallel and "C" terminals, both perpendicular to center line. Made in all styles except where specially noted.

List No.	Amperes	No. Terminal	1 1/2 Inch Centers	3 3/4 Inch Centers	5 Inch Centers
541474	1-5	1 B	\$2.40	\$3.60	\$4.80
541475	5-30	2 1/2 B	3.60	4.80	6.00
541476	35-100	3	3.60	6.00	7.20
541477	35-100	4	4.80	7.20	9.60

Standard package: 100 of one size.

List No.	Amperes	No. Terminal	5 Inch Centers	8 Inch Centers
541482	100-400	8	\$30.00	\$48.00
541483	410-600	8	48.00	72.00
541484	610-800	8	66.00	96.00
541485	810-1000	8	90.00	120.00

Standard package: 25 assorted.

List No.	Amperes	No. Terminal	2 1/2 Inch Centers	5 Inch Centers	8 Inch Centers
541478	25-100	5	\$12.00	\$18.00	\$24.00
541479	110-200	5 or 6	14.40	21.60	28.80
541480	210-400	6	18.00	27.00	36.00
541481	410-600	6	24.00	36.00	48.00

Standard package: 50 of assorted sizes.

List No.	Amperes	No. Terminal	4 Inch Centers	8 Inch Centers
541486	100-200	10 C	\$48.00	\$72.00
541487	210-400	10 C	54.00	84.00
541488	410-600	10 C	60.00	96.00
541489	610-800	10 C	72.00	108.00
541490	810-1000	10 C	90.00	120.00

Standard package: 25 assorted.
Prices on larger sizes on application.

Knife Switches, Fuses and Cut-Outs

"D & W" INDICATING ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD

The mechanical design of "D & W" fuses has been rendered as nearly correct in all particulars as possible to conform to the requirements of the National Electrical Code. Exceptionally heavy fibre tubes with extra long caps are used throughout. Where extreme rigidity is required, as in large fuses, the tubes are fitted inside with steel reinforcing rings which are so placed as to receive the ends of all the screws which hold on the fuse caps. The strength and rigidity obtained by passing these machine screws into the steel bands within the fibre tubes enable the fuse to withstand great mechanical abuse and the severest electrical conditions.

A special feature of "D & W" fuses is, that whenever possible, the copper terminal wires in the fusible links are fastened together so as to be both mechanically and electrically continuous, even before the application of solder.

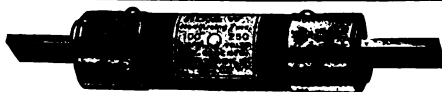
An important and distinctive feature of "D & W" fuses is the so-called "Bull's-eye Indicator." The location of the indication is absolutely defined and the indication itself is extremely distinct, not requiring close inspection as is the case with other types.



Construction of Fuses from 3 to 60 Amperes

3 to 60 Amperes, 250 Volts

List No.	Ampere Capacity	Length Inches	Carton Quantity	Std. Pkg. Quantity	Pkg. Net Wt.	List Price Each	Refill Price Each
For 30 Ampere Cut-Outs							
91125	3	2	10	100	4 lbs.	\$0.25	NOT REFILLABLE
91126	4	2	10	100	4 lbs.	.25	
91127	5	2	10	100	4 lbs.	.25	
91128	6	2	10	100	4 lbs.	.25	
91130	7	2	10	100	4 lbs.	.25	
91131	8	2	10	100	4 lbs.	.25	
91132	9	2	10	100	4 lbs.	.25	
91133	10	2	10	100	4 lbs.	.25	
91134	12	2	10	100	4 lbs.	.25	
91135	15	2	10	100	4 lbs.	.25	
91136	20	2	10	100	4 lbs.	.25	NOT REFILLABLE
91137	25	2	10	100	4 lbs.	.25	
91138	30	2	10	100	4 lbs.	.25	
For 60 Ampere Cut-Outs							
91139	35	3	10	100	10 lbs.	\$0.35	NOT REFILLABLE
91140	40	3	10	100	10 lbs.	.35	
91141	45	3	10	100	10 lbs.	.35	
91143	50	3	10	100	10 lbs.	.35	
91146	55	3	10	100	10 lbs.	.35	
91147	60	3	10	100	10 lbs.	.35	



Construction of Fuses from 61 to 100 Amperes

65 to 100 Amperes, 250 Volts

List No.	Ampere Capacity	Length Inches	Carton Quantity	Std. Pkg. Quantity	Pkg. Net Wt.	List Price Each	Refill Price Each
For 100 Ampere Cut-Outs							
91149	65	5 7/8	5	50	14 lbs.	\$.90	\$0.60
91150	70	5 7/8	5	50	14 lbs.	.90	.60
91151	75	5 7/8	5	50	14 lbs.	.90	.60
91152	80	5 7/8	5	50	14 lbs.	.90	.60
91153	85	5 7/8	5	50	14 lbs.	.90	.60
91154	90	5 7/8	5	50	14 lbs.	.90	.60
91155	95	5 7/8	5	50	14 lbs.	.90	.60
91156	100	5 7/8	5	50	14 lbs.	.90	.60

Refilled Fuses

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Underwriters. Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same attention and care as new fuses.

Knife Switches, Fuses and Cut-Outs

"D & W" INDICATING ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD



Construction of Fuses from 101 to 1000 Amperes

110 to 1000 Amperes, 250 Volts

List No.	Ampere Capacity	Length Inches	Carton Quantity	Std. Pkg. Quantity	Pkg. Net Wt.	List Price Each	Reload Price Each
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For 200 Ampere Cut-Outs

91157	110	7 1/8	5	25	18 lbs.	\$2.00	\$0.90
91158	120	7 1/8	5	25	18 lbs.	2.00	.90
91161	125	7 1/8	5	25	18 lbs.	2.00	.90
91162	150	7 1/8	5	25	18 lbs.	2.00	.90
91163	175	7 1/8	5	25	18 lbs.	2.00	.90
91164	200	7 1/8	5	25	18 lbs.	2.00	.90

For 400 Ampere Cut-Outs

91165	225	8 5/8	5	25	40 lbs.	\$3.60	\$1.50
91166	250	8 5/8	5	25	40 lbs.	3.60	1.50
91167	275	8 5/8	5	25	40 lbs.	3.60	1.50
91168	300	8 5/8	5	25	40 lbs.	3.60	1.50
91169	325	8 5/8	5	25	40 lbs.	3.60	1.50
91170	350	8 5/8	5	25	40 lbs.	3.60	1.50
91171	375	8 5/8	5	25	40 lbs.	3.60	1.50
91172	400	8 5/8	5	25	40 lbs.	3.60	1.50

For 600 Ampere Cut-Outs

91173	450	10 3/8	1	10	28 lbs.	\$5.50	\$2.00
91174	500	10 3/8	1	10	28 lbs.	5.50	2.00
91175	550	10 3/8	1	10	28 lbs.	5.50	2.00
91176	600	10 3/8	1	10	28 lbs.	5.50	2.00

*For 800 Ampere Cut-Outs

91177	650	11 1/2	1	10	45 lbs.	\$12.96	\$4.32
91178	700	11 1/2	1	10	45 lbs.	12.96	4.32
91179	750	11 1/2	1	10	45 lbs.	12.96	4.32
91180	800	11 1/2	1	10	45 lbs.	12.96	4.32

*For 1000 Ampere Cut-Outs

91181	850	12 5/8	1	10	60 lbs.	\$16.20	\$5.40
91182	900	12 5/8	1	10	60 lbs.	16.20	5.40
91183	950	12 5/8	1	10	60 lbs.	16.20	5.40
91184	1000	12 5/8	1	10	60 lbs.	16.20	5.40

*Underwriters' published approval only includes up to 600 amperes.

Refilled Fuses

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Underwriters. Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same attention and care as new fuses.

"D & W" INDICATING ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD



Construction of Fuses from 3 to 60 Amperes

3 to 60 Amperes, 600 Volts

List No.	Ampere Capacity	Length Inches	Carton Quantity	Std. Pkg. Quantity	Pkg. Net Wt.	List Price Each	Reload Price Each
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For 30 Ampere Cut-Outs

28084	3	5	10	100	14 lbs.	\$0.40	NOT REFILLABLE
28085	4	5	10	100	14 lbs.	.40	
28086	5	5	10	100	14 lbs.	.40	
28087	6	5	10	100	14 lbs.	.40	
28088	7	5	10	100	14 lbs.	.40	
28089	8	5	10	100	14 lbs.	.40	
28090	9	5	10	100	14 lbs.	.40	
28091	10	5	10	100	14 lbs.	.40	
28092	12	5	10	100	14 lbs.	.40	
28093	15	5	10	100	14 lbs.	.40	
28094	20	5	10	100	14 lbs.	.40	
28095	25	5	10	100	14 lbs.	.40	
28096	30	5	10	100	14 lbs.	.40	

For 60 Ampere Cut-Outs

28097	35	5½	10	100	22 lbs.	\$0.60	NOT REFILLABLE
28098	40	5½	10	100	22 lbs.	.60	
28099	45	5½	10	100	22 lbs.	.60	
28100	50	5½	10	100	22 lbs.	.60	
28101	55	5½	10	100	22 lbs.	.60	
28102	60	5½	10	100	22 lbs.	.60	



Construction of Fuses from 61 to 100 Amperes

65 to 100 Amperes, 600 Volts

List No.	Ampere Capacity	Length Inches	Carton Quantity	Std. Pkg. Quantity	Pkg. Net Wt.	List Price Each	Reload Price Each
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For 100 Ampere Cut-Outs

28103	65	7¼	5	50	23 lbs.	\$1.50	\$0.80
28104	70	7¼	5	50	23 lbs.	1.50	.80
28105	75	7¼	5	50	23 lbs.	1.50	.80
28106	80	7¼	5	50	23 lbs.	1.50	.80
28107	85	7¼	5	50	23 lbs.	1.50	.80
28108	90	7¼	5	50	23 lbs.	1.50	.80
28109	95	7¼	5	50	23 lbs.	1.50	.80
28110	100	7¼	5	50	23 lbs.	1.50	.80

Refilled Fuses

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Underwriters. Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same attention and care as new fuses.

Knife Switches, Fuses and Cut-Outs

"D & W" INDICATING ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD



Construction of Fuses from 101 to 1000 Amperes

110 to 1000 Amperes, 600 Volts

List No.	Ampere Capacity	Length Inches	Carton Quantity	Std. Pkg. Quantity	Pkg. Net Wt.	List Price Each	Reload Price Each
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For 200 Ampere Cut-Outs

28111	110	9 $\frac{5}{8}$	5	25	34 lbs.	\$2.50	\$1.20
28112	120	9 $\frac{5}{8}$	5	25	34 lbs.	2.50	1.20
28113	125	9 $\frac{5}{8}$	5	25	34 lbs.	2.50	1.20
28114	150	9 $\frac{5}{8}$	5	25	34 lbs.	2.50	1.20
28115	175	9 $\frac{5}{8}$	5	25	34 lbs.	2.50	1.20
28116	200	9 $\frac{5}{8}$	5	25	34 lbs.	2.50	1.20

For 400 Ampere Cut-Outs

28117	225	11 $\frac{5}{8}$	1	25	77 lbs.	\$5.50	\$2.00
28118	250	11 $\frac{5}{8}$	1	25	77 lbs.	5.50	2.00
28119	275	11 $\frac{5}{8}$	1	25	77 lbs.	5.50	2.00
28120	300	11 $\frac{5}{8}$	1	25	77 lbs.	5.50	2.00
28121	325	11 $\frac{5}{8}$	1	25	77 lbs.	5.50	2.00
28122	350	11 $\frac{5}{8}$	1	25	77 lbs.	5.50	2.00
28123	375	11 $\frac{5}{8}$	1	25	77 lbs.	5.50	2.00
28124	400	11 $\frac{5}{8}$	1	25	77 lbs.	5.50	2.00

***For 600 Ampere Cut-Outs**

28125	450	13 $\frac{3}{8}$	1	10	49 lbs.	\$8.00	\$3.00
28126	500	13 $\frac{3}{8}$	1	10	49 lbs.	8.00	3.00
28127	550	13 $\frac{3}{8}$	1	10	49 lbs.	8.00	3.00
28128	600	13 $\frac{3}{8}$	1	10	49 lbs.	8.00	3.00

***For 800 Ampere Cut-Outs**

28129	650	14 $\frac{1}{2}$	1	10	60 lbs.	\$16.20	\$5.40
28130	700	14 $\frac{1}{2}$	1	10	60 lbs.	16.20	5.40
28131	750	14 $\frac{1}{2}$	1	10	60 lbs.	16.20	5.40
28132	800	14 $\frac{1}{2}$	1	10	60 lbs.	16.20	5.40

***For 1000 Ampere Cut-Outs**

28133	850	15 $\frac{5}{8}$	1	10	75 lbs.	\$19.44	\$6.48
28134	900	15 $\frac{5}{8}$	1	10	75 lbs.	19.44	6.48
28135	950	15 $\frac{5}{8}$	1	10	75 lbs.	19.44	6.48
28136	1000	15 $\frac{5}{8}$	1	10	75 lbs.	19.44	6.48

*Underwriters' published approval only includes up to 400 Amperes.

Refilled Fuses

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Underwriters. Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same attention and care as new fuses.



List No. 190

"D & W" PLUG FUSE CASES AND FUSES**Plug Fuse Cases**

NATIONAL ELECTRICAL CODE STANDARD

0-60 Amperes, 125 Volts

These fuse cases are made in two types, No. 190, 0-30 amperes, being designed for standard cartridge fuses within its range, and No. 191, 31 to 60 amperes, designed for standard cartridge fuses within that range.

List No.	Amp. Cap.	For Fuses	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
190	0-30	N. E. C. Std.	25	100	17	\$0.20
191	31-60	N. E. C. Std.	25	100	50	.39



Before Blowing



List No. 410



After Blowing

Type "C" Indicating Plug Fuses**3-30 Amperes, 125 Volts**

These plug fuses are designed for standard Edison plug cut-outs, and afford a positive indication when the fuse has blown. These fuses may be reloaded.

List No.	Amp. Capacity	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each	Reload Price Each	List No.	Amp. Capacity	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each	Reload Price Each
403	3	25	100	9	\$0.43	\$0.25	412	12	25	100	9	\$0.43	\$0.25
404	4	25	100	9	.43	.25	415	15	25	100	9	.43	.25
405	5	25	100	9	.43	.25	418	18	25	100	9	.43	.25
406	6	25	100	9	.43	.25	420	20	25	100	9	.43	.25
408	8	25	100	9	.43	.25	425	25	25	100	9	.43	.25
410	10	25	100	9	.43	.25	430	30	25	100	9	.43	.25



3-30 Amp.



35-75 Amp.

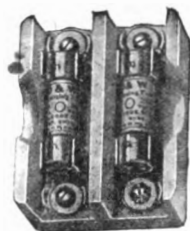
Type "B" Plug Fuses**3-75 Amperes, 250 Volts Old Code**

These fuse cartridges are for use in connection with Old Code Type B plug fuse cases, and are made in ranges of from 3 to 30 amperes, designed for 30 ampere, and from 35 to 75 amperes, designed for 75 ampere cases.

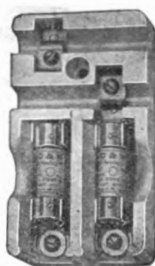
List No.	Amp. Capacity	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each	List No.	Amp. Capacity	Carton Quantity	Std. Pkg.	Pkg. Wt. Lbs.	List Price Each
103	3	50	100	3	\$0.20	130	30	50	100	3	\$0.20
104	4	50	100	3	.20	135	35	25	100	12	.38
105	5	50	100	3	.20	140	40	25	100	12	.38
106	6	50	100	3	.20	145	45	25	100	12	.38
108	8	50	100	3	.20	150	50	25	100	12	.38
110	10	50	100	3	.20	155	55	25	100	12	.38
112	12	50	100	3	.20	160	60	25	100	12	.38
115	15	50	100	3	.20	165	65	25	50	6	.97
118	18	50	100	3	.20	170	70	25	50	6	.97
120	20	50	100	3	.20	175	75	25	50	6	.97
125	25	50	100	3	.20						

"D & W" ENCLOSED FUSE CUT-OUTS

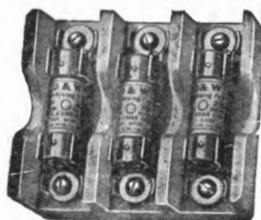
NATIONAL ELECTRICAL CODE STANDARD



List No. 91102



List No. 91104



List No. 91103



List No. 91117

0 to 100 Amperes, 250 Volts Porcelain

List No.	Ampere Capacity	Description	Contact	Std. Pkg.	Pkg. Net Wt.	List Price Each
91101	0- 30	Single Pole, Main Line, porc.	Ferrule	50	13	\$0.36
91107	31- 60	Single Pole, Main Line, porc.	Ferrule	50	30	.59
91114	61-100	Single Pole, Main Line, porc.	Knife Blade	50	79	1.26
91102	0- 30	Double Pole, Main Line, porc.	Ferrule	50	37	.50
91108	31- 60	Double Pole, Main Line, porc.	Ferrule	50	81	1.26
91119	61-100	Double Pole, Main Line, porc.	Knife Blade	50	156	2.52
91104	0- 30	Double Pole, Single Branch, porc.	Ferrule	50	60	.63
91110	31- 60	Double Pole, Single Branch, porc.	Ferrule	50	121	1.58
91106	0- 30	Double Pole, Double Branch, porc.	Ferrule	25	50	1.17
91113	31- 60	Double Pole, Double Branch, porc.	Ferrule	25	134	3.15
91103	0- 30	Triple Pole, Main Line, porc.	Ferrule	50	51	.72
91109	31- 60	Triple Pole, Main Line, porc.	Ferrule	50	117	1.80
91120	61-100	Triple Pole, Main Line, porc.	Knife Blade	25	117	3.60
91105	0- 30	Triple Pole, Single Branch, porc.	Ferrule	50	90	1.22
91111	31- 60	Triple Pole, Single Branch, porc.	Ferrule	50	250	2.70
91100	0- 30	Triple Pole, Double Branch, porc.	Ferrule	25	91	2.03
91123	31- 60	Triple Pole, Double Branch, porc.	Ferrule	10	95	5.40
91121	0- 30	3 to 2 Wire, Double Branch, porc.	Ferrule	25	65	1.35
91124	31- 60	3 to 2 Wire, Double Branch, porc.	Ferrule	25	158	3.78
91122	0- 30	2 Wire Cross-over Branch, porc.	Ferrule	50	53	.59

101 to 1000 Amperes, 250 Volts Slate Base

91115	101- 200	Single Pole, Main Line, Slate.	Knife Blade	25	84	\$2.48
91117	201- 400	Single Pole, Main Line, Slate.	Knife Blade	25	138	6.30
91118	401- 600	Single Pole, Main Line, Slate.	Knife Blade	10	93	9.90
91190	*601-800	Single Pole, Main Line, Slate.	Knife Blade	10	175	21.60
91191	*801-1000	Single Pole, Main Line, Slate.	Knife Blade	10	200	27.00

* Underwriters' published approval only includes up to 600 amperes.



Oil Fuse Cut-out

Oil Fuse Cut-Outs For High Tension Work

In the "D & W" Cut-out the fusible element is placed under a heavy body of special oil. The cutouts are made in three capacities, of 50, 100 and 200 ampere, 2500 volt capacity. Special precautions have been taken to so design the device as to render re-fusing safe for the operator. The cut-out is not intended for use as a switching device. The fusible element is light and readily inserted.

*List Price
Each

List No.			
542196	50 ampere, oil fuse cut-out pole type.		\$20.00
542197	100 ampere, oil fuse cut-out pole type.		30.00
542198	200 ampere, oil fuse cut-out pole type.		40.00
542199	50 ampere, capacity fuse. ....		.30
542200	100 ampere, capacity fuse. ....		.50
542201	200 ampere, capacity fuse.		1.20

* Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries write nearest house.

"D & W" CUT-OUTS
 NATIONAL ELECTRICAL CODE STANDARD


List No. 28074



List No. 28078

0 to 100 Amperes, 600 Volts
Ferrule Contact—Single Pole Porcelain

List No.	Ampere Capacity	Standard Package	Package Net Weight	List Price Each
28074	0-30	50	48 lbs.	\$0.54
28075	31-60	50	54 lbs.	.81

Knife-Blade Contact—Single Pole Porcelain

List No.	Ampere Capacity	Standard Package	Package Net Weight	List Price Each
28078	61-100	50	102 lbs.	\$1.58

101 to 1000 Amperes, 600 Volts
Knife-Blade Contact—Single Pole Slate

List No.	Ampere Capacity	Standard Package	Package Net Weight	List Price Each
28079	101-200	25	106 lbs.	\$2.70
28080	201-400	25	181 lbs.	7.30
28081	*401-600	10	108 lbs.	10.80
28140	*601-800	10	250 lbs.	22.68
28141	*801-1000	10	275 lbs.	29.28

* Underwriters' published approval only includes up to 400 amperes.



List No. 60100



List No. 60123

0 to 100 Amperes, 2500 Volts
Knife-Blade Contact

List No.	Ampere Capacity	Description	Std. Pkg.	Pkg. Net Wt.	List Price Each
60030	0-30	Single Pole Slate	25	81 lbs.	\$2.03
60060	31-60	Single Pole Slate	25	86 lbs.	2.25
60100	60-100	Single Pole Slate	25	91 lbs.	2.48

4400-22000 Volt Cut-Outs
Knife-Blade Contact

List No.	Description	Std. Pkg.	Pkg. Net Wt.	List Price Each
60120	0-20 Amperes, 4400 Volts Marble Base	10	..	\$15.00
60121	0-15 Amperes, 6600 Volts Marble Base	10	..	15.00
60122	0-10 Amperes, 13200 Volts Marble Base	10	..	16.00
60123	0-5 Amperes, 22000 Volts Marble Base	10	..	16.00

Knife Switches, Fuses and Cut-Outs

"D & W" HIGH TENSION FUSES

Knife-Blade Contact



List No. 6030



List No. 60113

3-100 Amperes, 2500 Volts

For 30 Ampere Cut-Outs

List No.	Ampere Capacity	Length Inches	Std. Pkg.	Net Pkg.	List Price Each	Reload Price Each
6003	3	10	50	28 lbs.	\$1.62	\$1.19
6004	4	10	50	28 lbs.	1.62	1.19
6005	5	10	50	28 lbs.	1.62	1.19
6006	6	10	50	28 lbs.	1.62	1.19
6007	7	10	50	28 lbs.	1.62	1.19
6008	8	10	50	28 lbs.	1.62	1.19
6009	9	10	50	28 lbs.	1.62	1.19
6010	10	10	50	28 lbs.	1.62	1.19
6012	12	10	50	28 lbs.	1.62	1.19
6015	15	10	50	28 lbs.	1.62	1.19
6020	20	10	50	28 lbs.	1.62	1.19
6025	25	10	50	28 lbs.	1.62	1.19
6030	30	10	50	28 lbs.	1.62	1.19

For 60 Ampere Cut-Outs

6035	35	10½	25	30 lbs.	\$2.16	\$1.40
6040	40	10½	25	30 lbs.	2.16	1.40
6045	45	10½	25	30 lbs.	2.16	1.40
6050	50	10½	25	30 lbs.	2.16	1.40
6055	55	10½	25	30 lbs.	2.16	1.40
6060	60	10½	25	30 lbs.	2.16	1.40

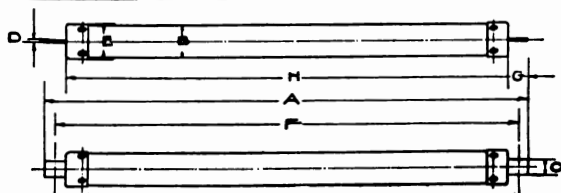
For 100 Ampere Cut-Outs

6065	65	11	25	42 lbs.	\$3.24	\$1.73
6070	70	11	25	42 lbs.	3.24	1.73
6075	75	11	25	42 lbs.	3.24	1.73
6080	80	11	25	42 lbs.	3.24	1.73
6085	85	11	25	42 lbs.	3.24	1.73
6090	90	11	25	42 lbs.	3.24	1.73
6095	95	11	25	42 lbs.	3.24	1.73
6100	100	11	25	42 lbs.	3.24	1.73

Fuses 4400-22000 Volts

Knife-Blade Contact

List No.	Ampere Capacity	Volts	For Cut-Outs	Length Inches	Std. Pkg.	List Price Each	Reload Price Each
60110	0-20	4400	60120	14	25	\$3.50	\$2.50
60111	0-15	6600	60121	17	25	4.00	2.75
60112	0-10	13200	60122	20	10	4.50	3.00
60113	0-5	22000	60123	23	10	5.00	3.50



Standard Dimensions

Volts	Amps	A	B	C	D	E	F	G	H
4400	1-20	14	1¾	¾	1½	1½	13	1	12
6600	1-15	17	1¾	¾	1½	1½	16	1	15
13200	1-10	20	1¾	¾	1½	1½	19	1	18
22000	1-5	23	1¾	¾	1½	1½	22	1	21

"D & W" PROTECTORS



Mfr. No. 3100



Mfr. No. 3104



Mfr. No. 3105

Fire Alarm Protectors

Combination Cut-Outs furnished complete with Fuses and Sneak Coils.

List No.	Mfr. No.	Description	Std. Pkg.	Pkg. Wt. Lbs.	*List Price Each
541703	3100	Single Pole Cut-Out	50	42	\$0.70
541704	3102	Single Pole Combination Cut-Out	50	54	1.54
541705	3104	Double Pole Combination Cut-Out	50	101	2.46
541706	3105	D. P. Comb. Cut-Out with Arrester without Sneak Coils	50	100	1.96

FIRE ALARM FUSES—2000 VOLTS

Type A—Screw Clamp Contact

List No.	Mfr. No.	Ampere Capacity	Centres Inches	Std. Pkg.	Pkg. Wt. Lbs.	*List Price Each
541707	3001	1 Ampere	5 $\frac{3}{32}$	100	1 $\frac{1}{2}$ lbs.	\$0.28
541708	3002	2 Ampere	5 $\frac{3}{32}$	100	1 $\frac{1}{2}$ lbs.	.28
541709	3003	3 Ampere	5 $\frac{3}{32}$	100	1 $\frac{1}{2}$ lbs.	.28
541710	3004	4 Ampere	5 $\frac{3}{32}$	100	1 $\frac{1}{2}$ lbs.	.28

SNEAK COILS

For Combination Cut-Out

541711	3110	$\frac{1}{10}$ Ampere	1 $\frac{7}{8}$	100	$\frac{1}{2}$ lb.	\$0.26
541712	3210	$\frac{2}{10}$ Ampere	1 $\frac{7}{8}$	100	$\frac{1}{2}$ lb.	.26
541713	3310	$\frac{3}{10}$ Ampere	1 $\frac{7}{8}$	100	$\frac{1}{2}$ lb.	.26
541714	3410	$\frac{4}{10}$ Ampere	1 $\frac{7}{8}$	100	$\frac{1}{2}$ lb.	.26
541715	3510	$\frac{5}{10}$ Ampere	1 $\frac{7}{8}$	100	$\frac{1}{2}$ lb.	.26

For telephone service we recommend a $\frac{3}{10}$ ampere sneak coil, and for fire alarm service a $\frac{1}{10}$ ampere sneak coil.



Mfr. No. 2753



Mfr. No. 2757

Telegraph Protectors

Without Fuses

List No.	Mfr. No.	Type	Std. Pkg.	Pkg. Wt. Lbs.	*List Price Each
541716	2750	Western Union S. P. without Lightning Arrester	50	24 lbs.	\$0.30
541717	2751	Western Union D. P. without Lightning Arrester	50	48 lbs.	.50
541718	2752	Western Union S. P. with Lightning Arrester	50	25 lbs.	.60
541719	2753	Western Union D. P. with Lightning Arrester	50	50 lbs.	1.00
541720	2754	Postal Type A, S. P. without Lightning Arrester	50	43 lbs.	.40
541721	2755	Postal Type C, S. P. without Lightning Arrester	50	43 lbs.	.40
541722	2756	Postal Type A, S. P. with Lightning Arrester	50	52 lbs.	.76
541723	2757	Postal Type C, S. P. with Lightning Arrester	50	52 lbs.	.76

TELEGRAPH FUSES

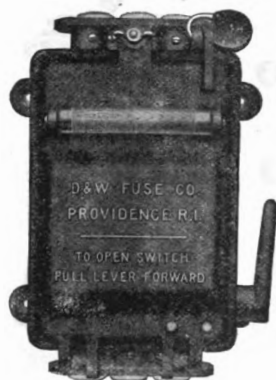
For Telegraph Protectors

List No.	Mfr. No.	Ampere Capacity	For Cut-Outs	Length Inches	Centres Inches	Std. Pkg.	Pkg. Wt. Lbs.	*List Price Each
541724	2760	0-5	West. Un.	4 $\frac{5}{8}$		100	3 lbs.	\$0.20
541725	2761	0-10	Postal	4 $\frac{5}{8}$		100	7 lbs.	.20
541726	2762	0-10	Postal		5 $\frac{5}{8}$	100	7 lbs.	.20

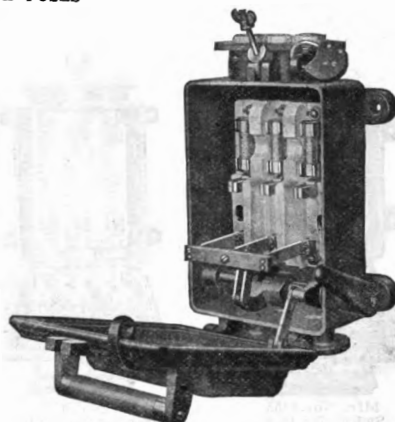
*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries, write nearest house.
Knife Switches, Fuses and Cut-Outs

"D & W" FUSED SWITCH BOXES

FOR NATIONAL CODE FUSES
Waterproof



Type J-28 Closed

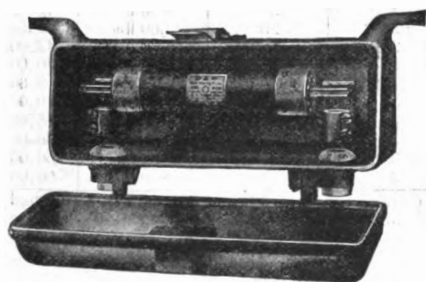


Type J-28 Open

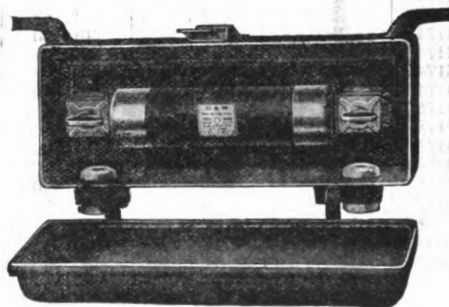
Waterproof Fused Switch Boxes 250 Volts

List No.	Mfr. No.	Type	Description	Net Wt. Each	*List Price Each
541727	25075	J-25	0-30 Amperes, Double Pole.	18 lbs.	\$7.80
541728	25076	J-26	31-60 Amperes, Double Pole.	26 lbs.	14.04
541729	25077	J-27	61-100 Amperes, Double Pole.	35 lbs.	32.40
541730	25078	J-28	0-30 Amperes, Triple Pole.	20 lbs.	12.96
541731	25079	J-29	31-60 Amperes, Triple Pole.	30 lbs.	21.60
541732	25080	J-30	61-100 Amperes, Triple Pole.	40 lbs.	43.20

The above prices do not include fuse or padlock.



Mfr. No. 60128



Mfr. No. 60129

"D & W" Railway Cut-Outs Car Type—600 Volts

These Cut-outs consist of an asbestos-lined iron case with hinged cover, held in place by a spring catch.

List No.	Mfr. No.	Type	Description	Length of Fuse	Pkg. Quantity	Pkg. Net Wt.	*List Price Each
541733	60128	R-5	Car Motor Cut-out for N. E. Code Std. fuses 61 to 100 amperes, 600 volts. . . .	7 7/8 ins.	25	225 lbs.	\$6.76
541734	60129	R-6	Car Motor Cut-out for N. E. Code Std. fuses bolted, 101 to 200 amperes, 600 volts.	9 5/8 ins.	25	369 lbs.	9.26

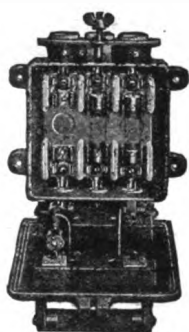
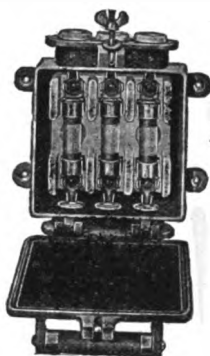
NOTE: Type R-5 box can be fitted with screw clamp contacts, and Type R-6 with knife blade contacts if desired. In ordering fuses for boxes specify the type of box.

*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries, write nearest house.

"D & W" SERVICE SWITCHES AND FUSE BOXES

FOR NATIONAL CODE FUSES

Waterproof

Mfr. No. 1905
Switch for D. C.
CircuitMfr. No. 1906
Switch for Multiphase
CircuitMfr. No. 2205
Fuse BoxMfr. No. 2208
Fuse Box

The service switch is constructed for use both as a cut-out and a switch. It consists of a set of enclosed fuses mounted in an iron box so that they can be made to swing with the cover and open the circuit or to remain in the fuse clip while the cover is open. The fuse box is a device similar to the service switch except that the cover is not provided with any mechanism for withdrawing the fuses from the circuit. They are so designed as to be used on the outside of buildings or in cellars where the wires enter from the subway. In the covers of the service switches are mounted the fuse guides to positively align the fuses in order that the boxes may be readily closed with the fuses properly engaging in the cut-outs. Withdrawal hooks are also mounted in the cover. These grasp the fuses when the levers outside the boxes are given a one-quarter turn. Thus the fuses can be withdrawn from the circuit if desired when the boxes are opened.

"D & W" Service Switches, 250 Volts

List No.	Mfr. No.	Type	Ampere Capacity	Poles	Std. Pkg.	Pkg. Net Wt.	*List Price Each
541744	1910	I-6	0-30	2	25	175 lbs.	\$7.26
541745	1900	I-7	31-60	2	25	225 lbs.	8.26
541746	1901	I-8	61-100	2	25	450 lbs.	12.50
541747	1902	I-9	101-200	2	20	560 lbs.	20.50
541748	1903	I-10	201-400	2	20	920 lbs.	42.00
541749	1904	I-11	401-600	2	10	680 lbs.	79.00
541750	1911	I-0	0-30	3	25	218 lbs.	9.00
541751	1905	I	31-60	3	25	275 lbs.	10.00
541752	1906	I-2	61-100	3	25	550 lbs.	15.00
541753	1907	I-3	101-200	3	20	680 lbs.	26.00
541754	1908	I-4	201-400	3	20	1140 lbs.	56.00
541755	1909	I-5	401-600	3	10	880 lbs.	96.00

NOTE: For D. C. Three-Wire Circuits these boxes are equipped with two hooks operated by individual levers, and for Multiple Circuits with three hooks operated simultaneously by one lever. Unless otherwise specified, boxes for D. C. circuits will be shipped.

"D & W" Fuse Boxes, 250 Volts

List No.	Mfr. No.	Type	Ampere Capacity	Poles	Std. Pkg.	Pkg. Net Wt.	*List Price Each
541756	2210	K-19	0-30	2	25	150 lbs.	\$5.00
541757	2200	K-20	31-60	2	25	190 lbs.	6.40
541758	2201	K-21	61-100	2	25	380 lbs.	8.40
541759	2202	K-22	101-200	2	20	475 lbs.	17.50
541760	2203	K-23	201-400	2	20	780 lbs.	35.00
541761	2204	K-24	401-600	2	10	580 lbs.	62.50
541762	2211	K-25	0-30	3	25	190 lbs.	6.50
541763	2205	K-26	31-60	3	25	235 lbs.	8.00
541764	2206	K-27	61-100	3	25	470 lbs.	11.00
541765	2207	K-28	101-200	3	20	580 lbs.	24.00
541766	2208	K-29	201-400	3	20	970 lbs.	47.50
541767	2209	K-30	401-600	3	10	748 lbs.	77.00

*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries, write nearest agent.
Knife Switches, Fuses and Cut-Outs

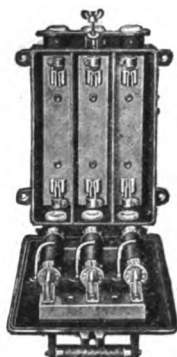
"D & W" SERVICE SWITCHES AND FUSE BOXES

FOR NATIONAL CODE FUSES

Waterproof



Mfr. No. 1811
Service Switch



Mfr. No. 1819
Service Switch



Mfr. No. 1831
Fuse Box



Mfr. No. 1839
Fuse Box

The service switch is constructed for use both as a cut-out and a switch. It consists of a set of enclosed fuses mounted in an iron box so that they can be made to swing with the cover and open the circuit or to remain in the fuse clip while the cover is open. The fuse box is a device similar to the service switch except that the cover is not provided with any mechanism for withdrawing the fuses from the circuit. They are so designed as to be used on the outside of buildings or in cellars where the wires enter from the subway. In the covers of the service switches are mounted the fuse guides to positively align the fuses in order that the boxes may be readily closed with the fuses properly engaging in the cut-outs. Withdrawal hooks are also mounted in the cover. These grasp the fuses when the levers outside the boxes are given a one-quarter turn. Thus the fuses can be withdrawn from the circuit if desired when the boxes are opened.

"D & W" Service Switches, 600 Volts

List No.	Mfr. No.	Type	Ampere Capacity	Pole	Std. Pkg.	Pkg. Net Wt.	*List Price Each
541768	1811	O	0- 30	2	25	300 lbs.	\$8. 26
541769	1812	O-2	31- 60	2	25	362 lbs.	10. 00
541770	1813	O-3	61-100	2	25	500 lbs.	17. 50
541771	1814	O-4	101-200	2	20	600 lbs.	35. 00
541772	1815	O-5	201-400	2	20	1000 lbs.	80. 00
541773	1816	O-6	401-600	2	10	818 lbs.	133. 00
541774	1817	C-7	0- 30	3	25	400 lbs.	10. 00
541775	1818	C-8	31- 60	3	25	432 lbs.	12. 00
541776	1819	O-9	61-100	3	25	732 lbs.	23. 00
541777	1820	O-10	101-200	3	20	928 lbs.	42. 00
541778	1821	O-11	201-400	3	20	1840 lbs.	102. 00
541779	1822	O-12	401-600	3	10	1168 lbs.	175. 00

"D & W" Fuse Boxes, 600 Volts

List No.	Mfr. No.	Type	Ampere Capacity	Poles	Std. Pkg.	Pkg. Net Wt.	*List Price Each
541780	1831	L	0- 30	2	25	262 lbs.	\$6. 00
541781	1832	L-2	31- 60	2	25	325 lbs.	7. 50
541782	1833	L-3	61-100	2	25	450 lbs.	16. 00
541783	1834	L-4	101-200	2	20	560 lbs.	28. 00
541784	1835	L-5	201-400	2	20	950 lbs.	63. 00
541785	1836	L-6	401-600	2	10	785 lbs.	100. 00
541786	1837	L-7	0- 30	3	25	344 lbs.	8. 00
541787	1838	L-8	31- 60	3	25	388 lbs.	9. 50
541788	1839	L-9	61-100	3	25	672 lbs.	20. 00
541789	1840	L-10	101-200	3	20	870 lbs.	42. 00
541790	1841	L-11	201-400	3	20	1760 lbs.	84. 00
541791	1842	L-12	401-600	3	10	1112 lbs.	137. 00

*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries, write nearest house.

"NATIONAL" METAL MOLDING

Sherardized



Base



Capping



No. 333—Base and Cap

"National" Metal Molding

"National" metal molding consists of two pieces, base and capping, so formed as to "snap" together—the capping "snapping" over the base.

It is finished under the non-corrosive Sherardizing process in which finely divided zinc is driven into the pores of the base metal, effecting an alloy which is not only rust proof but which cannot be scraped off.

It is particularly adapted for steel ceiling, show window, show case, theater or similar construction where appearance, as well as electrical and mechanical safety, is essential.

Bending

The molding lends itself readily to bending and, with reasonable care, may be worked on any radius down to four and one-half inches.

Bends must be made in all cases with base and capping snapped together.

The Screw-and-Slot Principle

The base of "National" metal molding is furnished with a "Keyhole Slot" at each end as shown in illustration.

This "Keyhole Slot" is used in connection with the special Bond Screws furnished in all "National" metal molding fittings.

Punching

The new style "National" hand punch, as shown on another page, is used for punching the "Keyhole Slot" where lengths are cut.

Cutting

Because of the light stock, hacksaw blades having fine teeth and commonly known as "tube saws" should be used for cutting. Some construction men also recommend marking deeply with a file and breaking.

Wire

Single braid wire has been approved for use with "National" metal molding, but it must be laid in and not "fished."

List No.	Unit Pkg.	Std. Pkg.	Wt. per 100 Ft.	List Price per 100 Ft.
333	Metal molding and capping.....	100 ft.	1000 ft.	40 lbs. \$10.96



No. 344—Base Coupling



No. 436—Fitting Coupling

BASE COUPLING

The "National" base coupling is designed to do the same work for "National" metal molding as does a coupling for rigid conduit, and its use is necessary to obtain the perfect bond between lengths required by the code. The outlines shown in cut illustrate the slotted ends of the molding base which are placed in position over the holes provided at the ends of the coupling and the whole fastened securely to the wall by wood screws passing through both molding and base.

This device prevents loose joints.

List No.	Unit Pkg.	Std. Pkg.	Pkg. Wt.	List Price per 100
344	Base coupling.....	50	500	15 lbs. \$3.80

FITTING COUPLING

List No.	Unit Pkg.	Std. Pkg.	Pkg. Wt.	List Price per 100
436	Fitting Coupling.....	50	250	8 lbs. \$2.25

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized



No. 334—Cross



No. 335—Tee

Molding Cross and Tee

No. 334 Molding Cross fitting performs the same function as an "X" conduit. The expanded or raised center of the capping affords additional space which permits splicing of wires for junction leads. Although the size has been reduced, more room for the laying in of joints has been provided than in the old style through a deep recessing of the covers.

No. 335 Molding Tee is used in the same manner as a molding taplet or "T" conduit. The capping is expanded or raised, permitting ready splicing of junction leads in the additional space thus afforded. The new "National" screw-and-slot system of coupling, now used in all fittings, makes the use of four and three screws or bolts for installing these fittings unnecessary.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580052	334	Molding cross.....	30	120	25 lbs.	\$0.26
580053	335	Molding tee.....	30	120	23 lbs.	.22



No. 336
90° Flat Elbow



No. 437
45° Flat Elbow



No. 337
External Elbow



No. 338
Internal Elbow

Flat External and Internal Elbows

The size of these elbows has been reduced. This reduction simplifies the work of breaking around large obstructions. Where it is necessary to break around "I" beams, for example, four of these elbows may now be assembled with short lengths of molding to form a U-shaped unit, which may then be installed as one piece. The new screw-and-slot system of coupling has greatly simplified the installation of the flat-elbow by making the use of two screws or bolts unnecessary. Base and capping of the molding are cut the same length where these fittings are used.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580189	336	Flat elbow.....	30	240	30 lbs.	\$0.17
580060	437	45° Flat Elbow.....	20	100	10 lbs.	.17
580048	337	External elbow.....	30	60	8 lbs.	.17
580049	338	Internal elbow.....	30	120	15 lbs.	.17

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized

No. 360
Attachment PlugNo. 390
Attachment Plug**Attachment Plugs**

Fittings 360 and 360A are designed to mount upon the molding and are shipped in "dead end" form but can easily be converted into "continuous type" by twisting off the upturned ear, on the base plate, which blanks the molding opening.

Fittings 390 and 390A are designed for use with the No. 342R Outlet Box only, and cannot be mounted upon the molding.

List No.	Mfr. No.	Type	Unit Pkg.	Std. Pkg.	Std. Wt.	List Price Each
580070	360	Porcelain, attachment plug..... Molding	10	100	45 lbs.	\$0.58
580155	360A	Composition, attachment plug..... Molding	10	100	45 lbs.	.64
580156	390	Porcelain, attachment plug..... Outlet box	10	100	45 lbs.	.54
580157	390A	Composition, attachment plug..... Outlet box	10	100	45 lbs.	.60

No. 430
Combination FittingNo. 391
Non-Indicating SwitchNo. 392
Indicating Switch**Combination Fixture and Drop Cord Fitting**

Fitting No. 430 is designed to mount upon the molding and is shipped "dead end" style but can easily be converted into continuous by twisting off the upturned ear, on the base plate, which blanks the molding opening at one end. It is equipped with a special patented fiber bushing which is approved as an insulating joint and can be furnished with bushings tapped for $\frac{1}{8}$ inch, $\frac{1}{4}$ inch or $\frac{1}{2}$ inch fixture stems.

List No.	Mfr. No.	Type	Unit Pkg.	Std. Pkg.	Std. Wt.	List Price Each
580158	430	Combination fixture and drop cord..... Molding	10	80	30 lbs.	\$0.62

5 Ampere Snap Switches

Fittings Nos. 391 and 392 are designed to mount upon the molding and are shipped "dead end" style, but can easily be converted into continuous by twisting off the upturned ear, on the base plate, which blanks the molding opening at one end.

List No.	Mfr. No.		Unit	Std.	Std. Pkg.	List Price
			Amperes	Pkg.	Pkg.	Each
580159	391	Snap Switch Non-Indicating.....	5	10	100	\$0.56
580160	392	Snap Switch Indicating.....	5	10	100	.60

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized



No. 395
Chain Pull Receptacle



No. 396
Chain Pull Receptacle

Chain Pull Receptacles

Fitting No. 395 is designed to mount upon the molding and is shipped in "dead end" form but can easily be converted into "continuous type" by twisting off the upturned ear, on the base plate, which blanks the molding opening at one end.

Fitting 396 is designed for use with 342R Outlet Box only and cannot be mounted upon the molding.

List No.	Mfr. No.	Type	Unit Pkg.	Std. Pkg.	Std. Wt.	Pkg. List Price Each
580165	395	Pull, receptacle.....	Molding	10	100	50 lbs. \$0.98
580166	396	Pull, receptacle.....	Outlet box	10	100	50 lbs. .96



No. 397
Key Receptacle



No. 398
Key Receptacle

Key Receptacles

Fitting No. 397 is designed to mount upon the molding and is shipped in "dead end" form but can easily be converted into "continuous type" by twisting off the upturned ear, on the base plate, which blanks the molding opening at one end.

Fitting No. 398 is designed for use with the No. 342R Outlet Box only and cannot be mounted upon the molding.

List No.	Mfr. No.	Type	Unit Pkg.	Std. Pkg.	Std. Wt.	Pkg. List Price Each
580167	397	Key, receptacle.....	Molding	10	100	45 lbs. \$0.64
580168	398	Key, receptacle.....	Outlet box	10	100	45 lbs. .60

"NATIONAL" METAL MOLDING

Sherardized



No. 356
Keyless Receptacle



No. 399
Keyless Receptacle

Keyless Receptacles

Fitting No. 356 is designed to mount upon the molding and is shipped in "dead end" form but can be easily converted into "continuous type" by twisting off the upturned ear, on the base plate, which blanks the molding opening at one end.

Fitting No. 399 is designed for use with the No. 342R Outlet Box only and cannot be mounted upon the molding.

List No.	Mfr. No.	Type	Unit Pkg.	Std. Pkg.	Std. Wt.	Pkg. List Price Each
580161	356	Keyless Receptacle..... Molding	10	100	37 lbs.	\$0.58
580162	399	Keyless Receptacle..... Outlet box	10	100	40 lbs.	.42



No. 431
Two Piece Rosette



No. 432
Two Piece Rosette



No. 429
Fixture Rosette

Two Piece Rosettes

Fitting No. 431 is designed to mount upon the molding and is shipped in "dead end" style but can easily be converted into continuous by twisting off the upturned ear, on the base plate, which blanks the molding opening at one end.

Fitting No. 432 is designed for use with the No. 342R Outlet Box only and cannot be mounted upon the molding.

List No.	Mfr. No.	Type	Unit Pkg.	Std. Pkg.	Std. Wt.	Pkg. List Price Each
580163	431	Two-piece Rosette..... Molding	10	120	67 lbs.	\$0.44
580164	432	Two-piece Rosette..... Outlet box	10	120	67 lbs.	.38
581197	429	Fixture Rosette..... Sub-base	10	100	35 lbs.	.54

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING



No. 475



No. 477



No. 481



No. 485

Keyless Receptacles and Rosettes

Metal Cap—Box Cover Type

List No.	Mfr. No.		For Use On	Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Each
581203	474	3 1/2 in. Keyless Receptacle	Straight molding jobs	1	100	45	\$0.92
581204	475	3 1/2 in. Keyless Receptacle	3 in. conduit box outlets	1	100	45	.96
581205	*476	3 1/2 in. Keyless Receptacle	Straight molding jobs	1	100	45	.80
581206	*477	3 1/2 in. Keyless Receptacle	3 in. conduit box outlets	1	100	45	.84
581207	480	3 1/2 in. Two-piece Rosette	Straight molding jobs	1	100	45	.96
581208	481	3 1/2 in. Two-piece Rosette	3 in. conduit box outlets	1	100	45	.98
581209	†484	3 1/2 in. Fixture Rosette	Straight molding jobs	1	100	45	.98
581210	†485	3 1/2 in. Fixture Rosette	3 in. conduit box outlets	1	100	45	1.02



No. 471



No. 473



No. 479



No. 483

Keyless Receptacles and Rosettes

Metal Cap—Box Cover Type

List No.	Mfr. No.		For Use On	Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Each
581211	470	4 1/2 in. Keyless Receptacle	Straight molding jobs	1	100	60	\$1.20
581212	471	4 1/2 in. Keyless Receptacle	4 in. conduit box outlets	1	100	60	1.22
581213	*472	4 1/2 in. Keyless Receptacle	Straight molding jobs	1	100	60	.88
581214	*473	4 1/2 in. Keyless Receptacle	4 in. conduit box outlets	1	100	60	.92
581215	478	4 1/2 in. Two-piece Rosette	Straight molding jobs	1	100	60	1.12
581216	479	4 1/2 in. Two-piece Rosette	4 in. conduit box outlets	1	100	60	1.14
581217	†482	4 1/2 in. Fixture Rosette	Straight molding jobs	1	100	60	1.20
581218	†483	4 1/2 in. Fixture Rosette	4 in. conduit box outlets	1	100	60	1.22



No. 575



No. 577



No. 581



No. 585

Box Cover Receptacles and Rosettes

Metal Cap

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Each
581219	571	Box Cover Receptacle, for 4 in. conduit boxes	1	100	55	\$0.80
581220	*573	Box Cover Receptacle, for 4 in. conduit boxes	1	100	55	.70
581221	575	Box Cover Receptacle, for 3 in. conduit boxes	1	100	40	.60
581222	*577	Box Cover Receptacle, for 3 in. conduit boxes	1	100	40	.52
581223	579	Box Cover Cord Rosette, for 4 in. conduit boxes	1	100	55	.86
581224	581	Box Cover Cord Rosette, for 3 in. conduit boxes	1	100	40	.70
581225	†583	Box Cover Fixture Rosette, for 4 in. conduit boxes	1	100	55	.92
581226	†585	Box Cover Fixture Rosette, for 3 in. conduit boxes	1	100	40	.74

*All porcelain type.

†Furnished tapped for 3/8 inch gas pipe only.

"NATIONAL" METAL MOLDING

Sherardized

No. 348
One Piece RosetteNo. 423
Standard Sub-BaseNo. 424
Angle Sub-Base**Porcelain Rosettes**

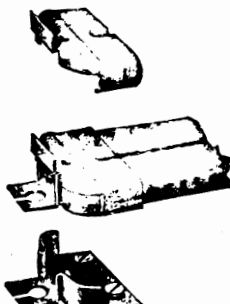
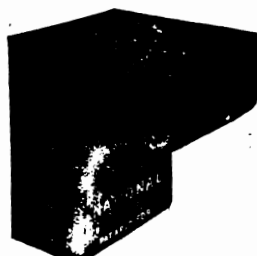
This rosette is arranged to be applied directly over the molding, it being unnecessary to cut the base of the molding to install it, the capping only being removed to allow the introduction of wires into the rosette. It is equipped with metal base plates in dead end form, but is arranged for easy conversion into continuous type by twisting off the ear which blanks the molding opening at one end, and arranged to be supported by the molding.

Installation of this device requires an opening $1\frac{3}{4}$ inches long in the capping.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580054	348	One piece.....	20	120	35 lbs.	\$0.14

Sub-bases for Fittings

581195	423	Standard Sub-Base.....	10	100	35 lbs.	\$0.31
581196	424	Angle Sub-Base.....	10	50	40 lbs.	0.46

No. 377
Single Clamp BushingNo. 433
Double Clamp BushingNo. 376
Corner Box**Clamp Bushings**

These fittings perform the same function with "National" metal molding as does a locknut and bushing or conduit, in bushing the molding wherever it joins any fitting of a box type and in locking the molding to any fitting of such type. The clamp consists of two parts, a base and a cap. In installing, the base piece is fastened to the fitting, with the screws provided in all fittings of box type for the purpose. The molding is then fastened to base piece and the cap of the clamp snapped on last over the molding capping with the small up-turned lip inside the box. The double clamp bushing is for connecting two pieces of molding with one opening in outlet box.

The base and capping of the molding are cut the same length when this fitting is installed.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Pkg. Wt.	List Price Each
580057	377	Single Clamp Bushing.....	50	200	8 lbs.	\$0.06
581033	433	Double Clamp Bushing.....	10	100	10 lbs.	.19

Corner Box

This box is designed for use where the feeder wires are brought through a rigid or flexible conduit into a point in the corner of the room from whence the metal molding is to be run.

The fitting is provided with four "twistouts" for molding entrance and with one $\frac{1}{2}$ inch conduit knockout in the base.

Bushing 377 or 433 must be used for entering this box with molding, as the "twistouts" are too small for direct entrance.

580058	376	Corner box.....	10	20	10 lbs.	\$0.33
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Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized



No. 375—Outlet Box



No. 378—Porcelain Cover



No. 383—Blank Cover

Outlet Box and Covers

No. 375 outlet box may be used either as an outlet surface switch or junction box, adapted for molding to molding runs only. Four "twistouts" are provided for molding entrance, but there is no conduit knock-out in its base, therefore its use is limited to straight molding work. Bushing No. 377 or 433 must be used for entering this box with molding, as the "twistouts" are too small for direct entrance with molding.

No. 378 porcelain covers are furnished in one, two, three and four hole types for use with No. 375 outlet box.

No. 383 blank cover is used where No. 375 box is installed as a junction box.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580059	375	Outlet box.....	20	120	25 lbs.	\$0.31
580061	378	Porcelain cover, one way.....	10	40	7 lbs.	.16
580062	379	Porcelain cover, two way.....	10	40	7 lbs.	.16
580063	380	Porcelain cover, three way.....	10	40	7 lbs.	.16
580064	381	Porcelain cover, four way.....	10	40	7 lbs.	.16
580065	383	Blank cover.....	20	40	4 lbs.	.08



No. 341—Junction Box



No. 410—Fixture Outlet Box



No. 339—Outlet Box

Junction and Outlet Boxes

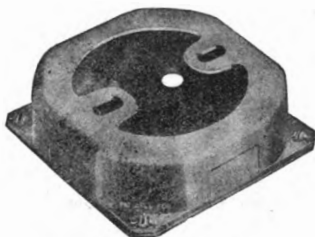
No. 341 junction box consists of two parts, base and cap. This box is provided with four molding "twistouts" and one ½-inch knockout in its base for the introduction of rigid or flexible conduit feeder.

No. 339 outlet box differs from the above junction box in no detail save that it is equipped with a ¼ inch insulating bushing for drop cord work.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580066	341	Junction box.....	20	120	39 lbs.	\$0.38
580170	410	Fixture Outlet box.....	10	100	40 lbs.	.54
580067	339	Outlet box.....	20	60	20 lbs.	.38

"NATIONAL" METAL MOLDING

Sherardized

10 Ampere
No. 342—Snap Switch Base**Snap Switch Bases**

No. 342 fitting is designed for mounting snap switches, rosettes and similar devices. It is provided with four molding "twistouts" and one $\frac{1}{2}$ inch conduit knockout in its base.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580068	342	Snap switch base, 10 amperes.....	20	120	35 lbs.	\$0.38
580069	342R	Snap switch base, 5 amperes.....	20	120	35 lbs.	.38

Bushing No. 377 or 433 must be used for entering fitting 342 type with molding, as the twistouts are too small for direct entrance



Cap for No. 365



Base No. 365

Complete Canopy Base

These canopy bases are designed to provide a standard form of outlet for installing fixtures on a straight metal molding job. They are made in two sizes, $4\frac{1}{2}$ inches and 6 inches. The $4\frac{1}{2}$ inch for use in all average installations and the 6 inch for occasional use with large fixture canopies. Both sizes are drilled and tapped to take any standard fixture stud. One $\frac{7}{8}$ inch and two $\frac{5}{8}$ inch knockouts are provided in the base plate of these canopies in addition to the usual four molding "twistouts" in the covers in order that they may be used for picking up a circuit at an existing "concealed knob and tube outlet" if desired.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580071	365	Canopy base and cap, $4\frac{1}{2}$ inches diameter.....	10	40	30 lbs.	\$0.54
580072	366	Canopy base and cap, 6 inches diameter.....	10	40	53 lbs.	.76

Bushing No. 377 or 433 must be used for entering these canopies with molding as the twistouts are too small for direct entrance.

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized



No. 363A

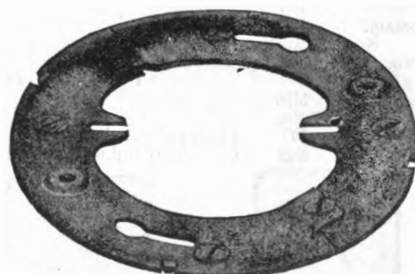
4½ Inch Blank Cover

This cover is designed for use with the No. 363 adapter plate or the base of the No. 365 canopy base, at any point where a blank form of cover for these plates is desirable, as in cases where a circuit is picked up for extension at an existing "pull box" or "junction box," or where a fixture is relocated and its original outlet used as a junction.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580073	363A	4½ inch blank cover.....	10	20	8 lbs.	\$0.23



No. 363B
4½ Inch Split Type Cover



No. 363
4½ Inch Split Type Adapter Plate

Split Type Cover and Adapter Plate

No. 363B split type cover is designed for use with No. 363 adapter plate; it is made in split form for use in "picking up" a circuit at an existing fixture outlet without removing or disturbing the fixture. The object of its large size is to form a seat for fixture canopies and so avoid the mutilation and labor necessary to fitting canopies down over the molding.

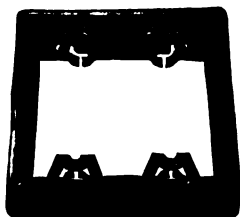
No. 363 split type adapter plate is designed in conjunction with covers No. 363A and 363B, to care for a troublesome detail of construction for which no fitting of any kind has heretofore been available—the picking up and extension of circuits from existing fixture outlets without removing or disturbing the fixture.

It is arranged with slots and holes through which it can be fastened to any three (3) inch or four (4) inch conduit outlet box with the cover screws provided in such boxes. A special yoke or bridge is furnished with each plate through which it can be hung on any "open cover," "extension plate" or "plaster ring."

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580074	363B	4½ inch split type cover.....	10	40	15 lbs.	\$0.26
580075	363	4½ inch split type adapter plate.....	10	60	20 lbs.	.38

NOTE: When ordering covers 363A or 363B bear in mind they are covers only and that a corresponding number of 363 plates must be ordered with them. Bushing No. 377 or 433 must be used for entering No. 363 with molding, as the "twistouts" in the covers are too small for direct entrance.

"NATIONAL" METAL MOLDING Sherardized



No. 442
Two-Gang Switch Adapter



No. 443
Spacers



No. 441
Flush Switch Adapter



No. 438
Flush Box and Adapter

Switch Box Fittings

No. 442 is a two-gang flush switch adapter. Made in split form to permit building up into large gangs. No. 441 adapter is designed to mount on any of the standard makes of wall cases, the switches or receptacles being removed and remounted upon the cover of the adapter.

No. 438 flush switch box and adapter plate is designed for the installation of flush switches or receptacles on new metal molding jobs. It is especially designed for shallow partitions and brick work.

Bushing No. 377 or 433 must be used for entering these canopies with molding, as the "twist-outs" are too small for direct entrance.

TWO-GANG FLUSH SWITCH ADAPTER

List No.	Mfr. No.	Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580078	442	10	100	80 lbs.	\$0.84

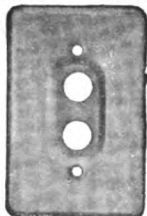
SPACERS FOR USE WITH NO. 442 ADAPTER

List No.	Mfr. No.	Type	Builds No. 442 Into	Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Per Pair
580079	443	Single	3 Gang	10	100	13 lbs.	\$0.31
580080	444	Double	4 Gang	10	100	25 lbs.	.62
580081	445	Triple	5 Gang	10	100	38 lbs.	.92
580082	446	Quadruple	6 Gang	10	100	50 lbs.	1.22

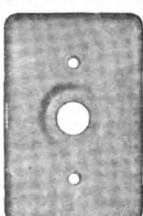
NOTE: Two No. 443 Spacers may be used in place of No. 444 to build No. 442 into 4 gang, three in place of No. 445 or four in place of No. 446, although the use of 444, 445 or 446 makes a better looking and simpler job.

TYPES NO. 441 AND 438 ADAPTERS

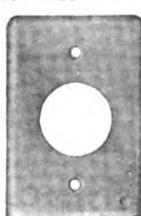
List No.	Mfr. No.	Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580076	441	10	100	40 lbs.	\$0.42
580077	438	10	20	20 lbs.	.62



No. 451—Push Type



No. 461—Rotary Type



No. 447—Plug Type



No. 448—Blank Type

Flush Switch Plates

These plates are designed for use with "National" flush switch adapter No. 441 and 438. The openings in Nos. 451 and 448 are standardized for use with standard makes of push and rotary flush switches. No. 447 is designed for use with Hubbell switch plug receptacle No. 5547 and similar devices.

No. 448 is designed for use in case a switch or receptacle is removed for relocating and its original outlet used for a junction only.

List No.	Mfr. No.	Type	Style	Finish	Unit Pkg.	Std. Pkg.	Pkg. Wt.	List Price Each
580083	451	Push	Single	Sherardized	10	100	20 lbs.	\$0.19
580084	452	Push	2 Gang	Sherardized	10	100	20 lbs.	.37
580085	453	Push	3 Gang	Sherardized	10	100	20 lbs.	.56
580086	461	Rotary	Single	Sherardized	10	100	20 lbs.	.19
580087	462	Rotary	2 Gang	Sherardized	10	100	20 lbs.	.37
580088	463	Rotary	3 Gang	Sherardized	10	100	20 lbs.	.56
580089	447	Plug	Single	Sherardized	10	100	20 lbs.	.19
580090	448	Blank	Single	Sherardized	10	100	20 lbs.	.19

NOTE: "National" Flush Switch Adapters No. 441, 438 and 442 are now made in size to fit all standard flush plates, hence No. 451, 461, 447 and 448 plates are now furnished in sherardized finish only.

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized



No. 367
Porcelain Cover



No. 404
Coupling

Metal Molding Fittings

No. 367 porcelain cover is used in connection with No. 404 coupling through which the wires are brought. The cover is fastened by means of screws in the face of the coupling.

No. 404 fitting is designed for use as a junction between "National" metal molding and "open work," and should be used in all cases where necessary to pass from molding to this class of construction or to the terminal lugs of meters, knife switches, etc. The coupling is attached to the molding base by means of the screw in the coupling and after the wires have been laid in the capping is brought up flush with the fitting and snapped on over the molding base.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580110	367	2 hole porcelain cover	10	20	6 lbs.	\$0.16
580111	368	3 hole porcelain cover	10	20	6 lbs.	.16
580112	404	Molding to open work coupling	10	20	7 lbs.	.28



No. 405
Molding Tee



No. 411
Conduit Tee

Tee Fittings

No. 405 and 405A conduit to molding tee is designed for use where a tap from runs of $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit to "National" metal molding is desirable, as in cases where a series of side wall outlets are fed from a line of rigid conduit installed close up in the corner on the floor and risers to the outlets run in "National" metal molding.

No. 411 and 411A molding to conduit tee is designed for use where a tap from runs of "National" metal molding to $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit is desirable, as in cases where it is necessary to pass from some point in a line of molding on the ceiling to the floor above in conduit.

The new "National" screw-and-slot system of coupling has not only permitted a reduction in the size of these fittings and a marked improvement in their appearance, but has eliminated the use of covers and small screws.

The molding base and capping is cut the same length when fittings No. 404, 405 and 405A are installed, but the base only is cut in installing No. 411 and 411A, the capping continuing over and forming a cover for these fittings.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580113	405	$\frac{1}{2}$ inch, conduit to molding tee	10	20	15 lbs.	\$0.54
580114	405A	$\frac{3}{4}$ inch, conduit to molding tee	5	10	10 lbs.	.62
580115	411	$\frac{1}{2}$ inch, molding to conduit tee	10	20	10 lbs.	.38
580116	411A	$\frac{3}{4}$ inch, molding to conduit tee	10	10	6 lbs.	.46

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized

**Molding Couplings and Elbows**

No. 401 and 401A fittings are designed for use in effecting a junction between "National" metal molding and any fitting having $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit knockouts, such as a surface type panel box or any fitting having a $\frac{1}{2}$ inch or $\frac{3}{4}$ inch tapped and threaded boss, such as conduit.

No. 402 and 402A fittings are designed for use as couplings between "National" metal molding and $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit. The $\frac{1}{2}$ inch size in particular should be included in all stock orders since its use is necessary, in most instances, in connection with the short lengths of conduit required for passing through floors in metal molding jobs.

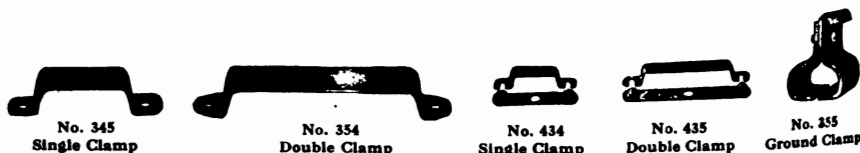
No. 403 and 403A fittings are designed for use as elbow couplings between the "National" metal molding and $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit.

No. 417 and 417A fittings are designed for use in effecting an elbow junction between "National" metal molding and any type of fitting which is flushed into the wall, such as a flush type panel box, or from which an elbow exit is necessary, as in the case of coming out of a panel box mounted on the surface of a pillar and running back to and rising upon the pillar.

The new "National" screw-and-slot system has not only permitted a reduction in the size of these fittings and a marked improvement in their appearance, but has eliminated the use of covers and small screws.

The base and capping of the molding is cut the same length where fittings No. 401, 401A and 402 and 402A are installed, but the base must be cut $\frac{3}{4}$ inch shorter when installing Nos. 403, 403A, 417 and 417A to permit the capping to lap over and form a cap for these fittings.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580117	401	Male coupling, $\frac{1}{2}$ -inch	30	60	8 lbs.	\$0.23
580118	401A	Male coupling, $\frac{3}{4}$ -inch	10	20	3 lbs.	.31
580119	402	Female coupling, $\frac{1}{2}$ -inch	30	60	10 lbs.	.23
580120	402A	Female coupling, $\frac{3}{4}$ -inch	10	20	3 lbs.	.31
580121	403	Male elbow, $\frac{1}{2}$ -inch	20	40	8 lbs.	.28
580122	403A	Male elbow, $\frac{3}{4}$ -inch	10	20	4 lbs.	.34
580123	417	Female elbow, $\frac{1}{2}$ -inch	20	40	8 lbs.	.28
580124	417A	Female elbow, $\frac{3}{4}$ -inch	10	10	4 lbs.	.34
581198	414	Armored cable coupling	10	20	3 lbs.	.31
581267	415	90° elbow coupling, right hand	10	50	15 lbs.	.28
581199	416	90° elbow coupling, left hand	10	50	15 lbs.	.28

**Metal Molding Clamps**

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt. per 100	List Price per 100
580125	345	Single clamp plain	100	1000	13 lbs.	\$1.14
580126	354	Double clamp plain	50	100	3 lbs.	2.28
581200	431	Single clamp with base plate	100	1000	30 lbs.	5.48
581201	435	Double clamp with base plate	50	200	8 lbs.	6.84

Ground Clamp

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580127	355	Ground clamp	20	40	2 lbs.	\$0.10

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING

Sherardized



No. 369
Metal to Wood Molding
Coupling



Method of Applying No. 425



No. 425
Strap Clamp



No. 428
Strap Clamp

Metal to Wood Molding Coupling

This fitting is designed for use as a coupling in effecting a junction between an existing run of wood molding and "National" metal molding.

It is arranged for use with Jordan Taplets, or similar types of approved wood molding fittings, and such a fitting must be used in connection with No. 369 where a right angle tap is made from wood molding. In cases where the circuit is picked up at the end of a run of wood molding for extension in metal molding, a wood molding fitting may be dispensed with and No. 369 butted against the backing of the wood molding, from which $\frac{3}{4}$ inch must be cut to allow the wood molding capping to extend over and form a cover for No. 369.

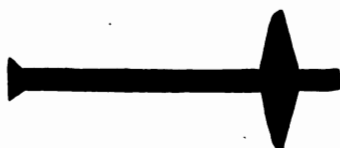
List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580129	369	Metal to wood molding coupling.....	10	20	5 lb.	\$0.23

Strap Clamp

This strap has been especially designed for use with "National" Metal Molding where same is run over uneven surfaces upon which the capping has a tendency to spring away from the base.

It should not be confused with "National" Clamp No. 345 as no provision is made for fastening it to the surface wired over and it consequently provides no support for the molding.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price per 100
580130	425	Strap clamp, plain.....	100	1000	10 lbs.	\$1.14
5801202	428	Strap clamp with screw hole.....	100	1000	15 lbs.	2.28



No. 419
"T Head" Toggle



No. 420
"Cone Head" Toggle

"T Head" Toggle

List No.	Mfr. No.	Size	Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price per 100
580131	419	$\frac{1}{8}$ x 4 in.....	50	100	6 lbs.	\$11.40
580132	419	$\frac{3}{16}$ x 4 in.....	50	100	6 lbs.	12.92
580133	419	$\frac{1}{4}$ x 4 in.....	50	100	8 lbs.	13.68

"Cone Head" Toggle

List No.	Mfr. No.	Size	Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price per 100
580134	420	$\frac{1}{8}$ x 2 in.....	100	500	5 lbs.	\$4.56
580135	420	$\frac{3}{16}$ x 3 in.....	100	500	7 lbs.	5.10
580136	420	$\frac{1}{4}$ x 4 in.....	100	500	9 lbs.	5.64

NOTE: No. 420 Toggle is arranged to pass through holes in "National" Metal Molding base without removal of toggle head.

"NATIONAL" METAL MOLDING



No. 2163



No. 2200

"Flexsteel" Box Connector

For Armored Cable and Conduit

*No. 2163. Size for $\frac{3}{8}$ inch conduit, 14FS, 12FS, 10FS, 14/3FS, 12/3FS, 14FSL, 12FSL, 8SL, 6S, 6SL 14FM, 14/3FSL, 4S.

*No. 2164. Size for 10/3FS, 12/3FSL, 4SL, 2SL, 8FS, 10FSL, 2S.

*No. 2166. Size for $\frac{1}{2}$ inch conduit, 8FSL, 10/3FSL, 8/3FSL, 2SL, 8/3FS, 6FS, 6/3FS.

List No.	Mfr. No.		Size For	Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Per 100
581227	2163	Box Connector	*	50	100	15	\$11.40
581228	2164	Box Connector	*	25	100	18	11.40
581229	2166	Box Connector	*	25	100	20	11.40
581230	2167	Box Connector	$\frac{3}{4}$ in. conduit	25	100	30	14.44
581231	2169	Box Connector	1 in. conduit	10	50	25	21.28
581232	2170	Box Connector	1 $\frac{1}{4}$ in. conduit	10	50	35	30.40
581233	2171	Box Connector	1 $\frac{1}{2}$ in. conduit	10	50	37	45.60
581234	2172	Box Connector	2 in. conduit	10	20	20	60.80

"Flexsteel" Panel Box Connector

*No. 2200. For $\frac{3}{8}$ inch conduit, 14FS, 12FS, 10FS, 14/3FS, 12/3FS, 14FSL, 12FSL, 8SL, 6S, 6SL, 14FM, 14/3FSL, 4S.

*No. 2201. For 10/3FS, 12/3FSL, 4SL, 10/3FSL, 2SL, 8/3FS, 10FSL, 2S.

*No. 2202. For $\frac{1}{2}$ inch conduit, 8FSL, 10/3FSL, 2SL, 8/3FS, 8/3FSL, 6FS, 6/3FS.

List No.	Mfr. No.		Size For	Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Per 100
581235	2200	Panel Box Connector	*	20	100	17	\$19.76
581236	2201	Panel Box Connector	*	20	100	20	19.76
581237	2202	Panel Box Connector	*	20	100	30	19.76
581238	2203	Panel Box Connector	$\frac{3}{4}$ in. conduit	20	100	45	27.36
581239	2204	Panel Box Connector	1 in. conduit	5	20	12	31.92
581240	2205	Panel Box Connector	1 $\frac{1}{4}$ in. conduit	5	20	17	45.60
581241	2206	Panel Box Connector	1 $\frac{1}{2}$ in. conduit	5	20	22	60.80
581242	2207	Panel Box Connector	2 in. conduit	5	20	27	82.08

Above prices include locknuts which are shipped assembled with all fittings.



No. 2190



No. 2182

"Flexsteel" Rigid to Flexible Conduit Couplings

List No.	Mfr. No.		Size For	Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Per 100
581243	2190	Rigid to Flexible Conduit Coupling..	$\frac{1}{4}$ in. conduit	10	100	22	\$19.00
581244	2191	Rigid to Flexible Conduit Coupling..	$\frac{3}{8}$ in. conduit	10	100	27	24.32
581245	2192	Rigid to Flexible Conduit Coupling..	1 in. conduit	5	50	25	31.92
581246	2193	Rigid to Flexible Conduit Coupling..	1 $\frac{1}{4}$ in. conduit	5	50	45	45.60
581247	2194	Rigid to Flexible Conduit Coupling..	1 $\frac{1}{2}$ in. conduit	5	25	35	60.80
581248	2195	Rigid to Flexible Conduit Coupling..	2 in. conduit	5	25	50	91.20

"Flexsteel" Flexible Conduit Couplings

List No.	Mfr. No.		Size For	Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Per 100
581249	2182	Flexible Conduit Coupling.....	$\frac{1}{4}$ in. conduit	25	50	5	\$12.16
581250	2183	Flexible Conduit Coupling.....	$\frac{3}{8}$ in. conduit	25	100	15	12.92
581251	2184	Flexible Conduit Coupling.....	$\frac{1}{2}$ in. conduit	10	100	30	14.04
581252	2185	Flexible Conduit Coupling.....	$\frac{3}{4}$ in. conduit	10	100	35	18.24
581253	2186	Flexible Conduit Coupling.....	1 in. conduit	5	50	25	24.32
581254	2187	Flexible Conduit Coupling.....	1 $\frac{1}{4}$ in. conduit	5	50	45	33.44
581255	2188	Flexible Conduit Coupling.....	1 $\frac{1}{2}$ in. conduit	5	25	35	45.60
581256	2189	Flexible Conduit Coupling.....	2 in. conduit	5	25	50	65.36

Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING



No. 2208 45°



No. 2210 90°



No. 2092

"Flexsteel" Elbow Box Connectors

No. 2208—45°. Size for $\frac{3}{8}$ inch conduit, 14FSL, 12FSL, 14/3FSL, 4S, 14FS, 12FS, 14/3FS, 12/3FS, 10FS, 8SL, 6S, 6SL, 14FM.

No. 2209—45°. Size for $\frac{1}{2}$ inch conduit, 10/3FS, 10FSL, 8FSL, 10/3FSL, 8/3FSL, 2S, 2SL, 8/3FS, 6FS, 6/3FS.

No. 2210—90°. Size for $\frac{3}{8}$ inch conduit, 6SL, 14FSL, 12FSL, 14/3FSL, 4S, 14FS, 12FS, 14/3FS, 12-3FS, 10FS, 8SL, 6S, 6SL.

No. 2211—90°. Size for $\frac{1}{2}$ inch conduit, 10/3FS, 10FSL, 8FSL, 10/3FSL, 8/3FSL, 2S, 2SL, 8/3FS, 6FS, 6/3FS.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Per 100
581257	2208	Elbow Box Connector.....	20	100	17	\$19.76
581258	2209	Elbow Box Connector.....	20	100	18	19.76
581259	2210	Elbow Box Connector.....	20	100	22	19.76
581260	2211	Elbow Box Connector.....	20	100	22	19.76

"Flexsteel" Cable Clamp

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Per 100
581273	2092	Flexsteel Cable Clamp.....	25	1000	50	\$7.60

No. 2092 clamps and bushes "Flexsteel" armored connectors so that brass bushing caps are not necessary.



No. 2220



No. 2220A



No. 2221



No. 2224



No. 2225

"Flexsteel" Lamp Cord Connectors

No. 2220. Size for No. 16 or No. 18 Armored Lamp Cord. Has $\frac{3}{8}$ inch bushing.

No. 2220A. Hard fiber bushing for use with No. 2220 in hanging Armored Lamp Cord on conduit outlet boxes.

No. 2221. Size for No. 16 or No. 18 Armored Lamp Cord. Has $\frac{1}{4}$ inch bushing.

No. 2222. Size for No. 14 Armored Lamp Cord or No. 16 or No. 18 Reinforced Armored Lamp Cord. Has $\frac{3}{8}$ inch bushing.

No. 2224. Brass nipple and coupling for use with No. 2221 in hanging Armored Lamp Cord on standard rosettes.

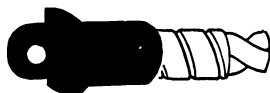
No. 2225. Brass nipple and coupling for use with No. 2221 in hanging Armored Lamp Cord on deep rosettes.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Wgt. Lbs.	List Price Per 100
581261	2220	Lamp Cord Connector.....	50	200	15	\$10.64
581262	2220A	Hard fiber bushing.....	50	200	7	15.20
581263	2221	Lamp Cord Connector.....	50	200	15	10.64
581264	2222	Lamp Cord Connector.....	25	100	18	10.64
581265	2224	Brass nipple and coupling.....	50	200	6	10.64
581266	2225	Brass nipple and coupling.....	50	200	10	10.64

"NATIONAL" METAL MOLDING

Sherardized


 No. 426
 2-Line Suspension Strip

 No. 427
 3-Line Suspension Strip

 No. 414
 Steel Armored Conductor Coupling

 No. 500
 Cap Screw

 No. 421
 Expansion Shield

Suspension Strips

These suspension strips have been designed to permit the support of two or three parallel lines of "National" Metal Molding with one screw or bolt and are provided with screws for fastening the molding to them and with a hole for the introduction of a supporting screw or bolt.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580137	426	2-Line suspension strip.....	50	100	5 lbs.	\$0.07
580138	427	3-Line suspension strip.....	20	50	5 lbs.	.09

Steel Armored Conductor Coupling

For connecting sizes 14 and 12 twin steel armored conductors and sizes 14 and 12 twin leaded or size 14-3 conductor leaded to metal molding.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price Each
580139	414	Steel Armored conductor coupling.....	10	20	3 lbs.	\$0.31

Cap Screw

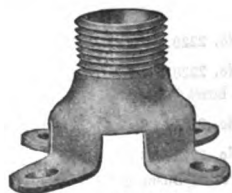
580140	500	Cap screw.....	100	1000	2 lbs.	Per 100 \$0.38
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Expansion Shield

580141	421	Expansion shield.....	100	100	2 lbs.	Per 100 \$9.88
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Fixture Stud, Female



Fixture Stud, Male

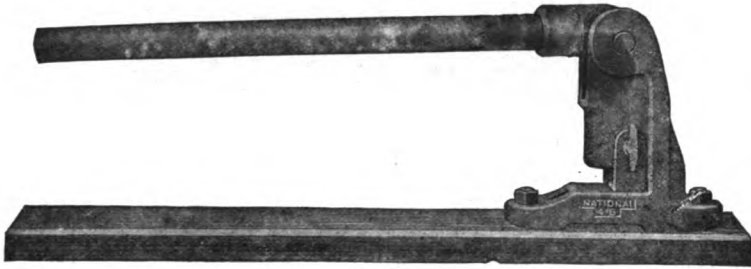
Fixture Studs

These studs are of stamped steel, being made in $\frac{3}{8}$ and $\frac{1}{2}$ inch sizes. They are furnished with two stove bolts and may be applied to any standard outlet box but are particularly designed to be used in connection with Nos. 365 and 366 canopy bases to which they are fastened by means of the two stove bolts before the canopy base is screwed to the wall or ceiling.

List No.	Mfr. No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	List Price per 100
580142	2250	$\frac{1}{4}$ inch fixture stud, "female".....	50	500	40 lbs.	\$8.36
580143	2253	$\frac{3}{8}$ inch fixture stud, "female".....	50	500	40 lbs.	10.64
580144	2251	$\frac{3}{8}$ inch fixture stud, "male".....	50	500	40 lbs.	7.60
580145	2252	$\frac{1}{2}$ inch fixture stud, "male".....	50	500	40 lbs.	9.88

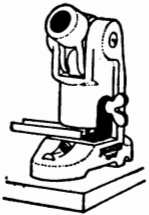
Conduit and Wiring Accessories

"NATIONAL" METAL MOLDING TOOLS



No. 418

Lever Type Hand Punch



No. 1

To punch the keyhole slot at the extreme end of the molding base, as is required for fittings, set the side stop in position shown in cut No. 1.

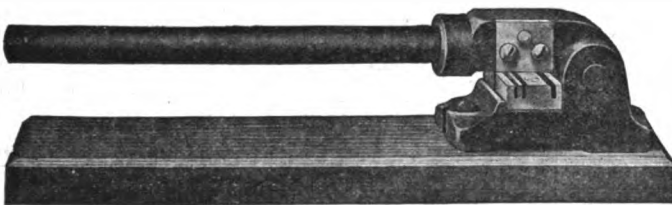
To punch additional holes throughout the length of the molding base for purposes of additional support, set the side stop in position shown in cut No. 2.



No. 2

The "National" lever type punch is designed for accurate punching of the keyhole slot. This punch is shipped assembled on an oak base complete with handle. Its use involves no objectionable noise or jar and since all moving parts and the die are of hardened steel, long life is insured through reasonably careful use and keeping it well oiled.

List No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	*List Price Each
418	Lever type hand punch.....	1	1	12 lbs.	\$6.50



No. 422

Lever Type Hand Shear

The "National" lever type hand shear was designed for cutting the base and capping of "National" metal molding.

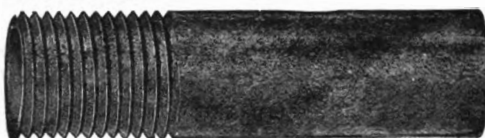
It is arranged to shear the base and capping separately, not assembled, the die block being provided with separate grooves for each as shown in illustration. The shear is shipped assembled on an oak base complete with handle. The knives and die are of hardened steel, insuring long life.

List No.		Unit Pkg.	Std. Pkg.	Std. Pkg. Wt.	*List Price Each
422	Lever type hand shear.....	1	1	8 lbs.	\$5.50

*Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

Conduit and Wiring Accessories

STANDARD RIGID PIPE CONDUIT



Rigid Conduit

Black Enameled and Galvanized Conduit

List No.		Std. Size Pipe, Inches	Diameter		Thickness	Threads per In.	Weight per Foot	List Price per Foot
Black Enameled	Gal- vanized		External	Internal				
580186	580171	1/4	.540	.364	.088	18	.425	SPECIAL
580187	580172	3/8	.675	.493	.091	18	.568	
580188	580173	1/2	.840	.622	.109	14	.852	
580189	580174	3/4	1.050	.824	.113	14	1.134	
580190	580175	1	1.315	1.049	.133	11 1/2	1.684	
580191	580176	1 1/4	1.660	1.380	.140	11 1/2	2.281	
580192	580177	1 1/2	1.900	1.610	.145	11 1/2	2.731	
580193	580178	2	2.375	2.067	.154	11 1/2	3.678	
580194	580179	2 1/2	2.875	2.469	.203	8	5.819	
580195	580180	3	3.500	3.068	.216	8	7.616	
580196	580181	3 1/2	4.000	3.548	.226	8	9.202	
580197	580182	4	4.500	4.026	.237	8	10.889	
580198	580183	4 1/2	5.000	4.506	.247	8	12.642	
580199	580184	5	5.563	5.047	.258	8	14.810	
580200	580185	6	6.625	6.065	.280	8	19.185	

ELBOWS

List No.		Std. Size Pipe, In.	Radius Inches	Offset Inches	Wt. per 100 in Lbs.	List Price Each
Black Enameled	Gal- vanized					
580958	580201	1/4	4.250	7.500	42	SPECIAL
580959	580202	3/8	4.250	7.500	53	
580960	580203	1/2	4.250	7.375	75	
580961	580204	3/4	5.375	8.375	120	
580962	580205	1	5.750	9.500	200	
580963	580206	1 1/4	7.250	10.875	300	
580964	580207	1 1/2	8.250	12.625	427	
580965	580208	2	9.500	15.250	700	
580966	580209	2 1/2	10.500	17.375	1300	
580967	580210	3	13.000	19.500	1700	
580968	580211	3 1/2	15.000	21.250	2300	
580969	580212	4	16.000	22.500	2700	
580970	580213	4 1/2	18.000	24.375	3100	
580971	580214	5	24.000	32.000	5500	
580972	580215	6	30.000	39.750	9000	

COUPLINGS

List No.		Std. Size Pipe, In.	Wt. per 100 in Lbs.	List Price Each
Black Enameled	Gal- vanized			
580973	580216	1/4	6.0	SPECIAL
580974	580217	3/8	9.5	
580975	580218	1/2	11.6	
580976	580219	3/4	20.9	
580977	580220	1	34.3	
580978	580221	1 1/4	53.5	
580979	580222	1 1/2	74.3	
580980	580223	2	120.8	
580981	580224	2 1/2	172.0	
580982	580225	3	249.8	
580983	580226	3 1/2	424.1	
580984	580227	4	474.1	
580985	580228	4 1/2	550.0	
580986	580229	5	700.0	
580987	580230	6	760.0	

Conduit Sizes for Different Size Wires

No. B.&S.	Circular Mils	Amperes Rubber	Size of Pipe			No. B.&S.	Circular Mils	Amperes Rubber	Size of Pipe		
			1 Wire	2 Wire	3 Wire				1 Wire	2 Wire	3 Wire
18	1020	3	1/4	1/4		500000	390	2	3	3 1/2	3 1/2
16	2583	6	1/4	1/4	1/4	550000	420	2	3 1/2	4	4
14	4107	12	1/4	1/4	1/4	600000	450	2	3 1/2	4	4
12	6530	17	1/4	1/4	1/4	650000	475	2	3 1/2	4	4
10	10380	24	1/4	1/4	1/4	700000	500	2	3 1/2	4	4
8	16510	33	1/4	1	1	750000	525	2	3 1/2	4	4
6	26260	46	1/4	1 1/4	1 1/4	800000	550	2	3 1/2	4	4
5	33100	54	1/4	1 1/4	1 1/4	850000	575	2 1/4	4	4 1/4	4 1/4
4	41740	65	1/4	1 1/4	1 1/4	900000	600	2 1/4	4	4 1/4	4 1/4
3	52630	76	1/4	1 1/4	1 1/4	950000	625	2 1/4	4	4 1/4	4 1/4
2	66370	90	1/4	1 1/2	1 1/2	1000000	650	2 1/4	4	4 1/4	4 1/4
1	83690	107	1	1 1/2	2	1100000	690	2 1/4	4	4 1/4	4 1/4
0	105500	127	1	2	2	1200000	730	2 1/4	4	4 1/4	4 1/4
00	133100	150	1	2	2	1300000	770	2 1/4	4 1/4	4 1/4	4 1/4
000	167800	177	1 1/4	2	2 1/4	1400000	810	3	4 1/4	4 1/4	4 1/4
0000	211600	210	1 1/4	2	2 1/4	1500000	850	3	5	5	5
	200000	200	1 1/4	2	2 1/4	1600000	890	3	5	5	5
	250000	235	1 1/4	2 1/4	2 1/4	1700000	930	3	5	5	5
	300000	270	1 1/2	2 1/2	3	1800000	970	3	5	5	5
	350000	300	1 1/2	2 1/2	3	1900000	1010	3	5	5	5
	400000	330	1 1/2	3	3	2000000	1050	3	5	5	5
	450000	360	2	3	3 1/4						

Tubes in 10 foot lengths, threaded both ends, with one coupling.

Prices quoted on special sizes, bends and lengths on application.

Conduit and Wiring Accessories

17 & 24

FLEXIBLE TUBING AND FITTINGS

GENERAL

The general demand of the automobile public for electric appliances augments the necessity of proper wiring materials to insure uninterrupted service.

Conductors for this purpose should be flexible, but as flexible rubber insulation deteriorates rapidly, when exposed to oil or other destructive elements, they should be encased in a suitable tubing which will protect them from mechanical injury as well as deteriorating elements.

The use of flexible tubing, in combination with junction and switch boxes, is the most efficient and practical method of automobile wiring. By use of sufficiently large tubing to accommodate parallel runs, and junction boxes from which to distribute various branch runs, not only is the maximum protection afforded, but a great saving in installation expense is also effected.



Flexible Metal Tubing

AUTO STEEL FLEX

Auto Steel Flex and Auto Brass Flex is made of metal strip. Of interlocking construction.

Size		Approx.	Approx.	List Price per Ft.		Size		Approx.	Approx.	List Price per Ft.	
Inside Diam.	Outside Diam.	Ft. per Coil	Wt. Lbs. per 1000 Ft.	Unpacked	Asbestos Packed	Inside Diam.	Outside Diam.	Ft. per Coil	Wt. Lbs. per 1000 Ft.	Unpacked	Asbestos Packed
1/4 in.	.340	250	77	\$0.09	\$0.10	1/4 in.	.527	200	137	\$0.13	\$0.14
1/2 in.	.402	250	97	.10	.11	1/2 in.	.600	200	178	.14	.16
3/4 in.	.465	250	115	.11	.12	3/4 in.	.725	200	220	.....	.20

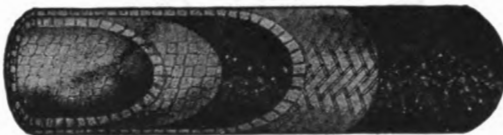
ASBESTOS PACKED

Adaptable for protection of cables or conveyance of hot air to carburetor or spent gases from engine.

1/4 in.	.850	125	280	\$0.24	1 1/4 in.	1.438	50	690	\$0.39
1/2 in.	.975	125	440	.26	1 1/2 in.	1.500	50	715	.43
1 in.	1.125	100	600	.28	1 3/4 in.	1.625	50	764	.51
1 1/4 in.	1.250	100	630	.31	1 7/8 in.	1.875	50	864	.58
1 1/2 in.	1.375	50	666	.35	2 in.	2.125	50	960	.78

AUTO BRASS FLEX

1/4 in.	.340	250	84	\$0.11	1/4 in.	.527	200	151	\$0.18	\$0.24
1/2 in.	.402	250	107	.12	1/2 in.	.600	200	196	.19	.26
3/4 in.	.465	250	124	.16						



Insulating Tubing

SPECIAL FLEXTUBE

Standard Mica Finish

For all wiring under the hood or upon the chassis.

List Size	Actual Inside Diam.	Actual Outside Diam.	Ft. per Coil	Approx. Wt. Lbs. per 1000 Ft.	List Price per Ft.
1/4 in.	.265	.480	250	50	\$0.05 1/4
1/2 in.	.313	.530	250	58	.06
3/4 in.	.438	.595	250	75	.09
1 in.	.563	.730	200	90	.12
1 1/4 in.	.688	.940	200	120	.15
1 1/2 in.	.813	1.080	150	196	.18

List Size	Coil per Ft.	Approx. Wt. Lbs. per 1000 Ft.	List Price per Ft.
1 in.	100	250	\$0.25
1 1/4 in.	100	400	.32
1 1/2 in.	Odd lengths	480	.39
1 3/4 in.	Odd lengths	590	.46
2 in.	Odd lengths	750	.54
2 1/2 in.	Odd lengths	810	.63

AUTOFLEX TUBE

For encasing and protecting wires in automobiles.

Special Smooth Finish

Made up from selected semi-flexible fiber cord, in the form of a helix, tightly interwoven with strong thread to form a flexible tubing which is treated with a moisture proof compound, over which a covering of tough yarn is braided. The completed material is then impregnated with an oil resisting compound.

It has a hard smooth surface, and is the only fabric tubing on the market which will readily take paint or enamel.

List Size	Actual Inside Diam.	Actual Outside Diam.	Ft. per Coil	Approx. Wt. Lbs. per 1000 Ft.	List Price per Ft.
1/4 in.	.265	.480	250	45	\$0.07
1/2 in.	.313	.530	250	50	.08
3/4 in.	.438	.595	250	55	.09
1 in.	.563	.730	200	60	.12
1 1/4 in.	.688	.940	200	70	.16
1 1/2 in.	.813	1.080	150	80	.19
2 in.				100	.23

Automobile and Ignition Supplies

WIRE GRIP MOULDING AND FIBER CLEATS


Moulding

Wire Grip Moulding

List No.	Mfr. No.	No. and Size	Softwood Oak Stained			Softwood Unfinished		
			Less than 1000 feet	1000 to 5000 feet	5000 feet and over	Less than 1000 feet	1000 to 5000 feet	5000 feet and over
580858	3	1/4 inch 2 wire	\$33.60	\$32.20	\$30.80	\$31.50	\$30.10	\$28.70
580859	4	1/4 inch 3 wire	44.80	43.40	42.00	41.30	39.90	38.50
580860	5	3/8 inch 2 wire	42.00	40.60	39.20	39.90	38.50	37.10
580861	6	3/8 inch 3 wire	56.00	54.60	53.20	52.50	51.10	49.70
580862	7	1/2 inch 2 wire	49.70	48.30	46.90	46.20	44.80	43.40
580863	8	1/2 inch 3 wire	70.00	68.60	67.20	65.80	64.40	63.00
			Hardwood Oak Stain			Hardwood Unfinished		
580092	3	1/4 inch 2 wire	\$33.60	\$32.20	\$30.80	\$30.80	\$29.40	\$28.00
580093	4	1/4 inch 3 wire	46.20	44.80	43.40	41.30	39.90	38.50
580094	5	3/8 inch 2 wire	42.00	40.60	39.20	39.20	37.80	36.40
580095	6	3/8 inch 3 wire	54.60	53.20	51.80	51.80	50.40	49.00
580096	7	1/2 inch 2 wire	49.00	47.60	46.20	44.80	43.40	42.00
580097	8	1/2 inch 3 wire	71.40	70.00	68.60	64.40	63.00	61.60

NOTE: When ordering please state whether you want, 1st: unfinished, oak stain or painted white; 2nd: size of groove; 3rd: number of grooves; 4th: hardwood or softwood; 5th: inserted cap or wide cap style.



Style A



Style B



Style C



Style D

Style E
Fiber Cleats

Style No. 1



Style No. 2



Style No. 2A

Hard Fiber Cleats

These cleats are neat, durable, easy to install, good insulators, and on account of the finished appearance they make, are just the thing for office or residence installation.

They were originally designed for telephone wiring only, but are now being used extensively for bell wiring, annunciator systems, time clocks, telegraph outfits, etc. Type E is particularly adapted for fastening electric light wires to switchboards, motor frames, etc.

In ordering be sure to mention color preferred: red, gray or black; otherwise red will be sent.

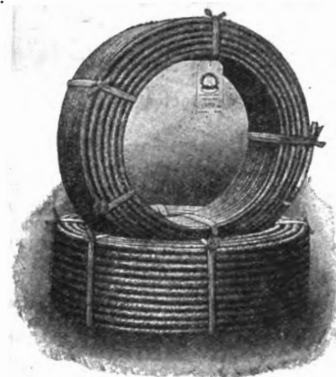
List No.	Style		Length	Width	Groove	List Price per 1000
580864	A	Single groove cleat	3/4 in.	1 1/2 in.	1/4 x 1/4 in.	\$9.90
580865	B	Double groove cleat	3/4 in.	1 1/2 in.	1/4 x 1/4 in.	9.90
580866	C	Corner cleat	1 1/2 in.	1 1/2 in.	1/4 x 1/4 in.	8.80
580867	D	Three-wire cleat	1 1/2 in.	1 1/2 in.	1/4 x 1/4 in.	19.80
580868	E	Large double cleat	1 1/2 in.	1 1/2 in.	1/4 x 1/4 in.	33.00
581281	1	Single groove				4.40
581282	2	Double groove				4.40
581283	2A	Double groove				4.40

Conduit and Wiring Accessories

NON-METALLIC FLEXIBLE CONDUIT

"CIRCULAR LOOM"

Circular Loom has a smooth interior which is lubricated with powdered soapstone to facilitate fishing the wires. It is fire- and moisture-resisting, the inner tube being formed of fiber wound spirally and covered by insulating tape with a heavy woven cotton covering or jacket that is saturated with a fire- and water repellent compound and has a distinctive outer protective coating of powdered mica.



Flexible Conduit

List No.	Inside Diam. Inches	Feet In Coil	List Price per Foot
580231	$\frac{1}{4}$	250	\$0.09
580232	$\frac{3}{8}$	250	.14
580233	$\frac{1}{2}$	200	.18
580234	$\frac{5}{8}$	200	.23
580235	$\frac{3}{4}$	150	.27
580236	1	100	.38
580237	$1\frac{1}{4}$	100	.50
580238	$1\frac{1}{2}$	100	.60
580239	$1\frac{3}{4}$	100	.72
580240	2	Odd lengths	.84
580241	$2\frac{1}{2}$	Odd lengths	.98

"LOOMFLEX"

The Seamless White Canvaslike Inner Tube is formed of special fiber cord interwoven with cotton yarn. The inner surface of the tube is given a thorough coating of powdered soapstone as a lubricant and the result is a firm, smooth and unobstructed raceway through which the wire slides easily and rapidly.

List No.	Inside Diam. Inches	Feet In Coil	List Price per Foot	List No.	Inside Diam. Inches	Feet In Coil	List Price per Foot
581436	$\frac{1}{4}$	250	\$0.07	581442	1	100	\$0.30
581437	$\frac{3}{8}$	250	.08	581443	$1\frac{1}{4}$	100	.40
581438	$\frac{1}{2}$	250	.11	581444	$1\frac{1}{2}$	Odd Lengths	.48
581439	$\frac{5}{8}$	200	.15	581445	$1\frac{3}{4}$	Odd Lengths	.57
581440	$\frac{3}{4}$	200	.18	581446	2	Odd Lengths	.66
581441	$\frac{7}{8}$	150	.22	581447	$2\frac{1}{2}$	Odd Lengths	.78

"WIREDUCT"

"Wireduct" is a tubing possessing great flexibility. The interior is smooth and easy to fish. It is saturated with a moisture- and fire-repellent compound. "Wireduct" is tough, durable, and never becomes kinked.

580246	$\frac{1}{4}$	250	\$0.07	580252	1	100	\$0.30
580247	$\frac{3}{8}$	250	.08	580253	$1\frac{1}{4}$	100	.40
580248	$\frac{1}{2}$	250	.11	580254	$1\frac{1}{2}$	Odd lengths	.48
580249	$\frac{5}{8}$	200	.15	580255	$1\frac{3}{4}$	Odd lengths	.58
580250	$\frac{3}{4}$	200	.18	580257	2	Odd lengths	.66
580251	$\frac{7}{8}$	150	.22				

Norm: Size $\frac{1}{4}$ inch is .05 larger than nominal size. Sizes $\frac{1}{2}$ to 1 inch are .07 larger than nominal size. Size $1\frac{1}{4}$ to 2 inches are .125 larger than nominal size.

"FLEXDUCT"

"Flexduct" is constructed of spiral fiber interwoven with warp. The interior, having a thorough coating of soapstone, presents a smooth surface which takes the wires with ease and without sticking.

580258	$\frac{1}{4}$	250	\$0.07	580264	$1\frac{1}{4}$	100	\$0.40
580259	$\frac{3}{8}$	250	.11	580265	$1\frac{1}{2}$	Odd lengths	.48
580260	$\frac{1}{2}$	200	.15	580266	$1\frac{3}{4}$	Odd lengths	.58
580261	$\frac{5}{8}$	200	.18	580267	2	Odd lengths	.66
580262	$\frac{3}{4}$	150	.22	580268	$2\frac{1}{2}$	Odd lengths	.78
580263	1	100	.30				

"FLEXTUBE"

580269	$\frac{1}{4}$	250	\$0.07	581023	1	100	\$0.30
580270	$\frac{3}{8}$	250	.08	581024	$1\frac{1}{4}$	100	.40
580271	$\frac{1}{2}$	250	.11	581025	$1\frac{1}{2}$	Odd lengths	.48
581020	$\frac{5}{8}$	200	.15	581026	$1\frac{3}{4}$	Odd lengths	.57
581021	$\frac{3}{4}$	200	.18	581027	2	Odd lengths	.66
581022	$\frac{7}{8}$	150	.22	581028	$2\frac{1}{2}$	Odd lengths	.78

"ALPHADUCT"

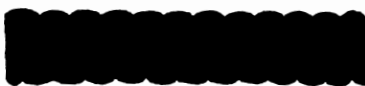
The interior lining of "Alphaduct" is of smooth, hard finished, white duck, lubricated with soapstone to make possible the easy passage of the wire.

580272	$\frac{1}{4}$	250	\$0.07	580278	1	100	\$0.30
580273	$\frac{3}{8}$	250	.08	580279	$1\frac{1}{4}$	100	.40
580274	$\frac{1}{2}$	250	.11	580280	$1\frac{1}{2}$	Odd lengths	.48
580275	$\frac{5}{8}$	200	.15	580281	$1\frac{3}{4}$	Odd lengths	.57
580276	$\frac{3}{4}$	200	.18	580282	2	Odd lengths	.66
580277	$\frac{7}{8}$	150	.22	580283	$2\frac{1}{2}$	Odd lengths	.78

FLEXIBLE STEEL CONDUIT AND ARMORED CONDUCTORS



Flexible Steel Conduit



Twin Conductor

"Sterling" Flexible Steel Conduit

"Sterling" conduit is approved by the underwriters for use anywhere that rigid iron conduit is permitted, even to embedding in concrete. It is made from the highest grade of galvanized steel, and by special patented machinery is spirally wound into a perfect conduit of single strip construction. The layers interlock in such a manner that it is impossible to open up the walls of the conduit, even under the most severe strain. The interior surface is perfectly smooth and presents a perfect raceway for the insertion and extraction of wire.

List Prices and Data

Size Inches	Feet per Coil	Weight per Coil Lbs.	List Price per 100 Feet
1 1/8	250	30	\$8.00
1 1/2	250	45	12.00
1 3/4	100	54	9.50
2	50	54	12.35
1 1/8	50	54	19.95
1 1/2	50	68	24.70
1 3/4	50	91	33.25
2	50	115	42.75

"Sterling" Flexible Armored Conductors

The highest quality of tested rubber wire is armored with tight-locked single strip galvanized steel.

Twin Conductors

Size	Approximate Feet per Coil	Wt. per 100 Feet in Lbs.	List Price per 1000 Feet
No. 14, B. & S.	150 to 250	45	\$148.20
No. 12, B. & S.	150 to 250	48	192.35
No. 10, B. & S.	100 to 200	54	263.64
No. 8, B. & S.	100 to 150	77 1/2	334.85

Three Conductors

No. 14, B. & S.	150 to 250	53	\$196.66
No. 12, B. & S.	150 to 250	56 1/2	242.26
No. 10, B. & S.	100 to 200	66	334.85
No. 8, B. & S.	100 to 150	93	463.14

Twin Conductors, Loaded

No. 14, B. & S.	100 to 200	68	\$233.70
No. 12, B. & S.	100 to 200	78	300.65
No. 10, B. & S.	100 to 150	110	363.35

Three Conductors, Loaded

No. 14, B. & S.	100 to 150	78	\$316.36
No. 12, B. & S.	100 to 150	97	413.26

Steel-Armored Flexible Cord, Plain

No. 18, B. & S.	150 to 250	20	\$92.64
No. 16, B. & S.	150 to 250	22	114.00

Steel-Armored Flexible Cord, Reinforced

No. 18, B. & S.	150 to 250	25	\$158.18
No. 16, B. & S.	150 to 250	26	178.14



PX Armored Conductor

PX "Quickstrip" Armored Conductors

Size	Approximate Feet per Coil	Wt. per 100 Feet in Lbs.	List Price per 1000 Feet
No. 14, B. & S. Twin Conductor	150 to 250	45	\$148.20
No. 14, B. & S. Triple Conductor	150 to 250	53	196.66

Conduit and Wiring Accessories

"FLEXSTEEL" ARMORED CONDUCTORS



"Flexsteel" Armored Conductors

"Flexsteel" Armored Conductors

"Flexsteel" armored conductors are designed for severe service and are built electrically and mechanically to meet these demands. The flat surface is a distinctive feature of "flexsteel" material. The flexible lead covered armored conductors are moisture proof and will give satisfactory results when installed in moist places, such as packing plants, cold storage buildings, breweries, etc., and are also adaptable for underground work.

Single Conductor, Type S

Size	Approximate Feet per Coil	Weight per 1000 Feet	List Price per 1000 Feet
No. 14, B. & S. Solid	250	190 lbs.	\$86.94
No. 12, B. & S. Solid	250	200 lbs.	101.18
No. 10, B. & S. Solid	250	220 lbs.	128.26
No. 8, B. & S. Solid	250	270 lbs.	151.04
No. 6, B. & S. Solid	250	500 lbs.	206.62
No. 10, B. & S. Stranded	250	220 lbs.	135.38
No. 8, B. & S. Stranded	250	270 lbs.	163.88
No. 6, B. & S. Stranded	250	500 lbs.	228.00
No. 4, B. & S. Stranded	250	570 lbs.	292.12
No. 2, B. & S. Stranded	200	690 lbs.	379.06
No. 1, B. & S. Stranded	100	960 lbs.	448.88

Twin Conductors, Type FS

No. 14, B. & S. Solid	250	400 lbs.	\$148.20
No. 12, B. & S. Solid	250	452 lbs.	192.38
No. 10, B. & S. Solid	200	510 lbs.	263.64
No. 8, B. & S. Stranded	150	780 lbs.	334.88
No. 6, B. & S. Stranded	100	940 lbs.	527.26
No. 4, B. & S. Stranded	100	1210 lbs.	819.38

Three Conductors, Type FS3

No. 14, B. & S. Solid	250	458 lbs.	\$196.66
No. 12, B. & S. Solid	250	505 lbs.	242.26
No. 10, B. & S. Solid	200	600 lbs.	334.88
No. 8, B. & S. Stranded	150	862 lbs.	463.14
No. 6, B. & S. Stranded	100	1160 lbs.	672.60

"Flexsteel" Lead Covered Armored Conductors

Single Conductors, Type SL

No. 10, B. & S. Stranded	250	460 lbs.	\$171.00
No. 8, B. & S. Stranded	200	520 lbs.	206.64
No. 6, B. & S. Stranded	200	790 lbs.	279.30
No. 4, B. & S. Stranded	150	880 lbs.	354.84
No. 2, B. & S. Stranded	150	1180 lbs.	454.58
No. 1, B. & S. Stranded	100	1600 lbs.	552.90

Twin Conductors, Type FSL

No. 14, B. & S. Solid	100-200	647 lbs.	\$233.70
No. 12, B. & S. Solid	100-200	693 lbs.	300.68
No. 10, B. & S. Solid	100-150	900 lbs.	363.38
No. 8, B. & S. Stranded	100-150	1210 lbs.	491.64
No. 6, B. & S. Stranded	100	1900 lbs.	890.64

Three Conductors, FSL3

No. 14, B. & S. Solid	100-150	740 lbs.	\$316.36
No. 12, B. & S. Solid	100-150	906 lbs.	413.26
No. 10, B. & S. Solid	100-150	1040 lbs.	463.14
No. 8, B. & S. Stranded	100-150	1040 lbs.	641.26

Twin Conductors, Type FSM

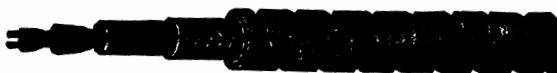
Specially Insulated for Marine Work

No. 14, B. & S. Solid	100-200	500 lbs.	\$198.08
No. 12, B. & S. Solid	100-200	580 lbs.	269.34
No. 10, B. & S. Solid	100-150	620 lbs.	313.50

FLEXIBLE ARMORED LAMP-CORD AND CONDUIT

"Flexsteel" Armored Lamp-Cord
"Flexsteel" Flexible Armored Lamp-Cord
Twin Conductors FSL

Size	Approximate Feet per Coil	Weight per 1000 Feet	List Price per 1000 Feet
No. 18 B. & S.	150-250	200 lbs.	\$92.64
No. 16 B. & S.	150-250	210 lbs.	114.00
No. 14 B. & S.	150-250	250 lbs.	163.88


"Flexsteel" Reinforced Armored Lamp-Cord
"Flexsteel" Flexible Reinforced Armored Lamp-Cord
Twin Conductors FSRLC

Size	Approximate Feet per Coil	Weight per 1000 Feet	List Price per 1000 Feet
No. 18 B. & S.	150-250	245 lbs.	\$158.18
No. 16 B. & S.	150-250	255 lbs.	178.14
No. 14 B. & S.	150-250	450 lbs.	249.38


"Flexsteel" Flexible Conduit
"Flexsteel" Flexible Conduit

Inside Diam. In.	Approximate Feet in Coil	Weight per 1000 Feet	List Price per 100 Feet
$\frac{1}{8}$	250	203 lbs.	\$8.00
$\frac{3}{16}$	250	350 lbs.	12.00
$\frac{1}{4}$	100	590 lbs.	9.50
$\frac{3}{8}$	50	820 lbs.	12.36
1	50	1260 lbs.	19.96
$1\frac{1}{4}$	50	1680 lbs.	24.70
$1\frac{1}{2}$	25-50	2000 lbs.	33.26
2	25-50	2335 lbs.	42.76

Conduit and Wiring Accessories

FLEXIBLE STEEL-ARMORED CONDUCTORS



Sprague Conductor Type BX

Sprague Flexible Steel-Armored Conductors

Sprague Flexible Steel-Armored Conductors, or to use the more widely known trade name, BX Cables, are covered by broad fundamental patents, and while adapted to new building construction, yet they find special favor on account of the ease with which they can be installed in finished buildings without defacing walls or decorations.

The value of these products for a safe and economical wiring system is attested by their continued use in many classes of interior construction, whether fireproof or non-fireproof.

There are armored cables on the market having various designs of armor construction; some are furnished with and some without gaskets for moisture protection. BX is of that simple shaping which prevents the wearing away of the zinc coating in the process of manufacture, and with the gasket placed between the inner and outer strips for moisture protection.

The armor is composed of convex and concave hot galvanized metal strips wound spirally upon each other and over the insulated conductors. A gasket saturated with moisture repellent is placed between the inner and outer metal strips, thus further rendering the conductor moisture-proof.

Twin Conductors, Type BX

B. & S. Gauge	Approximate Outside Diameter Inches	Weight per 100 Ft. Lbs.	Approximate Feet in Coil	List Price per 1000 Feet
No. 14BX Solid.....	.630	45	150-250	\$148.20
No. 12BX Solid.....	.670	48	150-250	192.38
No. 10BX Solid.....	.720	54	150-250	263.64
No. 8BX Stranded.....	.830	77½	100-150	334.88
No. 6BX Stranded.....	1.116	121	100	527.26
No. 4BX Stranded.....	1.203	143	100	819.38

Three Conductors, Type "BX3"

No. 14BX3 Solid.....	.675	53	150-250	\$196.66
No. 12BX3 Solid.....	.715	56½	150-250	242.26
No. 10BX3 Solid.....	.785	66	100-200	334.88
No. 8BX3 Stranded.....	.890	93	100-150	463.14
No. 6BX3 Stranded.....	1.144	153	100	672.60

Single Conductors, Type "D"

No. 14D Solid.....	.378	20	250	\$86.94
No. 12D Solid.....	.384	21½	250	101.18
No. 10D Solid.....	.434	26	250	128.26
No. 8D Solid.....	.464	28	250	151.06
No. 6D Solid.....	.609	54	250	206.62
No. 10D Stranded.....	.450	23	250	135.38
No. 8D Stranded.....	.469	28	250	163.88
No. 6D Stranded.....	.631	54	250	228.00
No. 4D Stranded.....	.717	63	200	292.12
No. 2D Stranded.....	.783	71	200	379.06
No. 1D Stranded.....	.900	98	100	448.88

Twin Conductors, Type "BM," For Marine Work

*No. 14BM Solid.....	.741	52	100-200	\$198.08
*No. 12BM Solid.....	.741	60	100-200	269.34
*No. 10BM Solid.....	.750	64	100-150	313.50

* Not carried in stock but is made up on order.

National Code Standard.

STEEL-ARMORED LEAD-COVERED CONDUCTORS AND
FLEXIBLE CORD

A Coil of Sprague Flexible Steel-Armored, Lead-Covered Conductors



A Coil of Sprague Steel-Armored Flexible Cord

Twin Conductors, Type BXL—Lead-Covered and Steel-Armored

List No.	B. & S. Gauge	Approximate Outside Diameter in Inches	Weight per 100 Feet in Lbs.	Approximate Feet in Coil	List Price per 100 Feet
580405	14BXL Solid	.730	68	100-200	\$22.96
580406	12BXL Solid	.758	78	100-200	29.54
580407	10BXL Solid	.863	110	100-150	35.70
580408	8BXL Stranded	.978	136	100-150	48.30
580409	6BXL Stranded	1.152	205	100	87.50

Three Conductors, Type BXL3—Lead-Covered and Steel-Armored

580410	14BXL3 Solid	.782	78	100-150	\$31.08
580411	12BXL3 Solid	.815	97	100-150	40.60
580412	10BXL3 Solid	.933	129	100-150	45.50
580413	8BXL3 Stranded	1.056	164	100-150	63.00

Single Conductors, Type DL—Lead-Covered and Steel-Armored

580414	10DL Stranded	.506	53	250	\$16.80
580415	8DL Stranded	.564	72	200	20.30
580416	6DL Stranded	.713	95	200	27.44
580417	4DL Stranded	.780	110	150	34.86
580418	2DL Stranded	.825	125	150	44.66
580419	1DL Stranded	.897	165	100	54.32

Sprague Steel-Armored Flexible Cord

Sprague Steel-Armored Flexible Cord for lamp pendants and portables is particularly desirable for use under all conditions requiring extraordinary service. In such places as machine shops, theatres, mills, show windows, factories, engine and boiler rooms, these materials are almost indispensable. Where ordinary "cord" is frequently useless under rigorous conditions of service, Steel-Armored Flexible Cord will invariably meet the requirements.

Steel-Armored Flexible Cord

Type E

List No.	B. & S. Gauge	Approximate Outside Diameter in Inches	Weight per 100 Feet in Lbs.	Approximate Feet in Coil	List Price per 100 Feet
580420	18E Stranded	.414	20	150-250	\$91.00
580421	16E Stranded	.447	22	150-250	112.00
580422	14E Stranded	.625	38	150-250	161.00

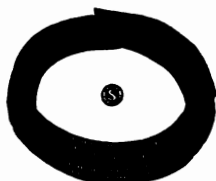
Steel-Armored Flexible Reinforced Cord

Type EM

580423	18EM Stranded	.530	25	150-250	\$155.40
580424	16EM Stranded	.540	26	150-250	175.00
580425	14EM Stranded	.652	48	150-250	245.00

Conduit and Wiring Accessories

GREENFIELD HOT GALVANIZED FLEXIBLE STEEL CONDUIT



A Coil of Single Strip Type of
Greenfield Flexible Steel Conduit



A Coil of Double Strip Type of
Greenfield Flexible Steel Conduit

Single Strip Type

This conduit is designed particularly for fireproof construction, but is equally adaptable to new non-fireproof work, or for the wiring of finished buildings.

It differs from the Double Strip Type in that it is formed with a single strip of galvanized steel, interlocked and gasketed in such a manner as to be highly suitable for concrete construction.

There is practically no waste when this conduit is used, all short pieces left over can be clamped together by means of couplings.

In ordering Single Strip Type always specify S. S. Type.

Data and List Prices

List No.	Nominal Inside Diameter in Inches	Approximate Outside Diameter in Inches	Weight per 100 Feet in Lbs.	Approximate Feet in Coil	List Price per 100 Feet
580388	$\frac{1}{8}$	.476	17 $\frac{1}{4}$	250	\$8.00
580389	$\frac{1}{4}$	.573	29 $\frac{1}{4}$	250	12.00
580390	$\frac{1}{2}$	.875	60	100	9.50
580391	$\frac{3}{4}$	1.062	77	50	12.36
580392	1	1.359	122	50	19.96
580393	1 $\frac{1}{4}$	1.625	170	50	24.70
580394	1 $\frac{1}{2}$	1.875	188	25-50	33.26
580395	2	2.375	263	25-50	42.76
580396	2 $\frac{1}{2}$	3.	306	25	49.40

Double Strip Type

Double Strip Type of flexible steel conduit is constructed of concave and convex steel strips spirally wound upon each other in such a manner as to interlock their concave surfaces. Thus the convex surfaces of the two strips form respectively the outer and inner surfaces of the conduit. This construction insures a smooth interior surface, thus reducing the possibility of friction in the drawing in of the conductors. A gasket is provided between the inner and outer strips, rendering the conduit moisture proof.

Where it is desired to make use of a conduit in existing buildings, we strongly recommend this Double Strip Type on account of its extreme flexibility.

With a flexibility as great as new manila rope of equal diameter elbows are unnecessary, as it can be readily bent around corners and over beams. It can be fished and drawn into floors and walls without injuring trim or decorations.


There is practically no waste when this conduit is used. All short pieces left over can be clamped together by means of couplings.

In ordering Double Strip Type of conduit always specify D. S. Type.


Data and List Prices

List No.	Nominal Inside Diameter in Inches	Approximate Outside Diameter in Inches	Weight per 100 Feet in Lbs.	Approximate Feet in Coil	List Price per 100 Feet
580397	$\frac{1}{8}$	.503	20	250	\$8.00
580398	$\frac{1}{4}$	.635	36 $\frac{1}{2}$	250	12.00
580399	$\frac{1}{2}$	.890	69	100	12.00
580400	$\frac{3}{4}$	1.166	96	50	15.60
580401	1	1.460	144	50	25.20
580402	1 $\frac{1}{4}$	1.782	182	50	31.20
580403	1 $\frac{1}{2}$	2.025	198	25-50	42.00
580404	2	2.520	265	25-50	54.00

FLEXIBLE CONDUIT FITTINGS



Nos. 6119, 6119½,
6121, 6122 Box
Connectors




Nos. 7120, 7123,
6124 to 6129 and 6131 to 6134
Box Connectors

Sprague Box Connectors

List No.	Description	Unit Pkg.	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6119	For ½ inch S. S. and D. S. Conduit, 16 EM, 18 EM and 8 D Cable (½ inch knockout).....	50	100	14	\$9.00
6119½	For Nos. 10, 12 and 14 D Cable and 16 and 18 E Cord (½ inch knockout).....	50	100	14	9.00
*7120	For Nos. 14 BX and 6 D Cable. Will also take 14E Lamp Cord and ¾ inch D. S. and S.S. Conduit (½ inch knockout).....	50	100	20	9.00
6121	For Nos. 12 and 10 BX, 14BX3, 12BX3, 14BXL, 14BXL3, 14 and 12 BM, 4D and 6DL Cable. Will also take 14EM, Lamp Cord (½ inch knockout).....	50	100	15	9.00
6122	For Nos. 10BM, 12BXL, 12BXL3, 2D, 4 and 2DL and 10BX3 Cable (½ inch knockout).....	50	100	15	9.00
*7123	For Nos. 8BX, 8BX3, 10 and 8BXL, 10BXL3, 1D Cable, and ½ inch S. S. and D. S. Conduit (½ inch knockout).....	50	100	21	9.00
*6124	For Nos. 6BX, 8BXL3 Cable and ¾ inch S. S. Conduit (¾ inch knockout).....	25	100	31	11.40
*6124½	For Nos. 4BX, 6BX3 and 6BXL Cable (1 inch knockout).....	20	100	43	16.80
*6125	For 1 inch S. S. Conduit (1 inch knockout).....	20	100	45	16.80
*6126	For 1 ¼ inch S. S. Conduit (1 ¼ inch knockout).....	20	100	46	24.00
*6127	For 1 ½ inch S. S. Conduit (1 ½ inch knockout).....	20	100	61	36.00
*6128	For 2 inch S. S. Conduit (2 inch knockout).....	10	50	44	48.00
*6129	For 2 ½ inch S. S. Conduit (2 ½ inch knockout).....	5	25	49	108.00
*6131	For ¾ inch D. S. Conduit (¾ inch knockout).....	25	100	31	11.40
*6132	For 1 inch D. S. Conduit (1 inch knockout).....	20	100	47	16.80
*6133	For 1 ¼ inch D. S. Conduit (1 ¼ inch knockout).....	20	100	50	24.00
*6133½	For 1 ½ inch D. S. Conduit (1 ½ inch knockout).....	10	50	44	36.00
*6134	For 2 inch D. S. Conduit (2 inch knockout).....	10	50	66	60.00

* These connectors are not of the stamped steel type, but are made of malleable iron of the clamp type and are furnished in hot galvanized finish.


Above prices include locknuts.



No. 6090
¼ inch Socket Adapter
With Connector



No. 6092
¼ inch Socket Adapter
With Connector



No. 6094
Rosette Adapter
With Connector

Sprague Galvanized Adapters

For Flexible Reinforced Cord Types "E" and "EM"

List No.	Description	Box Connector Required	Unit Pkg.	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6090	¼ inch Socket Adapter for 14E use.....	No. 7120	50	100	62	\$12.00
	For 14EM use.....	No. 6121				
	For 16 and 18EM use.....	No. 6119				
6092	¾ inch Socket Adapter for 14E use.....	No. 7120	50	100	62	12.00
	For 14EM use.....	No. 6121				
	For 16 and 18EM use.....	No. 6119				
6094	¾ inch Rosette Adapter for 14E use.....	No. 7120	50	100	56	16.80
	For 14EM use.....	No. 6121				
	For 16 and 18EM use.....	No. 6119				

Above prices are for the Adapter only, and do not include connectors. List Nos. 6119, 7120 and 6121 Box Connectors, shown above, are illustrated only for the purpose of showing their use.

Conduit and Wiring Accessories

FLEXIBLE CONDUIT FITTINGS AND CUTTERS



Nos. 6080-6084
Bushing for
Armored
Conductors



Lead Bushing

Brass Terminal Bushings

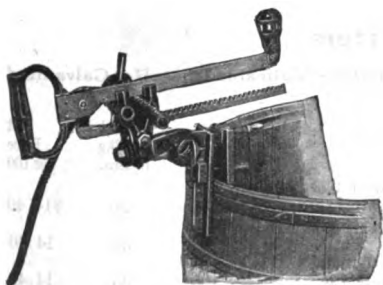
For Greenfield Flexible Steel-Armored Conductors

List No.	Description	Unit Pkg.	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6080	For 14, 12 BX, and 14E Lamp Cord.....	100	200	1½	\$3.34
6081	For 14, 12 BX3 and 10 BX.....	100	200	4	6.34
6082	For 10 BX3.....	100	200	4	6.34
6083	For 8 BX.....	50	100	2½	7.50
6084	For 8 BX3.....	50	100	2½	8.10

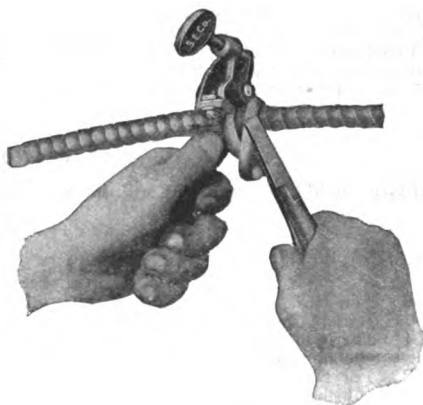
Lead Bushings

For D. S. Type of Greenfield Flexible Steel Conduit

List No.	Size of Conduit	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6040	¾ inch	100	1½	\$1.08
6041	½ inch	100	1¼	1.14
6042	¾ inch	50	1½	1.56
6043	1 inch	50	1¾	2.04
6044	1¼ inch	25	1	3.00
6045	1½ inch	25	2¼	6.00
6046	2 inch	25	3	9.00



No. 6811 BX Armor Cutter
Attached to Barrel



No. 6812
BX Hand Armor Cutter

Armor Cutters

List No.		Wt. Lbs.	List Price Each
6811	BX Armor Cutter.....	8½	\$7.20
6812	BX Hand Armor Cutter.....	1	.90

FLEXIBLE CONDUIT FITTINGS

Nos. 6136 to 6139 and 6144½
to 6149 Malleable Iron Panel
Box ConnectorsNos. 6135 and 6140 to 6144 Stamped Steel
Panel Box Connectors45° Connector
Nos. 6190 and 619190° Connector
Nos. 6192 and 6193

Sprague Panel Box Connectors

For Greenfield Flexible Steel Conduit and Armored Cables—Galvanized Finish

List No.	Description	Unit Pkg.	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6135	For ¼ inch D. S. Conduit and Nos. 8BX3, 10 and 8BXL, 10 BXL3 and 1D Cable (½ inch knockout).....	25	100	24	\$18.00
*6136	For ¾ inch D. S. Conduit (¾ inch knockout).....	10	100	41	19.20
*6137	For 1 inch D. S. Conduit (1 inch knockout).....	10	100	60	22.80
*6138	For 1½ inch D. S. Conduit (1½ inch knockout).....	10	100	72	30.00
*6138½	For 1½ inch D. S. Conduit (1½ inch knockout).....	10	50	51	44.40
*6139	For 2 inch D. S. Conduit (2 inch knockout).....	10	50	73	68.40
6140	For Nos. 14BX and 6D Cable. 14E Lamp Cord and ¾ inch S. S. and D. S. Conduit (½ inch knockout).....	50	100	20	15.60
6141	For Nos. 12 and 10BX, 14 and 12BX3, 14BXL, 14BXL3, 14 and 12BM, 4D and 6DL Cable (½ inch knockout).....	50	100	21	15.60
6142	For Nos. 10BX3, 12BXL, 12BXL3, 2D, 4 and 2DL and 10BM Cable (½ inch knockout).....	50	100	23	15.60
6143	For ½ inch S. S. Conduit and Nos. 8BX, 8BX3, 10 and 8BXL, 10BXL3 and 1D Cable (½ inch knockout).....	25	100	23	15.60
6144	For ¾ inch S. S. Conduit and Nos. 6BX and 8BXL3 Cable (¾ inch knockout).....	20	100	34	21.60
*6144½	For Nos. 4BX, 6BX3 and 6BXL Cable (1 inch knockout).....	10	100	53	21.60
*6145	For 1 inch S. S. Conduit (1 inch knockout).....	10	100	47	25.20
*6146	For 1½ inch S. S. Conduit (1½ inch knockout).....	10	100	69	36.00
*6147	For 1½ inch S. S. Conduit (1½ inch knockout).....	10	50	48	48.00
*6148	For 2 inch S. S. Conduit (2 inch knockout).....	10	50	51	64.80
*6149	For 2½ inch S. S. Conduit (2½ inch knockout).....	5	25	52	120.00

* These connectors are not of the Stamped Steel Type, but are made of malleable iron of the Clamp Type and are furnished in a hot galvanized finish. Panel box connectors with an extra locknut may be used with cast-iron boxes having a wall thickness too great for the box connectors.

Above prices include locknuts.

Angle Box Connectors

For Greenfield Flexible Steel Conduit and Armored Conductors—Malleable Iron—Hot Galvanized Finish

List No.	Description	Unit Pkg.	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6190	For Nos. 14 and 12BX and 14BX3 Cable, 14E Lamp Cord and ¾ inch D. S. Conduit (¾ inch knockout) 45 degree connector.....	20	100	26	\$14.40
6191	For ¾ inch S. S. and D. S. Conduit (¾ inch knockout) 45 degree connector.....	20	100	31	14.40
6192	For Nos. 14BX, 12BX, 14BX3 Cable, 14E Lamp Cord and ¾ inch D. S. Conduit (¾ inch knockout) 90 degree connector.....	20	100	35	14.40
6193	For ¾ inch S. S. and D. S. Conduit (¾ inch knockout) 90 degrees.....	20	100	42	14.40

List No.	Adapted for	Std. Pkg.	Wt. Std. Pkg.	List Price Per 100
*6194	¾ inch S. S. or D. S. Conduit (¾ inch knockout) 90 degrees.....	10	6	\$64.80
*6195	1 inch S. S. or D. S. Conduit (1 inch knockout) 90 degrees.....	10	9	79.20
*6196	1½ inch S. S. or D. S. Conduit (1½ inch knockout) 90 degrees.....	10	14	97.20
*6197	1½ inch S. S. or D. S. Conduit (1½ inch knockout) 90 degrees.....	10	19	129.60

*Specify whether connector is wanted for S. S. or D. S. Conduit. This information is absolutely essential.

Conduit and Wiring Accessories

FLEXIBLE CONDUIT FITTINGS



Fish Plug



Watertight Stuffing Bushing

Fish Plugs

These fish plugs, which are made for $\frac{3}{8}$ inch, $\frac{1}{2}$ inch and $\frac{3}{4}$ inch Greenfield Conduit, will be furnished free on application, and will be found very useful in drawing in either D. S. or S. S. Type of conduit in finished buildings where it is desired to fish it under floors or in partitions.

After the conduit has been cut squarely off in the special vise, the fish plug may be screwed into the tube and the fish wire or drawing-in line should then be attached to the eyelet on the end of the plug.

Watertight Stuffing Bushings

These bushings are made in two parts consisting of a male nipple having one end drilled out in a cup shape, and a hexagonal female clamping nipple having a clamp on one end which when screwed together securely holds the cable. The cable is inserted into the clamping nipple and the steam packing is then wrapped around the lead covering of the conductors. The male nipple is then screwed into the female clamping nipple which forces the steam packing into the cup-shaped space, also against the shoulder in the bottom of female clamping nipple making an absolutely watertight joint in the bushing.

List No.	Description	Carton Quantity	Std. Pkg.	Wgt. Pkg. Lbs.	List Price Each
6106	Bushing for 14BXL and 12BXL Cable.....	20	100	35	\$0.39
6107	Bushing for 14BXL3 and 12BXL3 Cable.....	20	100	35	.39
6108	Bushing for 10BXL and 10BXL3 Cable.....	20	100	57	.51



**No. 6112 with No. 6115 and G. E.
No. 49487 Porc. Plug**



No. 6113



No. 6115



No. 6118



**No. 6115
Dis-assembled**

Insulated Brass Connectors

For Steel Armored Flexible Cord Type "E"

These connectors are for use with Steel-Armored Flexible Cord as they thoroughly insulate the armor of the cord from the boxes and covers, also from the shell of the socket. They may be used in connection with box covers, sockets, rosettes, plug receptacles and attachment plugs.

List No.	Description	Carton Quantity	Std. Pkg.	Wgt. Pkg. Lbs.	List Price per 100
6111	Brass nipple for Hubbell attachment plugs Nos. 5815 and 6116 when used with No. 6115 bushing.....	50	200	6	\$10.68
6112	Brass nipple for No. 6115 when used with attachment plugs.....	50	200	3	8.00
6113	For Nos. 16 and 18 E Cord with $\frac{1}{8}$ inch nipple locknut and cap.....	50	200	8	23.34
6115	For Nos. 16 and 18 Type E Cord.....	50	200	5	13.34
6118	Brass Cap for No. 6115.....	50	200	1	2.68

FLEXIBLE CONDUIT FITTINGS

Sprague Galvanized Couplings

Nos. 6160 to 6162
Nos. 6063 to 6067Nos. 6072 to 6077 Combination Coupling
Used to join Rigid Pipe to D. S. Flexible
Steel Conduit or vice versa*Couplings for D. S. and S. S. Conduit $\frac{1}{4}$ Inch to $\frac{1}{2}$ Inch Only

List No.	Size of Conduit	Description	Unit Pkg.	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6160	For $\frac{1}{4}$ inch D. S. and S. S. Conduit.....		10	100	16	\$9.60
6161	For $\frac{1}{2}$ inch D. S. and S. S. Conduit.....		10	100	38	10.20
6162	For $\frac{3}{4}$ inch D. S. and S. S. Conduit.....		10	100	52	11.10

*Couplings for D. S. Conduit Larger than $\frac{1}{2}$ Inch

6063	For $\frac{3}{4}$ inch D. S. Conduit.....	10	100	65	\$14.40
6064	For 1 inch D. S. Conduit.....	10	100	118	19.20
6065	For $1\frac{1}{4}$ inch D. S. Conduit.....	10	50	65	26.40
6066	For $1\frac{1}{2}$ inch D. S. Conduit.....	10	50	77	36.00
6067	For 2 inch D. S. Conduit.....	10	50	90	51.60

Combination Coupling for D. S. or S. S. with Rigid Conduit for $\frac{1}{2}$ Inch only

6072	For $\frac{1}{2}$ inch D. S. or S. S. with Rigid Conduit.....	10	100	58	\$15.00
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Combination Couplings for D. S. and Rigid Conduit

6073	For $\frac{3}{4}$ inch D. S. and Rigid Conduit.....	10	100	72 $\frac{1}{2}$	\$19.20
6074	For 1 inch D. S. and Rigid Conduit.....	10	100	112	25.20
6075	For $1\frac{1}{4}$ inch D. S. and Rigid Conduit.....	10	50	65	36.00
6076	For $1\frac{1}{2}$ inch D. S. and Rigid Conduit.....	10	50	85	48.00
6077	For 2 inch D. S. and Rigid Conduit.....	10	50	100	72.00



Nos. 6163 to 6168 Couplings



Nos. 6173 to 6177 Combination Couplings

*Couplings for S. S. Conduit Larger than $\frac{1}{2}$ Inch

List No.	Size of Conduit	Description	Unit Pkg.	Std. Pkg.	Weight Std. Pkg. in Lbs.	List Price per 100
6163	For $\frac{3}{4}$ inch S. S. Conduit.....		10	100	73	\$14.40
6164	For 1 inch S. S. Conduit.....		10	100	91	19.20
6165	For $1\frac{1}{4}$ inch S. S. Conduit.....		10	50	57	26.40
6166	For $1\frac{1}{2}$ inch S. S. Conduit.....		10	50	64	36.00
6167	For 2 inch S. S. Conduit.....		10	50	108	51.60
6168	For $2\frac{1}{2}$ inch S. S. Conduit.....		5	10	52	90.00

Combination Couplings for S. S. and Rigid Conduit

6173	For $\frac{3}{4}$ inch S. S. and Rigid Conduit.....	10	100	70	\$19.20
6174	For 1 inch S. S. and Rigid Conduit.....	10	100	100	25.20
6175	For $1\frac{1}{4}$ inch S. S. and Rigid Conduit.....	10	50	75	36.00
6176	For $1\frac{1}{2}$ inch S. S. and Rigid Conduit.....	10	50	90	48.00
6177	For 2 inch S. S. and Rigid Conduit.....	10	50	102	72.00

* In ordering couplings it is advisable to order one coupling to every coil of Greenfield Flexible Steel Conduit.

Conduit and Wiring Accessories

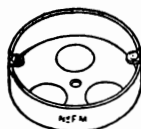
CONDUIT OUTLET BOXES



No. YA



No. ZA



No. FM

Round Outlet Boxes

NO. YA CEILING BOX

Dimensions—3 1/4 inches diameter, 1/2 inch deep.

Outlets—8 1/4 inch Circular Loom Outlets and one 1/4 inch Rigid Conduit Outlet in bottom.

List		List Price
No.		Each
YA	Ceiling Box.....	Galv. \$0.10

NO. ZA OUTLET AND RECEPTACLE BOX

Dimensions—3 1/4 inches diameter, 1 3/4 inches deep.

8 1/4 inch Circular Loom and 1 3/4 inch Rigid Conduit Knock-out in bottom.

4 1/4 inch Circular Loom and 4 1/2 inch Rigid Conduit Knock-out in the side.

Depth—1 3/4 inches.

Screw holes spaced for all FA box covers.

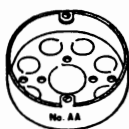
List		List Price
No.		Each
ZA	Receptacle Box.....	Galv. \$0.18

NO. FM OUTLET BOX

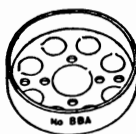
Dimensions—3 1/4 inch diameter, 3/4 inch deep; 3 1/2 inch Outlets only in bottom.

Outlets—3 1/2 inch Rigid Conduit Outlets in bottom.

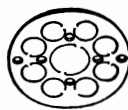
List		List Price
No.		Each
FM	Outlet Box.....	Galv. \$0.13



No. AA



No. BBA



Plate

Round Outlet Boxes

NO. AA ROUND OUTLET BOX

3 1/4 x 3/4 inches deep. No knock-outs in sides.

7 1/4 inch Circular Loom Knock-outs and 1 3/4 inch Rigid Conduit Knock-out in bottom.

Screw-holes spaced for all FA box covers.

List		List Price
No.		Each
AA	Round Box with Lugs.....	Galv. \$0.13

NO. BBA ROUND OUTLET BOX

3 1/4 x 3/4 inch deep. No Knock-outs in sides.

7 1/4 inch Circular Loom Knock-outs and 1 3/4 inch Rigid Conduit Knock-out in bottom.

Screw holes spaced for all FA box covers.

List		List Price
No.		Each
BBA	Round Box without Lugs.....	Galv. \$0.10

STEEL PLATE

Steel Plate, 3 1/4 inches, no sides..... \$0.09

For enameled boxes deduct 10%.

CONDUIT OUTLET BOXES AND COVERS



No. EA



No. FA



No. FAO

NO. EA RECEPTACLE BOX

For G. E. Receptacle No. 50746 and Bryant Receptacle No. 5050

Dimensions—3¼ inches diameter, 1½ inches deep.

Outlets—Four outlets in sides.

Size Outlets—For ½ inch conduit only.

Note—Box cannot be furnished with bottom outlet.

List		List Price
No.		Each
EA	Round Receptacle Box.....	Galv. \$0.21

NO. FA AND FAO RECEPTACLE BOX

Dimensions—3¼ inches diameter, 1½ inches deep.

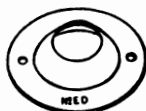
Outlets—Four outlets in sides and one in bottom.

Size Outlets—For ½ inch conduit only.

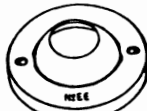
Fixture Stems—Boxes are drilled for fixture stems.

For Outlet and Junction purposes No. FA box with covers, FG and FH, can be used where a small box is necessary.

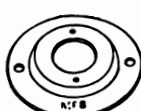
List		List Price
No.		Each
FA	Round Receptacle Box.....	Galv. \$0.14
FAO	Octagon Receptacle Box.....	.14



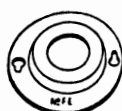
No. ED



No. EE



No. FB



No. FE

COVERS FOR ¾ INCH ROUND BOXES

List		Finish	List Price
No.		Each	
ED	Flush Steel Cover.....	Galv.	\$0.07
EB	Flush Brass Cover.....		.31
EE	Lapped Steel Cover.....	Galv.	.07
EC	Lapped Brass Cover.....		.33
FB	Steel Cover (Bryant No. 1508 Plug Receptacle).....	Galv.	.07
FE	Steel Cover Flush (G. E. Receptacle No. 9397).....	Galv.	.07
FC	Polished Brass Cover.....		.31



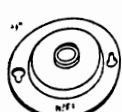
No. FF



No. FG



No. FH



No. FI

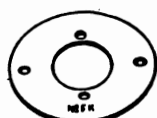
COVERS FOR ¾ INCH ROUND BOXES

List		Finish	List Price
No.		Each	
FF	Steel Cover (lapped) G. E. Receptacle No. 9397.....	Galv.	\$0.07
FD	Polished Brass Cover (lapped).....		.06
FG	Closed Steel Cover.....	Galv.	.07
FH	Open Steel Cover (Knowles Box Receptacle No. 2889) P. & S. Receptacles Nos. 61877, 61988 and 61577.....	Galv.	.09
FI	Steel Cover, with ¾ inch insulated bushing.....	Galv.	.35
FS	Polished Brass Cover, with ¾ inch insulated bushing.....		

For enameled boxes deduct 10%.

Conduit and Wiring Accessories

CONDUIT BOX COVERS



No. FK



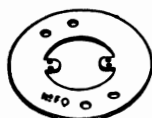
No. FO



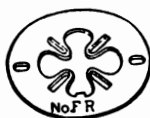
No. FP

COVERS FOR 3/4 ROUND BOXES

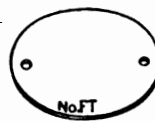
List No.		Finish	List Price Each
FK	Cover, Steel for P. & S. Receptacles Nos. 61777 and 61977.....	Galv.	\$0.07
FL	Cover, Brass for P. & S. Receptacles Nos. 61777 and 61977.....	.....	.31
FO	Polished Brass Cover (lapped) for Federal Receptacles.....	.....	.34
FP	Steel Cover (Flush).....	Galv.	.07
FN	Polished Brass Cover (Flush) for Federal Receptacles.....	.....	.31



No. FQ



No. FR



No. FT

COVERS FOR 3/4 ROUND BOXES

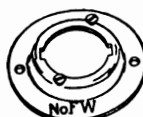
List No.		Finish	List Price Each
FQ	Flat Steel Cover, drilled for 5 Amp. Snap Switches.....	Galv.	\$0.09
FR	Snap Switch Steel Cover.....	Galv.	.09
FT	Flat Brass Cover.....	.....	.31



No. FU



No. FV



No. FW



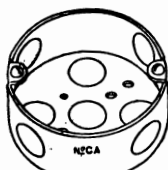
No. FY

COVERS FOR 3/4 ROUND BOXES

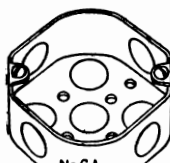
List No.		List Price Each
FU	Closed Steel Cover, 1/2 inch Knock-out Center.....	\$0.07
FV	Steel Cover for 1/4 inch bushing.....	.07
FW	Steel Cover for Hubbell Receptacle No. 5506.....	.07
FY	Raised Steel Cover for Freeman Receptacle No. 140.....	.09

For enameled boxes, deduct 10%.

CONDUIT OUTLET AND JUNCTION BOXES



No. CA



No. CAO



No. DA

NO. CA OUTLET BOXES

Dimensions—4 inch diameter, 1½ inches deep.

Outlets—Four outlets in side and five in bottom.

Size Outlets—For ½ inch or ¾ inch conduit only.

Fixture Stems—Boxes are drilled for fixture stems.

List No.		List Price Each Galv.
CA	Round Box.....	\$0.18
CAO	Octagonal Box.....	.18

NO. DA OUTLET BOX

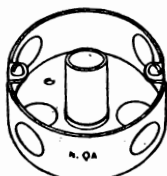
Dimensions—4 inches diameter, 2¼ inches deep.

Outlets—Four outlets in sides and five in bottom.

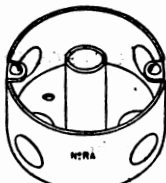
Note: Size Outlets—For ½ inch, ¾ inch and 1 inch conduit—No bottom outlets are provided in boxes arranged for 1 inch conduit.

Fixture Stems—Boxes are drilled for fixture stems.

List No.		List Price Each Galv.
DA	Round Box.....	\$0.22



No. QA



No. RA



No. WA

NOS. QA AND RA OUTLET BOXES

For Combination Gas and Electric Fixtures

Dimensions—4 inches diameter; depth for brick work, 1½ inches; for lath and plaster, 2¼ inches.

Outlets—Four in sides and four in bottom for ½ inch pipe. Where ¾ inch pipe is used, box cannot be furnished with bottom outlets.

Center Nipple—Will pass ½ inch gas pipe.

List No.		List Price Each Galv.
QA	Round box for brick, 1½ inches deep.....	\$0.28
RA	Round box for lath and plaster, 2¼ inches deep.....	.36

WA OUTLET AND JUNCTION BOX

For Rigid and Flexible Conduits

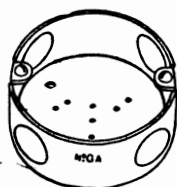
Dimensions—4 inches diameter, 1½ inches deep.

Outlets—21 outlets: 4 ½ inch knock-outs in side; 8 circular loom knock-outs in side; 6 circular loom knock-outs in bottom; 3 ½ inch knock-outs in bottom; drilled for fixture stems.

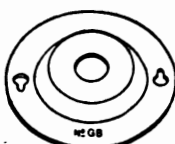
List No.		List Price Each Galv.
WA	Round Box.....	\$0.18
	For enameled boxes, deduct 10%.	

Conduit and Wiring Accessories

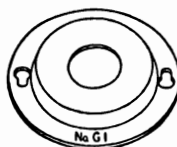
CONDUIT OUTLET BOXES AND COVERS



No. GA



No. GB



No. GI

NO. GA RECEPTACLE BOX

For Norbitt, Trumbull, P. & S. and G. E. Receptacles

Dimensions—4 inches diameter, 1½ inches deep.

Outlets—Four side outlets only.

Size Outlets—For ½ inch or ¾ inch conduit only. No provision is made for fixture stems.

NOTE—Box cannot be furnished with bottom outlets.

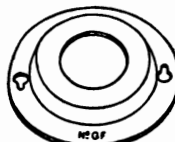
List No.		Finish	List Price Each
GA	Round Box.....	Galv.	\$0.18

COVERS FOR 4 INCH ROUND BOXES

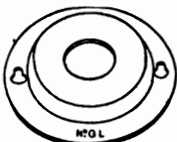
GB	Steel Cover for No. C-33½ Norbitt Rosette.....	Galv.	\$0.10
GD	Brass Cover for No. C-33½ Norbitt Rosette.....		.39
GI	Steel Cover for G. E. Receptacle No. 9397.....	Galv.	.10
GK	Brass, for G. E. Receptacle No. 9397.....		.39



No. GC



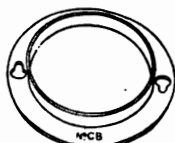
No. GF



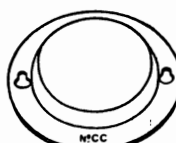
No. GL

COVERS FOR 4 INCH ROUND BOXES

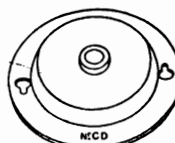
List No.		Finish	List Price Each
GC	Steel Cover for C-227 Norbitt Receptacle, P. & S. Receptacles Nos. 61877, 61988 and 61577.....	Galv.	\$0.10
GE	Brass Cover for C-227 Norbitt Receptacle, P. & S. Receptacles Nos. 61877, 61988 and 61577.....		.39
GF	Steel Cover for Trumbull Receptacle.....	Galv.	.10
GG	Brass Cover for Trumbull Receptacle.....		.39
GL	Cover, Steel, for P. & S. Receptacles Nos. 61877 and 61988.....	Galv.	.10
GM	Cover, Brass, for P. & S. Receptacles Nos. 61877 and 61988.....		.39



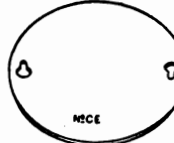
No. CB



No. CC



No. CD



No. CE

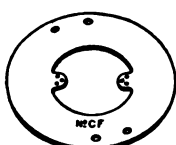
COVERS FOR 4 INCH ROUND BOXES

List No.		Finish	List Price Each
CB	Open Cover, Steel.....	Galv.	\$0.10
CC	Closed Cover, Steel.....	Galv.	.10
CM	Steel Closed Cover, with ½ inch knockout in center.....	Galv.	.10
CD	Steel Cover, with ½ inch insulated bushing.....	Galv.	.11
CK	Polished Brass Cover, with ½ inch insulated bushing.....		.41
CE	Flat Steel Cover.....	Galv.	.09
CL	Flat Polished Brass Cover.....		.40

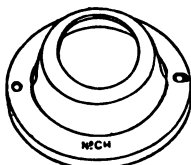
Drilling and tapping cover No. CE for any standard rosette, net extra, 10 cents each.

For enameled boxes, deduct 10%.

CONDUIT BOX COVERS



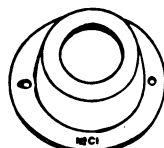
No. CF



No. CH



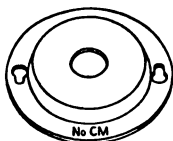
No. CJ



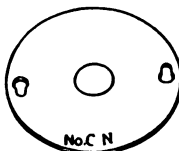
No. CI

COVERS FOR 4 INCH ROUND BOXES

List No.		Finish	List Price Each
CF	Flat steel cover drilled for standard 10 ampere snap switches.....	Galv.	\$0.11
CH	Polished brass cover "lapped" for Federal sockets.....		.40
CJ	Open cover steel with lips drilled and tapped $\frac{1}{4}$ inch.....	Galv.	.09
CI	Steel cover (flush) for Federal sockets.....	Galv.	.09
CG	Polished brass cover (flush) for Federal sockets.....		.39



No. CM



No. CN



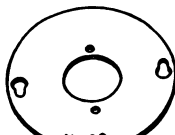
No. CO

COVERS FOR 4 INCH ROUND BOXES

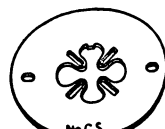
List No.		Finish	List Price Each
CM	Closed cover, steel with $\frac{1}{4}$ inch outlet in center.....	Galv.	\$0.10
CN	Flat cover, steel $\frac{1}{4}$ inch knockout in center.....		.09
CO	Closed cover, steel for G. E. Rosette No. 39237.....		.10



No. CP



No. CQ



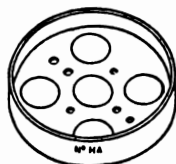
No. CS

COVERS FOR 4 INCH ROUND BOXES

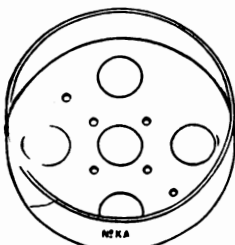
List No.		Finish	List Price Each
CP	Flat steel cover for G. E. Rosette No. 39237.....	Galv.	\$0.10
CQ	Flat steel cover for P. & S. Receptacles Nos. 61777 and 61997.....		.10
CS	Flat steel snap switch cover.....		.10

For enameled boxes, deduct 10%.

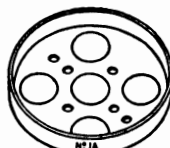
CONDUIT OUTLET BOXES



No. HA



No. KA



No. IA

No. HA CEILING BOX

Dimensions—4 inches diameter, $\frac{1}{4}$ inch deep.

Size Outlets—For $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit only.

Fixture Stems—Boxes are drilled for fixture stems.

List	
No.	
HA	Ceiling box
HA	Ceiling box with lugs

List Price
Each
Galv.
\$0.12
.13

No. KA CEILING BOX

Dimensions—5 $\frac{1}{2}$ inches diameter, $\frac{1}{4}$ inch deep.

Outlet—Five in bottom.

Size Outlets—For $\frac{1}{2}$ inch conduit only.

KA	Ceiling box
----	-------------------

\$0.21

No. IA CEILING BOX

Dimensions—4 inches diameter, $\frac{1}{4}$ inch deep.

Outlets—Five in bottom.

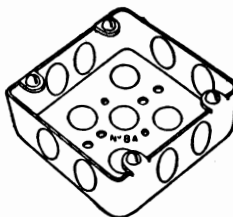
Size Outlets—For $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit only.

IA	Ceiling box
----	-------------------

\$0.11



No. A



No. BA

No. A OUTLET BOX

For Combination Gas and Electric Fixtures

Dimensions—4-inch square, 1 $\frac{1}{2}$ inches deep.

Outlets—Eight conduit outlets in sides and five in bottom.

Gas Outlets—One in each of two opposite sides for $\frac{1}{2}$ inch gas pipe only.

Size Outlets—For $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit only.

Fittings—Boxes are drilled and tapped for gas elbows.

List	Mr.
No.	No.
A	Square box

List Price
Each
Galv.
\$0.21

No. BA SWITCH OUTLET OR JUNCTION BOX

Dimensions—4 inch square, 1 $\frac{1}{2}$ inches deep.

Outlets—Eight outlets in side, five in bottom.

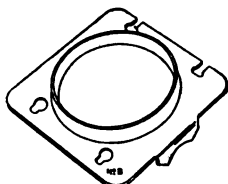
Size Outlets—For $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit only.

BA	Square box
----	------------------

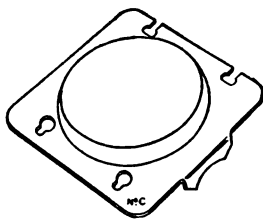
\$0.21

For enameled boxes, deduct 10%.

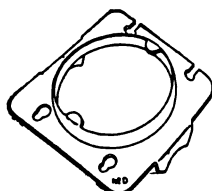
CONDUIT BOX COVERS



No. B



No. C



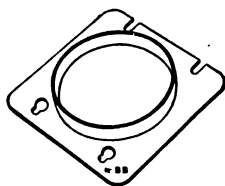
No. D

COVERS FOR 4 INCH SQUARE BOXES

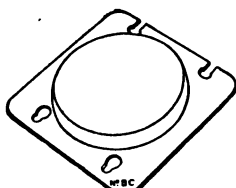
List
No.

B	Open cover, steel.....	
C	Closed cover, steel.....	
D	Open cover, steel.....	

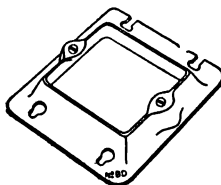
List Price
Each
Galv.
\$0.14
.14
.14



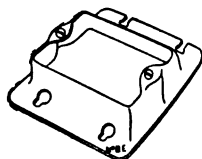
No. BB



No. BC



No. BD



No. BE

COVERS FOR 4 INCH SQUARE BOXES

List
No.

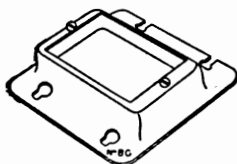
BB	Open cover, steel.....	
BC	Closed cover, steel.....	
BD	Steel cover for Hart round base rotary switches.....	
BE	Steel cover for Perkins round base rotary switches.....	

List Price
Each
Galv.
\$0.10
.10
.14
.14

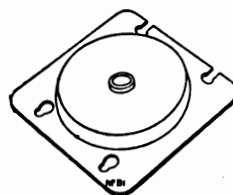
For enameled boxes, deduct 10%.

Conduit and Wiring Accessories

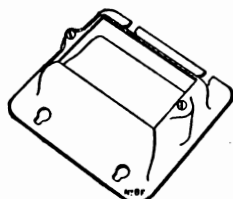
CONDUIT BOX COVERS



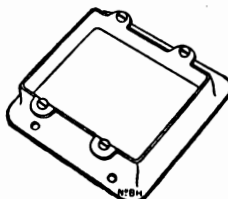
No. BG



No. BI



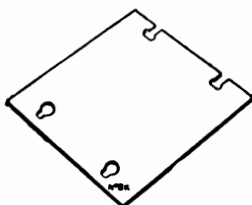
No. BF



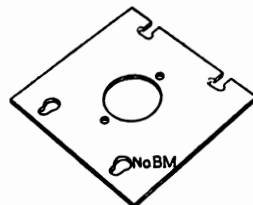
No. BH

COVERS FOR 4 INCH SQUARE BOXES

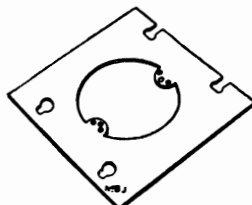
List No.		List Price Each Galv.
BF	Deep Cover for Std. push button or rectangular base switches or flush plug receptacles.....	\$0.14
BG	Shallow Cover for Std. push button or rectangular base switches or flush plug receptacles.....	.14
BH	Cover for two push-button switches.....	.18
BI	Cover with $\frac{1}{2}$ inch insulated bushing.....	.13



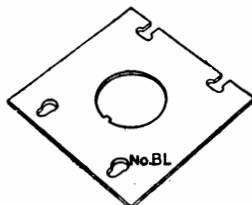
No. BK



No. BM



No. BJ



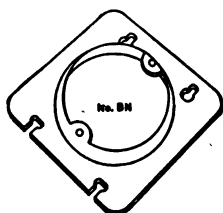
No. BL

COVERS FOR 4 INCH SQUARE BOXES

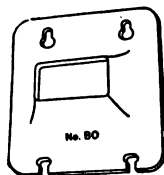
List No.		List Price Each Galv.
BJ	Flat Steel, drilled for Std. 10-ampere rotary snap switch.....	\$0.14
BK	Flat Steel Cover.....	.10
	Drilling and tapping BK for any Std. receptacle, 10 cents each net extra.	
BL	Flat Steel Cover for Federal Receptacles.....	.10
BM	Flat Steel Cover for P. & S. Receptacles Nos. 61777 and 61977.....	.10

For enameled boxes, deduct 10%.

CONDUIT OUTLET BOXES AND COVERS



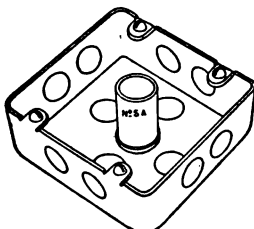
No. BN



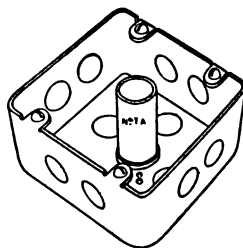
No. BO

COVERS FOR 4 INCH SQUARE BOXES

List No.		Finish	List Price Each
BN	Steel, Open Cover with lips drilled and tapped $\frac{1}{8}$ inch.....	Galv.	\$0.10
BO	French Cover, Brass.....		.28



No. SA



No. TA

NO. SA AND TA OUTLET BOXES AND COVERS
For Combination Gas and Electric Fixtures

Dimensions— $4\frac{1}{2}$ inches square; depth for brick work, $1\frac{1}{2}$ inches; for lath and plaster, $2\frac{1}{4}$ inches.

Outlets—Two in each of four sides and four in bottom for $\frac{1}{2}$ inch conduit. When $\frac{3}{4}$ inch conduit is used, box cannot be furnished with bottom outlets.

Center Nipple—Will pass $\frac{1}{2}$ inch gas pipe.

Fixture Stems—Cannot be used with this box.

Note—Box is carried in stock for $\frac{1}{2}$ inch conduit only.

List No.		List Price Each
SA	Box for brick, $1\frac{1}{2}$ inches deep.....	.43
TA	Box for plaster, $2\frac{1}{4}$ inches deep.....	.14
MC	Steel Open Cover for above boxes.....	.14
ND	Steel Open Lapped Cover for above boxes.....	

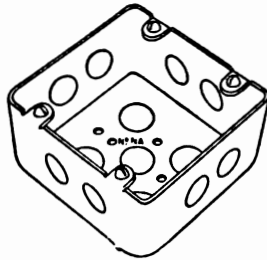
For enamel boxes, deduct 10%.

Conduit and Wiring Accessories

CONDUIT OUTLET BOXES AND COVERS



No. MA



No. NA

NO. MA OUTLET AND JUNCTION BOX

Dimensions— $4\frac{1}{4}$ inches square, $1\frac{1}{2}$ inches deep.

Outlets—Eight outlets in sides and five in bottom.

Size outlets—For $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit only.

Boxes are drilled for Fixture Stems.

List No.		List Price Each Galv.
MA	Square Box.....	\$0.28

NO. NA DEEP OUTLET AND JUNCTION BOX

For Lath and Plaster or Concrete

Dimensions— $4\frac{1}{4}$ inches square, $2\frac{1}{4}$ inches deep.

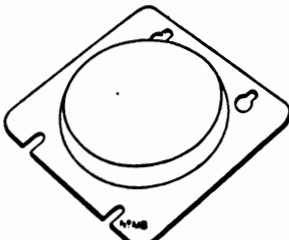
Outlets—Eight in sides and five in bottom.

Size Outlets—For $\frac{1}{2}$ inch, $\frac{3}{4}$ inch or 1 inch conduit only.

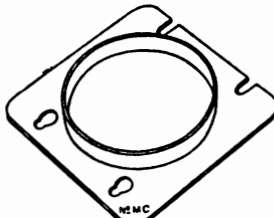
Boxes are drilled for Fixture Stems.

Note—No bottom outlets are furnished in boxes for 1 inch conduit.

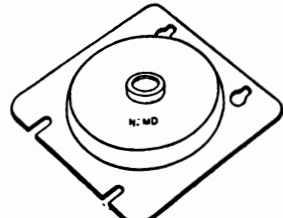
List No.		List Price Each Galv.
NA	Square Deep Box for Plaster.....	\$0.35



No. MB



No. MC



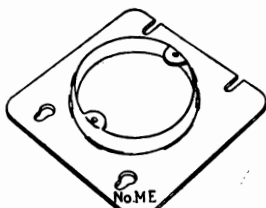
No. MD

COVERS FOR $4\frac{1}{4}$ INCH SQUARE BOXES

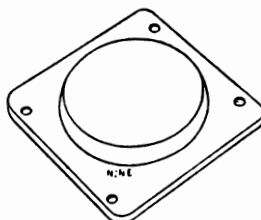
List No.		List Price Each Galv.
MB	Closed Steel Cover.....	\$0.14
MC	Open Steel Cover.....	.14
MD	Steel Cover, with $\frac{1}{2}$ inch insulated bushing.....	.16

For enameled boxes, deduct 10%.

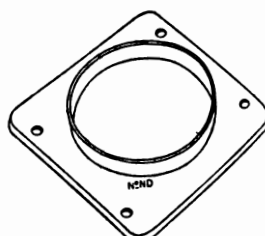
OUTLET BOXES AND COVERS



No. ME



No. NE



No. ND

COVERS FOR 4 1/4 INCH SQUARE BOXES

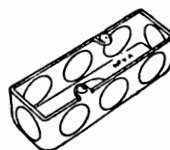
List
No.
ME
NE
ND

Steel cover, with lips drilled and tapped
Closed lapped cover, steel.
Open lapped cover, steel.

List Price
Each
Galv.
\$0.15
.15
.15



No. UA



No. VA

NO. UA BOX
For Push-Buttons

Dimensions—2 1/4 inches long, 1 1/4 inches wide, 1 1/4 inches deep.
Outlets—Two in bottom, one in each end and two in each side.
Size Outlets—For 1/2 inch conduit only.

List
No.
UA
UB

Box
Brass cover for bell push-buttons

List Price
Each
Galv.
\$0.18
.18

NO. VA BOX
For Exposed Conduit Work

Dimensions—3 3/4 inches long, 1 1/4 inches wide, 1 1/4 inches deep.
Outlets—One in bottom, one in each end and three in each side.
Size Outlets—For 1/2 and 3/4 inch conduit only.

List
No.
VA

Box

List Price
Each
Galv.
\$0.18



No. VA-1



No. VA-2



No. VA-3



No. VA-4

PORCELAIN COVERS WITH NIPPLES
For 3 3/4 x 1 1/4 Inch Boxes

List
No.

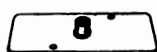
VA1 Porcelain, 1/2 inch female nipple
VA2 Porcelain, 1/2 inch male nipple
VA3 Porcelain, 1/2 inch female nipple
VA4 Porcelain, 1/2 inch male nipple

List Price
Each
Std. Pkg.
\$0.27
.27
.38
.38

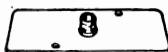
For enameled boxes, deduct 10%.

Conduit and Wiring Accessories

CONDUIT BOXES AND COVERS



No. VA-5



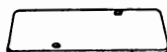
No. VA-6



No. VA-7



No. VA-8



No. VA-9

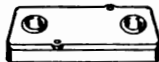
METAL COVERS WITH NIPPLES

For $3\frac{3}{4}$ x $1\frac{1}{4}$ Inch Boxes

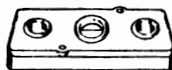
List No.		Std. Pkg.	List Price Each
VA5	$\frac{1}{8}$ inch female nipple.....	200	\$0.11
VA6	$\frac{1}{8}$ inch male nipple.....	200	.11
VA7	$\frac{3}{8}$ inch female nipple.....	200	.14
VA8	$\frac{3}{8}$ inch male nipple.....	200	.14
VA9	Metal cover blank.....	200	.07



No. VA-12



No. VA-13



No. VA-10

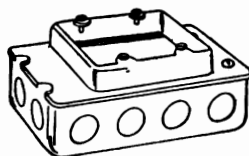


No. VA-11

PORCELAIN COVERS

For $3\frac{3}{4}$ x $1\frac{1}{4}$ Inch Boxes

List No.		Std. Pkg.	List Price Each
VA12	Porcelain, 1 hole.....	200	\$0.09
VA13	Porcelain, 2 hole.....	200	.09
VA10	Porcelain, 3 hole.....	200	.09
VA11	Porcelain, 5 hole.....	200	.09



Gang Box

GANG BOXES

Outlets—Two outlets on two opposite sides for each switch.

Size Outlets—Boxes carried in stock for $\frac{1}{2}$ inch and $\frac{3}{4}$ inch pipe.

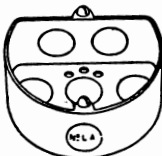
Price list of boxes for push-button or rotary rectangular base switches and plug receptacles.

List No.		List Price per 100 Galv.
580719	2 Standard 2 gang box.....	\$55.42
580720	3 Standard 3 gang box.....	83.12
580721	4 Standard 4 gang box.....	110.82
580722	5 Standard 5 gang box.....	144.68
580723	6 Standard 6 gang box.....	280.10
580724	7 Standard 7 gang box.....	449.40
580725	8 Standard 8 gang box.....	486.64
580726	9 Standard 9 gang box.....	541.74
580727	10 Standard 10 gang box.....	590.98

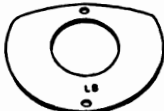
The above prices are for gangs placed in one row.

For enameled boxes, deduct 10%.

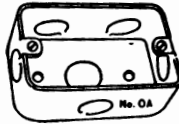
CONDUIT OUTLET BOXES AND COVERS



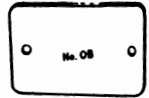
No. LA



No. LB



No. OA



No. OB

No. LA BRACKET OUTLET AND JUNCTION BOX

Dimension—3 $\frac{1}{4}$ inches diameter, 2 inches deep.

Outlets—Four in bottom, one in top side and two in flat side.

Size Outlets—For $\frac{1}{2}$ inch and $\frac{3}{4}$ inch conduit only.

Boxes are drilled for fixture stems.

List No.		List Price Each
LA	Bracket outlet box.....	\$0.18
LB	Steel open cover for bracket box.....	.09
LC	Steel closed cover for bracket box.....	.09

NOTE: No cover necessary with 4 inch canopy.

No. OA BOX

For Flush Rotary Snap Switches and Plug Receptacles

Dimensions—2 $\frac{1}{4}$ inches wide, 4 inches long, 1 $\frac{1}{2}$ inches deep.

Outlets—One in each end, one in bottom, two on one side, one in opposite side.

Size Outlets—For $\frac{1}{2}$ inch conduit only.

NOTE: These boxes designed for 2 inch partitions.

List No.		List Price Each
OA	Box.....	\$0.18

For all Diamond H rectangular base rotary snap flush switches.

Hart and Hegeman rectangular base rotary flush snap switches, either 5 ampere or 10 ampere Nos. 600, 601, 602, 603, 604, 605, 609 and 619.

Hubbell plug receptacle.

Hart and Hegeman shallow flush push-button switches Nos. 2081, 2082, 2083, 2084; flush plug receptacle and shallow momentary contact push-button switch.

List No.		List Price Each
OB	Blank steel cover.....	\$0.09
For enameled boxes deduct 10%.		
Conduit and Wiring Accessories		

SWITCH BOXES

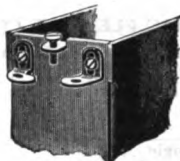
"Union" Sectional Switch Boxes

"Union" Sectional Switch Boxes are equipped with reversible and sliding ears, so as to be adapted to plastered or unplastered walls for old or new installation in buildings. All single boxes are furnished with one side removable which obviates the necessity of carrying gang boxes assembled in stock. By removing one side of the box, spacers can be inserted and the boxes built up to any desired number of gangs. The screw centers for attaching switches and flush receptacles are standard and accommodate all standard makes of push button flush and rotary flush switches and flush plug receptacles. These boxes are furnished with three styles of ears, "C," "F" and "SF," as illustrated below. Unless otherwise specified, style "C" ears are regularly furnished.

Styles of Ears



"C" Ear
Regularly furnished
on all Switch Boxes



"F" Ear
Furnished only when
specified



"SF" Ear
Furnished only when
specified

FOR NON-METALLIC FLEXIBLE CONDUIT— $\frac{1}{4}$ INCH KNOCKOUTS

Square Corners



"AA" Single

List No.	Description	Depth	Unit Pkg.	No. Per Case	Wt. Per 100	List Price Each
CCS	Single Gang.....	2 ins.	1	100	66 lbs.	\$0.32
CCS	Two Gang.....	2 ins.	1	50	101 lbs.	.64
CCS	Spacer.....	2 ins.	1	100	36 lbs.	.28
CC	Single Gang.....	2½ ins.	1	100	79 lbs.	.32
CC	Two Gang.....	2½ ins.	1	50	116 lbs.	.64
CC	Spacer.....	2½ ins.	1	100	42 lbs.	.28
AB	Single Gang.....	2¾ ins.	1	100	84 lbs.	.36
AB	Two Gang.....	2¾ ins.	1	50	125 lbs.	.72
AB	Spacer.....	2¾ ins.	1	100	42 lbs.	.32
AA	Single Gang.....	3 ins.	1	100	91 lbs.	.36
AA	Two Gang.....	3 ins.	1	50	133 lbs.	.72
AA	Spacer.....	3 ins.	1	100	47 lbs.	.32

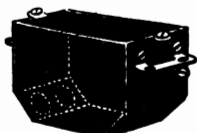
Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price.



"AA" Spacer

FOR NON-METALLIC FLEXIBLE CONDUIT— $\frac{1}{4}$ INCH KNOCKOUTS

Beveled Corners



"DD" Single,

List No.	Description	Depth	Unit Pkg.	No. Per Case	Wt. Per 100	List Price Each
DD	Single Gang.....	2 ins.	1	100	60 lbs.	\$0.32
DD	Two Gang.....	2 ins.	1	50	96 lbs.	.64
DD	Spacer.....	2 ins.	1	100	34 lbs.	.28
DE	Single Gang.....	2½ ins.	1	100	73 lbs.	.32
DE	Two Gang.....	2½ ins.	1	50	110 lbs.	.64
DE	Spacer.....	2½ ins.	1	100	40 lbs.	.28

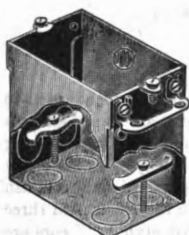
Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price.



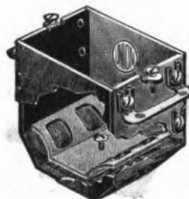
"DD" Spacer

SWITCH BOXES

"Union" Sectional Switch Boxes

FOR METALLIC FLEXIBLE CONDUIT— $\frac{1}{2}$ INCH KNOCKOUTS
With Conduit Clamps—Square Corners

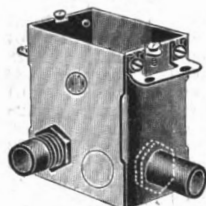
"AC" Single



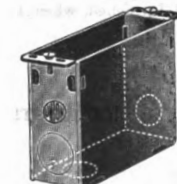
"DC" Single



"DC" Spacer



"BB" Single



D.S. No. 1

List No.	Description	Depth	Unit Pkg.	No. per Case	Wt. per 100	List Price Each
AC-Clamped	Single.....	3 $\frac{1}{4}$ ins.	1	100	98 lbs.	.55
AC-Clamped	Two Gang.....	3 $\frac{1}{4}$ ins.	1	50	154 lbs.	1.10
AC-Clamped	Spacer.....	3 $\frac{1}{4}$ ins.	1	100	56 lbs.	.50

Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price.

FOR METALLIC FLEXIBLE CONDUIT— $\frac{1}{2}$ INCH KNOCKOUTS
With Conduit Clamps—Beveled Corners

List No.	Description	Depth	Unit Pkg.	No. per Case	Wt. per 100	List Price Each
DC-Clamped	Single.....	2 $\frac{1}{2}$ ins.	1	100	80 lbs.	\$0.50
DC-Clamped	Two Gang.....	2 $\frac{1}{2}$ ins.	1	50	119 lbs.	1.00
DC-Clamped	Spacer.....	2 $\frac{1}{2}$ ins.	1	100	44 lbs.	.45

Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price.

FOR $\frac{1}{2}$ INCH OR $\frac{3}{4}$ INCH RIGID IRON CONDUIT
Square Corners

List No.	Description	Depth	Unit Pkg.	No. per Case	Wt. per 100	List Price Each
BB	Single.....	3 $\frac{1}{2}$ ins.	1	100	102 lbs.	\$0.45
BB	Two Gang.....	3 $\frac{1}{2}$ ins.	1	50	152 lbs.	.90
BB	Spacer.....	3 $\frac{1}{2}$ ins.	1	100	50 lbs.	.40
BE	Single.....	2 $\frac{3}{4}$ ins.	1	100	84 lbs.	.45
BE	Two Gang.....	2 $\frac{3}{4}$ ins.	1	50	125 lbs.	.90
BE	Spacer.....	2 $\frac{3}{4}$ ins.	1	100	44 lbs.	.40

Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price. In ordering specify whether desired for $\frac{1}{2}$ inch or $\frac{3}{4}$ inch conduit.

DOOR SWITCH BOXES

For Non-Metallic Flexible, Metallic Flexible and Rigid Iron Conduit.
Square Corners

These boxes are made in six types, D.S. No. 1, D.S. No. 2, D.S. No. 3, D.S. No. 4, D.S. No. 5 and D.S. No. 6. D.S. No. 1, D.S. No. 3 and D.S. No. 5 are made for loom or rigid conduit. Two $\frac{1}{2}$ inch knockouts are provided for flexible, non-metallic conduit, and a knockout in one end for rigid $\frac{1}{2}$ inch conduit. D.S. No. 2, D.S. No. 4 and D.S. No. 6 are made for flexible metallic and rigid conduit, having two holes $\frac{3}{8}$ inch in diameter, arranged with clamps for securely fastening the flexible conduit. A knockout for $\frac{1}{2}$ inch conduit is also furnished.

D.S. No. 1 and D.S. No. 2 have switch screws on $\frac{3}{8}$ inch centers and will accommodate Perkins, Arrow E or C-H switches. D.S. No. 3 and D.S. No. 4 have switch screws on $\frac{3}{8}$ inch centers and are designed for Diamond H switches. D.S. No. 5 and D.S. No. 6 have switch screws on $\frac{3}{8}$ inch centers and are designed for H & H switches.

List No.	Description	Dimensions			Unit Pkg.	No. per Case	Wt. per 100	List Price Each
		Depth	Length	Width				
DS No. 1	Without Clamps.....	2 $\frac{1}{2}$ ins.	3 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	1	100	65 lbs.	\$0.60
DS No. 2	With Clamps.....	2 $\frac{1}{2}$ ins.	3 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	1	100	69 lbs.	.65
DS No. 3	Without Clamps.....	2 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	1 $\frac{1}{2}$ ins.	1	100	63 lbs.	.60
DS No. 4	With Clamps.....	2 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ ins.	1 $\frac{1}{2}$ ins.	1	100	67 lbs.	.65
DS No. 5	Without Clamps.....	3 ins.	3 ins.	1 $\frac{1}{2}$ ins.	1	100	61 lbs.	.50
DS No. 6	With Clamps.....	3 ins.	3 ins.	1 $\frac{1}{2}$ ins.	1	100	65 lbs.	.65

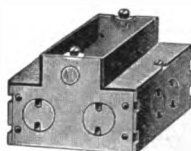
Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price.

Conduit and Wiring Accessories

SWITCH BOXES

"Union" Sectional Conduit Switch Boxes

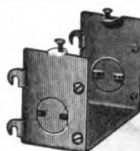
FOR FLEXIBLE OR RIGID CONDUIT



No. 155



No. 160



No. 160 Spacer



Single Plate Cover



2 Gang Plate Cover

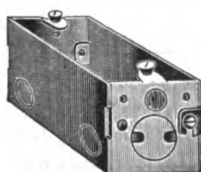
DEEP TYPE

For Push Button, Rotary Flush Rectangular Base Switches and Receptacles

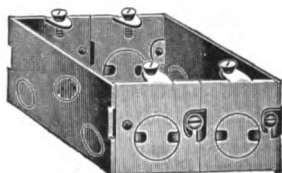
This type box is made in two styles, No. 155 single gang, and No. 160 two gang. Style No. 155 has room for making splices, taps and junctions. Either of the small top covered plates may be removed by loosening the screws, thus permitting access to the wires without disturbing switch. A spacer is provided which may be used in connection with type No. 160 to build up a gang box of any desired capacity. Conduit openings for either $\frac{1}{2}$ or $\frac{3}{4}$ inch are provided in each of the four sides of these boxes. Spacers have but one outlet in each end and can be inserted without removing screws. By equipping above boxes with flat steel covers a junction or cut-out box is provided, which will accommodate single and double main line cut-outs.

List No.	Description	Dimensions			Unit Pkg.	No. per Can	Wt. per 100	List Price Each
		Length	Width	Depth				
155	Single Box	4 ins.	4 ins.	2 $\frac{3}{4}$ ins.	1	100	152 lbs.	\$0.58
160	Two Gang Box	5 $\frac{1}{4}$ ins.	4 ins.	2 $\frac{3}{4}$ ins.	1	100	186 lbs.	.96
160	Spacer	4 ins.	1 $\frac{1}{2}$ ins.	2 $\frac{3}{4}$ ins.	1	100	44 lbs.	.42
...	Single Cover							.16
...	Double Cover							.20
...	Triple Cover							.24

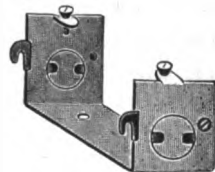
Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price.



No. 170 Single Box



No. 170 2 Gang



No. 170 Spacer

SHALLOW TYPE

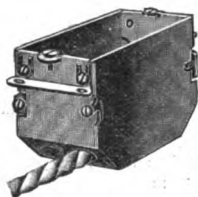
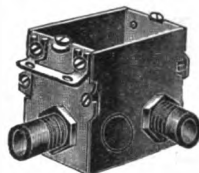
For All Makes of Shallow Switches

No. 170 sectional combination loom and conduit box is particularly adapted for thin partitions and outside wall work and will accommodate all makes of shallow switches. It is $1\frac{1}{4}$ inches in depth. End and bottom outlets are provided for $\frac{1}{2}$ inch conduit. Two outlets on either side take loom or $\frac{1}{2}$ inch flexible conduit. Spacers are provided by means of which two gang boxes may be built up to accommodate any number of switches desired. Boxes are made in two types, No. 170 without ears, and No. 170A with ears. No. 170 spacer cannot be furnished with ears. Boxes may be used as junction boxes with flat steel covers illustrated at top of page.

List No.	Description	Dimensions			Unit Pkg.	No. per Can	Wt. per 100	List Price Each
		Length	Width	Depth				
170	Single Box	3 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	1	100	72 lbs.	\$0.32
170	Two Gang Box	3 $\frac{3}{4}$ ins.	3 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	1	100	106 lbs.	.62
170	Spacer	3 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	1	100	36 lbs.	.29
170A	Single Box-with ears	3 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	1 $\frac{1}{4}$ ins.	1	100	76 lbs.	.48
170A	Two Gang Box-with ears	3 $\frac{3}{4}$ ins.	3 $\frac{3}{4}$ ins.	1 $\frac{1}{4}$ ins.	1	100	110 lbs.	.88
...	Single Cover				1			.16
...	Double Cover				1			.20
...	Triple Cover				1			.24

Black enameled finish regularly furnished. Sherardized furnished, when so specified, at slight increase in price.

For sherardized boxes, add 5%.

SWITCH BOXES

Gem Box Type E

Gem Box Type B
"Gem" Sectional Switch Boxes

The "Gem" Sectional Switch Box is for use with non-metallic, flexible and rigid conduit. They take all makes of push button and rectangular base switches and receptacles. The assembling can be done quickly by the use of no other tool than the screw driver. It is impossible to put the box together in any way except the right way, as all sides are interchangeable.

Construction. One of the fastenings consists of a lug, which carries a screw into a notch. When the screw is tightened the two parts are held firmly together and the projecting arm of the hook interlocks with the side. The other fastening consists of a bent lug which, when seated, fits into a pocket in the adjacent edge of the side piece, interlocking securely and rigidly together. The "Gem" box is regularly furnished with type "C" ear, reversible, having an adjustment from $\frac{1}{2}$ inch to $\frac{3}{4}$ inch. Ear extends $\frac{1}{2}$ inch from body of box and affords ample room for setting screws firmly into lath or mounting board. The D and E are designed particularly for the rewiring of old buildings. The level corners permit insertion into the smallest practical opening in the walls and make the "fishing" of the ends of flexible conduit into the box very easy. The type B, $2\frac{3}{4}$ inches deep, is designed for switch and receptacle casings in concealed conduit or armored cable work—takes $\frac{1}{2}$ inch and $\frac{3}{4}$ inch conduit and may be used where a larger flexible tubing than $\frac{1}{2}$ inch is desired.

List Prices and Data

Type	Depth	Corners	Knockout Inches	List No. Box	List Price Box	List No. Unit	List Price Unit Without Sides
Gem S	2 ins.	Square, for loom	$\frac{5}{8}$	581146	\$0.40	581184	\$0.35
Gem C	$2\frac{1}{2}$ ins.	Square, for loom	$\frac{5}{8}$	581147	.40	581185	.35
Gem A	3 ins.	Square, for loom	$\frac{5}{8}$	581179	.45	581186	.40
Gem D	2 ins.	Beveled, for loom	$\frac{5}{8}$	581180	.40	581187	.35
Gem E	$2\frac{1}{2}$ ins.	Beveled, for loom	$\frac{5}{8}$	581181	.40	581188	.35
Gem F	$2\frac{1}{4}$ ins.	Beveled, for loom	$\frac{5}{8}$	581460	.40	581462	.35
Gem B	$2\frac{3}{4}$ ins.	Square, for rigid conduit	$\frac{1}{2}$ or $\frac{3}{4}$	581182	.45	581189	.40
Gem X	$2\frac{1}{2}$ ins.	Square, with clamps for flexible conduit	$\frac{1}{2}$	581183	.50	581190	.45
Gem X	3 ins.	Square, with clamps for flex. metallic cond.	$\frac{1}{2}$	581461	.55	581463	.50

Conduit and Wiring Accessories

"H & H" WALL CASES



No. 901

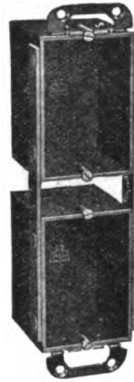


No. 901

Showing Ears Reversed



No. 902



No. 912

Wall Cases

The ears used in mounting the wall cases are reversible, as shown in the illustration, and the wall cases can be set flush in the walls that have already been plastered, or they can be mounted on the laths in walls not yet plastered, and in this latter case the ears have to be reversed. When specified, wall cases will be shipped with ears reversed.

There are two screw slots in the ears so that in "new work" the wall case can be adjusted for the proposed thickness of the plaster.

Knockout outlets for non-metallic flexible conduit are provided as follows: Four outlets in the bottom for $\frac{3}{4}$ inch conduit, two at each end for $\frac{1}{4}$ inch conduit.

All "H & H" wall cases are made in two depths of $2\frac{1}{4}$ inches, and $2\frac{3}{4}$ inches, and can be furnished in horizontal or tandem gangs.

SHALLOW WALL CASES

Schedule "H"

List No.		Style	Dimensions Inches	Std. Pkg.	Pkg. Lbs.	Wt. Each	List Price
901	For One Switch.....	Horizontal	2 x 3 x $2\frac{1}{4}$	*	74		\$0.35
902	For Two Switches.....	Horizontal	3 $\frac{1}{2}$ x 3 x $2\frac{1}{4}$	*	65		.70
903	For Three Switches.....	Horizontal	5 $\frac{5}{8}$ x 3 x $2\frac{1}{4}$	*	62		1.05
904	For Four Switches.....	Horizontal	7 $\frac{1}{4}$ x 3 x $2\frac{1}{4}$	*	65		1.40
905	For Five Switches.....	Horizontal	9 $\frac{1}{4}$ x 3 x $2\frac{1}{4}$	*	65		2.10
906	For Six Switches.....	Horizontal	11 $\frac{1}{4}$ x 3 x $2\frac{1}{4}$	*	65		1.75
907	For Seven Switches.....	Horizontal	12 $\frac{7}{8}$ x 3 x $2\frac{1}{4}$	*	65		2.44
908	For Eight Switches.....	Horizontal	14 $\frac{1}{4}$ x 3 x $2\frac{1}{4}$	*	65		2.80
912	For Two Switches.....	Tandem	2 $\frac{1}{2}$ x 6 $\frac{5}{8}$ x $2\frac{1}{4}$	*	75		.70
913	For Three Switches.....	Tandem	2 $\frac{1}{2}$ x 10 $\frac{1}{4}$ x $2\frac{1}{4}$	*	75		1.05
914	For Four Switches.....	Tandem	2 $\frac{1}{2}$ x 13 $\frac{1}{8}$ x $2\frac{1}{4}$	*	75		1.40
915	For Five Switches.....	Tandem	2 $\frac{1}{2}$ x 17 $\frac{1}{2}$ x $2\frac{1}{4}$	*	75		2.10
916	For Six Switches.....	Tandem	2 $\frac{1}{2}$ x 21 $\frac{1}{8}$ x $2\frac{1}{4}$	*	75		1.75

DEEP WALL CASES

Schedule "H"

3031	For One Switch.....	Horizontal	2 x 3 x $2\frac{3}{4}$	*	94		\$0.40
3032	For Two Switches.....	Horizontal	3 $\frac{1}{2}$ x 3 x $2\frac{3}{4}$	*	84		.79
3033	For Three Switches.....	Horizontal	5 $\frac{5}{8}$ x 3 x $2\frac{3}{4}$	*	84		1.15
3034	For Four Switches.....	Horizontal	7 $\frac{1}{4}$ x 3 x $2\frac{3}{4}$	*	84		1.52
3035	For Five Switches.....	Horizontal	9 $\frac{1}{4}$ x 3 x $2\frac{3}{4}$	*	85		1.88
3036	For Six Switches.....	Horizontal	11 $\frac{1}{4}$ x 3 x $2\frac{3}{4}$	*	85		2.24
3037	For Seven Switches.....	Horizontal	12 $\frac{7}{8}$ x 3 x $2\frac{3}{4}$	*	85		2.58
3038	For Eight Switches.....	Horizontal	14 $\frac{1}{4}$ x 3 x $2\frac{3}{4}$	*	85		2.94
3042	For Two Switches.....	Tandem	2 $\frac{1}{2}$ x 6 $\frac{5}{8}$ x $2\frac{3}{4}$	*	95		.79
3043	For Three Switches.....	Tandem	2 $\frac{1}{2}$ x 10 $\frac{1}{4}$ x $2\frac{3}{4}$	*	95		1.15
3044	For Four Switches.....	Tandem	2 $\frac{1}{2}$ x 13 $\frac{1}{8}$ x $2\frac{3}{4}$	*	95		1.52
3045	For Five Switches.....	Tandem	2 $\frac{1}{2}$ x 17 $\frac{1}{2}$ x $2\frac{3}{4}$	*	95		1.88
3046	For Six Switches.....	Tandem	2 $\frac{1}{2}$ x 21 $\frac{1}{8}$ x $2\frac{3}{4}$	*	95		2.24

* 100 single wall cases or their equivalent in gangs shall constitute a Standard Package.

MARINE FITTINGS


No. 433



No. 499



No. 448

JUNCTION BOXES
For 1/2 or 3/4 Inch Conduit

List No.		List Price Each
433	4 inch brass junction box with screw cover and gasket.....	\$2.40
433	4 inch iron junction box with screw cover and gasket.....	1.40

For 1/2, 3/4 or 1 Inch Conduit

432	4 inch brass junction box with cap cover and gasket.....	\$1.60
432	4 inch iron junction box with cap cover and gasket.....	.90
	Tapping per hole.....	.10

FUSED RECEPTACLE AND PLUG

499	Watertight 10 ampere glass fused receptacle and plug in iron box.....	\$8.50
452	Plug only.....	1.20

WATERTIGHT SWITCHES

448	10 ampere S. P. switch for 1/2 inch conduit.....	\$4.50
448	10 ampere S. P. switch for 3/4 inch conduit.....	4.50



No. 455



No. 457



No. 478

RECEPTACLE AND PLUG

List No.		List Price Each
455	10 ampere flap door, iron box receptacle and push in plug.....	\$2.50
352	Push in plug only.....	1.00
487	15 ampere fused plug receptacle in iron box with flap door.....	4.00
457	Fuse plug only.....	2.00

MARINE SWITCH AND RECEPTACLE

478	10 ampere marine switch and receptacle for 1/2 or 3/4 inch conduit.....	\$6.00
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*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
 Conduit and Wiring Accessories

MARINE FITTINGS



No. 494



No. 496

No. 494 WATERTIGHT SWITCH

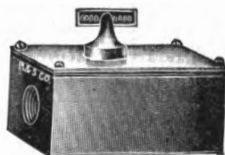
List No.		*List Price Each
494	Watertight 10 ampere, single pole switch key operated in iron box.....	\$4.00
1494	Same in brass box.....	4.50

No. 496 WATERTIGHT SWITCH

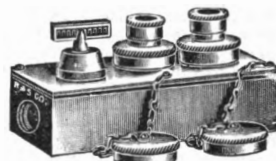
496	Watertight 10 ampere single pole switch for straightaway conduit.....	\$5.00
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No. 520



No. 521



No. 498

No. 520 WATERTIGHT SWITCH

List No.		*List Price Each
520	Watertight 10 ampere double pole iron box switch, brass cover and handle.....	\$3.76
1520	Same in brass box.....	4.50
1521	Watertight 3-way switch in iron box.....	3.76
1522	Same in brass box.....	4.50

No. 521 WATERTIGHT SWITCH

521	Watertight 30 ampere double pole iron box switch, with key and brass cover.....	\$6.00
621	Same in brass box.....	7.00

MARINE RECEPTACLE AND PLUG

495	2-gang 10 ampere marine receptacle and plugs for ½ inch or ¾ inch conduit.....	\$7.00
452	Plug only.....	1.20
498	2-gang, 10 ampere marine receptacle and plugs and single pole switch for ½ inch or ¾ inch conduit.....	9.00

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

CUTTER STEEL BOXES

Service and Cut-Out

Schedule "O"

These boxes are made of sheet steel with sides formed up and welded together. There are three $\frac{1}{2}$ inch knock-outs in each end. The sides have knock-outs for $\frac{1}{2}$ inch conduit spaced $\frac{1}{2}$ inch apart.

The edges of the door are turned in, making them practically dust proof and weatherproof. There are four $\frac{1}{4}$ inch holes for mounting 1 inch from each corner.

Underwriters' inspection requires boxes of No. 16 U. S. gauge steel for surfaces up to 360 square inches. Any one dimension must not exceed 24 inches. Boxes of No. 14 U. S. gauge steel shall not exceed 1200 square inches in area for any surface or 54 inches for any dimension. Boxes which exceed 1200 square inches for any surface or 54 inches for any dimension are to be made of No. 12 U. S. gauge steel, or heavier.

No. 16 U. S. G. No one dimension to exceed 24 inches. No one surface to exceed 360 square inches.
*List Prices Each in lots of 10 boxes of same size and kind. (Broken lots extra.) Stock sizes are listed in bold face type.

Width	Length	DEPTH						Width	Length	DEPTH					
		3 in.	4 in.	5 in.	6 in.	9 in.	12 in.			3 in.	4 in.	5 in.	6 in.	9 in.	12 in.
4 in.	4 in.	\$0.80	\$0.85					10 in.	20 in.	\$1.60	\$1.85	\$1.84	\$2.30	\$3.50	\$4.05
4 in.	6 in.	.65	.70					10 in.	22 in.	1.95	2.05	2.20	2.55	3.80	4.30
4 in.	8 in.	.65	.70					10 in.	24 in.	2.25	2.35	2.50	2.85	4.00	4.55
4 in.	10 in.	.85	.85					12 in.	12 in.	1.35	1.30	1.55	2.15	3.10	3.65
6 in.	6 in.	.65	.80	\$0.95	\$1.60			12 in.	14 in.	1.45	1.50	1.65	2.30	3.30	3.80
6 in.	8 in.	.70	.80	1.00	1.70			12 in.	16 in.	1.50	1.65	1.70	2.40	3.40	3.90
6 in.	10 in.	.85	.95	1.05	1.75			12 in.	18 in.	1.55	1.65	1.70	2.45	3.50	4.00
6 in.	12 in.	1.00	1.00	1.15	1.85			12 in.	20 in.	1.75	1.80	1.90	2.60	3.70	4.20
6 in.	15 in.	1.15	1.20	1.25	1.95			12 in.	22 in.	2.00	2.10	2.20	2.85	3.95	4.60
8 in.	8 in.	.80	.90	1.10	1.75	\$2.50		12 in.	24 in.	2.25	2.40	2.45	3.10	4.15	4.95
8 in.	10 in.	.90	1.00	1.20	1.85	2.65		15 in.	16 in.	1.60	1.75	1.90	2.50	3.25	4.05
8 in.	12 in.	.95	1.05	1.35	1.90	2.80		15 in.	18 in.	1.70	1.85	2.00	2.75	3.45	4.25
8 in.	14 in.	1.25	1.25	1.45	1.95	2.95		15 in.	20 in.	1.90	2.10	2.25	3.00	3.65	4.55
8 in.	16 in.	1.30	1.35	1.50	2.10	3.10		15 in.	22 in.	2.10	2.30	2.45	3.30	3.90	4.80
8 in.	18 in.	1.35	1.45	1.55	2.15	3.30		15 in.	24 in.	2.30	2.50	2.55	3.55	4.15	5.05
10 in.	10 in.	1.05	1.05	1.30	1.95	2.90	\$3.25	16 in.	16 in.	1.90	2.00	2.15	2.60	3.60	4.15
10 in.	12 in.	1.10	1.25	1.40	2.05	3.05	3.45	16 in.	20 in.	2.00	2.10	2.25	2.80	3.80	4.35
10 in.	14 in.	1.35	1.40	1.55	2.10	3.20	3.65	16 in.	22 in.	2.15	2.20	2.40	3.05	4.05	4.55
10 in.	16 in.	1.45	1.50	1.65	2.20	3.30	3.75	18 in.	18 in.	2.25	2.30	2.50	3.30	4.30	4.75
10 in.	18 in.	1.50	1.60	1.70	2.30	3.35	3.80	18 in.	20 in.	2.40	2.45	2.60	3.45	4.50	5.15

No. 14 U. S. G. No one dimension to exceed 54 inches. No one surface to exceed 1200 square inches.

Width	Length	DEPTH						Width	Length	DEPTH					
		3 in.	4 in.	5 in.	6 in.	9 in.	12 in.			3 in.	4 in.	5 in.	6 in.	9 in.	12 in.
4 in.	6 in.	\$1.00	\$1.06	.....	.....	.....	.....	12 in.	36 in.	\$3.87	\$3.87	\$4.00	\$5.06	\$6.56	\$7.31
4 in.	8 in.	1.06	1.13	.....	.....	.....	.....	12 in.	42 in.	4.69	4.88	5.13	5.75	7.50	8.63
4 in.	10 in.	1.06	1.13	.....	.....	.....	.....	12 in.	48 in.	5.63	5.94	6.25	6.88	8.75	10.00
6 in.	6 in.	1.06	1.13	\$1.18	\$2.00	.....	.....	15 in.	16 in.	2.00	2.20	2.30	3.30	4.20	5.00
6 in.	8 in.	1.13	1.13	1.25	2.12	.....	.....	15 in.	18 in.	2.12	2.31	2.50	3.43	4.31	5.31
6 in.	10 in.	1.18	1.18	1.31	2.18	.....	.....	15 in.	20 in.	2.37	2.58	2.73	3.77	4.60	5.65
6 in.	12 in.	1.25	1.37	1.44	2.31	.....	.....	15 in.	22 in.	2.62	2.85	3.06	4.10	4.89	5.98
6 in.	15 in.	1.44	1.50	1.56	2.43	.....	.....	15 in.	24 in.	2.87	3.12	3.18	4.43	5.18	6.31
8 in.	8 in.	1.25	1.31	1.37	2.18	\$3.12	.....	15 in.	30 in.	3.31	3.50	3.47	4.68	5.81	6.93
8 in.	10 in.	1.31	1.43	1.50	2.31	3.31	.....	15 in.	36 in.	4.06	4.23	4.37	5.43	6.56	7.87
8 in.	12 in.	1.43	1.56	1.68	2.37	3.50	.....	15 in.	42 in.	5.63	5.94	6.25	6.88	8.75	10.00
8 in.	14 in.	1.54	1.67	1.79	2.49	3.75	.....	15 in.	48 in.	6.56	6.88	7.19	7.81	9.69	10.94
8 in.	16 in.	1.65	1.78	1.90	2.61	4.00	.....	18 in.	18 in.	2.81	2.87	3.12	4.12	5.37	5.93
8 in.	18 in.	1.68	1.81	1.93	2.68	4.12	.....	18 in.	21 in.	3.00	3.06	3.25	4.31	5.62	6.43
10 in.	10 in.	1.37	1.50	1.62	2.43	3.62	\$4.06	18 in.	24 in.	3.31	3.43	3.56	4.56	5.93	6.93
10 in.	12 in.	1.50	1.62	1.75	2.56	3.81	4.31	18 in.	30 in.	4.31	4.43	4.56	5.37	6.68	7.81
10 in.	14 in.	1.62	1.74	1.87	2.67	3.93	4.46	18 in.	36 in.	5.73	5.81	5.93	6.75	9.50	10.75
10 in.	16 in.	1.74	1.86	1.99	2.78	4.05	4.61	18 in.	42 in.	6.56	7.19	7.81	8.44	10.31	12.19
10 in.	18 in.	1.87	1.93	2.12	2.87	4.18	4.75	18 in.	48 in.	7.19	7.94	8.69	9.44	11.69	13.69
10 in.	20 in.	2.19	2.29	2.46	3.11	4.46	5.06	21 in.	21 in.	3.94	4.06	4.31	5.38	6.56	7.78
10 in.	22 in.	2.51	2.65	2.80	3.35	4.74	5.37	21 in.	24 in.	4.35	4.44	4.63	5.75	7.38	8.75
10 in.	24 in.	2.81	3.00	3.12	3.56	5.00	5.68	21 in.	30 in.	4.88	5.13	5.44	6.13	7.69	10.25
10 in.	30 in.	3.18	3.38	3.62	3.87	5.37	6.18	21 in.	36 in.	5.69	5.94	6.25	6.94	9.50	11.63
12 in.	12 in.	3.60	3.80	4.05	4.30	5.80	6.75	21 in.	42 in.	6.88	7.13	7.44	8.13	10.69	12.82
12 in.	14 in.	1.68	1.75	1.93	2.68	3.87	4.56	21 in.	48 in.	8.00	8.25	8.50	9.25	11.81	13.94
12 in.	16 in.	1.76	1.83	2.00	2.81	4.04	4.71	24 in.	24 in.	5.12	5.37	5.67	6.31	8.12	10.25
12 in.	18 in.	1.84	1.92	2.07	2.94	4.21	4.86	24 in.	30 in.	5.43	5.87	6.13	6.81	8.12	10.25
12 in.	20 in.	1.93	2.00	2.12	3.06	4.37	5.00	24 in.	36 in.	6.00	6.62	7.25	7.82	11.69	13.69
12 in.	22 in.	2.22	2.34	2.43	3.33	4.64	5.39	24 in.	42 in.	7.50	7.75	8.06	8.75	11.94	13.44
12 in.	24 in.	2.51	2.67	2.75	3.60	4.91	5.79	24 in.	48 in.	8.63	8.88	9.13	9.88	12.44	14.56
12 in.	24 in.	2.81	3.00	3.06	3.87	5.18	6.18	30 in.	30 in.	6.06	6.50	6.94	7.50	10.88	11.63
12 in.	30 in.	3.18	3.37	3.62	4.36	5.68	6.56	30 in.	36 in.	6.63	7.25	7.88	8.25	12.19	13.13

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.
Conduit and Wiring Accessories

CUTTER STEEL BOXES

Schedule "O"

No. 12 U. S. G. For single dimensions exceeding 54 inches. For surfaces exceeding 1200 square inches.

*List Price Each in lots of 10 boxes of same size and kind. (Broken lots extra.)

DEPTH								DEPTH							
Width	Length	3 in.	4 in.	5 in.	6 in.	9 in.	12 in.	Width	Length	3 in.	4 in.	5 in.	6 in.	9 in.	12 in.
4 in.	6 in.	\$1.36	\$1.44	.....	.....	.....	.....	15 in.	18 in.	\$2.89	\$3.14	\$3.40	\$4.67	\$5.86	\$7.22
4 in.	8 in.	1.44	1.53	.....	.....	.....	.....	15 in.	20 in.	3.23	3.51	3.71	5.13	6.26	7.51
4 in.	10 in.	1.44	1.53	.....	.....	.....	.....	15 in.	22 in.	3.57	3.88	4.02	5.58	6.65	7.80
6 in.	6 in.	1.44	1.53	\$1.61	\$2.72	.....	.....	15 in.	24 in.	3.91	4.25	4.33	6.03	7.05	8.08
6 in.	8 in.	1.53	1.60	1.70	2.89	.....	.....	15 in.	30 in.	4.50	4.76	5.01	6.37	8.10	9.43
6 in.	10 in.	1.61	1.65	1.78	2.97	.....	.....	15 in.	36 in.	5.53	5.69	5.95	7.39	8.92	10.71
6 in.	12 in.	1.70	1.87	1.95	3.14	.....	.....	15 in.	42 in.	7.65	8.07	8.50	9.35	11.90	13.60
6 in.	15 in.	1.95	2.04	2.12	3.31	.....	.....	15 in.	48 in.	8.93	9.35	9.78	10.63	13.18	14.88
8 in.	8 in.	1.70	1.78	1.87	2.97	\$4.25	.....	18 in.	18 in.	3.82	3.91	4.25	5.61	7.31	8.07
8 in.	10 in.	1.78	1.95	2.04	3.14	4.50	.....	18 in.	21 in.	4.08	4.16	4.42	5.86	7.65	8.75
8 in.	12 in.	1.95	2.12	2.29	3.23	4.76	.....	18 in.	24 in.	4.50	4.67	4.84	6.20	8.07	9.43
8 in.	14 in.	2.07	2.24	2.41	3.37	5.04	.....	18 in.	30 in.	5.86	6.03	6.20	7.31	9.09	10.62
8 in.	16 in.	2.19	2.36	2.53	3.51	5.32	.....	18 in.	36 in.	7.73	7.90	8.07	9.18	12.92	14.62
8 in.	18 in.	2.29	2.46	2.63	3.65	5.61	.....	18 in.	42 in.	8.93	9.78	10.63	11.48	14.03	16.58
10 in.	10 in.	1.87	2.04	2.21	3.31	4.93	\$5.52	18 in.	48 in.	9.78	10.80	11.82	12.84	15.90	18.62
10 in.	12 in.	2.04	2.21	2.38	3.48	5.18	5.86	21 in.	21 in.	5.36	5.53	5.87	7.31	8.93	10.03
10 in.	14 in.	2.21	2.35	2.55	3.62	5.35	6.06	21 in.	24 in.	5.78	6.04	6.29	7.82	10.03	10.54
10 in.	16 in.	2.38	2.49	2.72	3.76	5.52	6.26	21 in.	30 in.	6.63	6.97	7.40	8.33	11.82	13.94
10 in.	18 in.	2.55	2.63	2.89	3.91	5.69	6.46	21 in.	36 in.	7.74	8.08	8.50	9.44	12.92	15.81
10 in.	20 in.	2.97	3.11	3.34	4.22	6.06	6.88	21 in.	42 in.	9.35	9.69	10.12	11.05	14.54	17.43
10 in.	22 in.	3.39	3.59	3.79	4.53	6.43	7.30	21 in.	48 in.	10.88	11.22	11.56	12.58	16.07	18.96
10 in.	24 in.	3.82	4.08	4.25	4.84	6.80	7.73	24 in.	24 in.	6.97	7.31	7.73	9.52	10.54	11.05
10 in.	30 in.	4.33	4.59	4.93	5.27	7.31	8.41	24 in.	30 in.	7.39	7.99	8.58	11.05	13.94	14.96
10 in.	36 in.	4.85	5.15	5.75	5.85	7.90	9.20	24 in.	36 in.	8.16	9.01	9.88	11.73	15.72	17.00
12 in.	12 in.	2.29	2.38	2.63	3.65	5.27	6.20	24 in.	42 in.	10.20	10.54	10.97	11.90	16.24	18.28
12 in.	14 in.	2.40	2.49	2.71	3.82	5.50	6.40	24 in.	48 in.	11.83	12.07	12.41	13.43	16.92	19.81
12 in.	16 in.	2.52	2.60	2.80	3.99	5.73	6.60	30 in.	30 in.	8.25	8.84	9.44	11.90	14.79	15.81
12 in.	18 in.	2.63	2.72	2.89	4.16	5.95	6.80	30 in.	36 in.	9.01	9.86	10.71	12.58	16.58	17.85
12 in.	20 in.	3.03	3.17	3.31	4.53	6.32	7.34	30 in.	42 in.	11.05	11.39	11.82	12.75	17.09	19.13
12 in.	22 in.	3.42	3.63	3.74	4.90	6.69	7.88	30 in.	48 in.	12.58	12.92	13.26	14.28	17.77	20.66
12 in.	24 in.	3.82	4.08	4.16	5.27	7.05	8.41	36 in.	36 in.	12.41	12.75	13.09	14.11	17.60	20.49
12 in.	30 in.	4.33	4.59	4.93	5.93	7.73	8.92	36 in.	42 in.	13.60	13.94	14.28	15.30	18.79	21.68
12 in.	36 in.	5.27	5.35	5.44	6.88	8.92	9.94	42 in.	42 in.	16.15	16.49	16.83	17.85	21.34	24.23
12 in.	42 in.	6.37	6.63	6.97	7.82	10.20	11.73	42 in.	48 in.	17.51	17.85	18.19	19.21	22.70	25.59
12 in.	48 in.	7.65	8.08	8.50	9.35	11.90	13.60	48 in.	48 in.	19.04	19.38	19.72	20.74	24.23	27.12
15 in.	16 in.	2.75	3.00	3.25	4.25	5.50	6.90								

Extra Charges

*List Each

Brass Commode Catch.....	\$0.40
Nickel Plated Vault Handle.....	1.00
Yale Cylinder Lever Lock.....	.70
Master Keyed Cylinder Lever Locks.....	1.00
Master Keys.....	.75

For Flush Mounted Boxes, add 50% to list of Surface Type Box.

For Weather proof Boxes with overhanging and sloping roof, add to list of Surface Type Box 50%.

For Galvanized Boxes double Enamel Box list.

Pull or Junction Boxes with covers take the same list prices as Surface Type Boxes.

Deduct 20% for omission of doors on Surface Type Boxes.

For Spring Hinges on doors, add \$0.60 list per pair.

Knock-outs

Standard Knock-outs 1/4 inch diameter for 1/2 inch conduit pipes will be furnished on all stock boxes, unless otherwise ordered. Boxes made to order will be furnished with one set of Knock-outs either for loom, federal bushings or conduit pipes without extra charge. All Knock-outs in the same box to be alike. Knock-outs of different sizes will be furnished when ordered at an extra charge of \$1.00 list per box. This charge covers an assorted number of Knock-outs of any standard size in each box for top, bottom and sides. Knock-outs for main feeder pipes, top and bottom when required other than standard will be furnished extra at a list price of 10 cents each. All boxes are furnished regularly with the same size of Knock-out, top, bottom and sides. In ordering special boxes, advise size and location of Knock-outs and furnish sketch with order so as to avoid errors and possible delay.

Approximate Size, Inches, of 0-30-Ampere, 250-Volt Porcelain Fuse Blocks

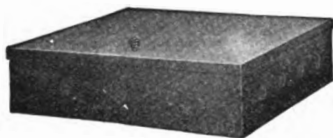
Style	PLUG FUSE			N.C. Enclosed Fuse
	Without Switch	Knife Switch	Snap Switch	
Two-wire main line.....	2 5/8x3	6 1/2x4	.....	3 3/4x3
Three-wire main line.....	4 1/2x3	6 1/2x5	.....	3 3/4x4
Two-wire main, two-wire single branch.....	3 3/8x3	7 1/4x3 1/4	6 3/4x3	5 1/4x3
Three-wire main, three-wire single branch.....	5 x4 1/4	9 x5 1/4	.....	6 3/4x4
Two-wire main, two-wire double branch.....	6 x3	12 x3 3/4	11 1/2x3	8 1/4x3
Three-wire main, two-wire double branch.....	7 x3	11 1/2x3 3/4	12 1/2x3	9 1/2x3
Three-wire main, three-wire double branch.....	7 x4 1/4	.....	.....	9 1/2x4

*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

Conduit and Wiring Accessories

"SECURITY" STEEL BOXES

NATIONAL ELECTRICAL CODE STANDARD



Square Bottom Surface Type

Surface Type Square Bottom**NO. 16 GAUGE METAL, PLAIN-HINGED DOOR****Latest Underwriters' Requirements**

In steel cabinets having an area of less than 360 square inches for any surface, or having a single dimension less than 2 feet, sheet metal must be used at least equal to No. 16 U. S. sheet metal gauge. In those having an area greater than 360 square inches, and not over 1,200 square inches, the sheet metal must be at least equal to No. 14 U. S. sheet metal gauge, and in those having an area greater than 1,200 square inches the sheet metal must be at least equal to No. 12 U. S. sheet metal gauge.

Orders will be filled in accordance with above requirements unless otherwise instructed.

Side Hinges

Unless otherwise specified all boxes are hinged on the long side and usually the wireman can turn them to swing either side or up or down. The door regularly swings from left to right. If specified will be hinged any other way without extra charge.

Dimensions and List Prices

A standard package contains 10 boxes of one size and kind.

List Prices Each

		Depth					
Width Inches	Length Inches	3 Inches	4 Inches	5 Inches	6 Inches	9 Inches	12 Inches
4	6	\$0.70	\$0.80				
4	8	.75	.85				
4	10	.85	.90				
6	6	.80	.85	\$0.95			
6	8	.85	.90	1.05			
6	10	.95	1.00	1.10	\$1.30		
6	12	1.00	1.10	1.20	1.45		
6	15	1.10	1.20	1.30	1.60		
8	8	.90	1.05	1.15	1.35	\$1.55	
8	10	1.05	1.15	1.25	1.55	1.70	
8	12	1.15	1.20	1.35	1.70	1.85	
8	15	1.25	1.35	1.45	1.85	2.00	
8	18	1.35	1.50	1.65	2.00	2.20	
10	10	1.15	1.25	1.40	1.75	2.00	\$2.70
10	12	1.20	1.35	1.45	1.90	2.15	2.90
10	15	1.35	1.50	1.60	2.05	2.40	3.10
10	18	1.50	1.70	1.85	2.20	2.65	3.40
10	21	1.70	1.85	2.00	2.30	3.00	3.90
10	24	1.90	2.00	2.20	2.45	3.60	4.30
10	30	2.00	2.30	2.50	2.70	4.20	4.80
12	12	1.35	1.50	1.65	2.00	2.35	3.00

		Depth					
Width Inches	Length Inches	3 Inches	4 Inches	5 Inches	6 Inches	9 Inches	12 Inches
12	15	\$1.55	\$1.65	\$1.75	\$2.15	\$2.60	\$3.40
12	18	1.75	1.85	2.00	2.30	3.00	3.90
12	21	1.90	2.05	2.15	2.50	3.60	4.30
12	24	2.15	2.25	2.40	2.80	4.20	4.80
15	15	1.80	1.95	2.10	2.40	4.15	4.80
15	18	1.95	2.15	2.25	2.60	4.35	5.10
15	21	2.30	2.45	2.60	2.80	4.55	5.40
18	18	2.25	2.40	2.55	2.80	4.50	5.65

		*14 Gauge Metal					
Width Inches	Length Inches	3 Inches	4 Inches	5 Inches	6 Inches	9 Inches	12 Inches
12	30	\$3.00	\$3.30	\$3.50	\$3.85	\$5.95	\$6.60
12	36	3.50	3.80	4.00	4.40	6.50	7.35
15	30	3.75	3.90	4.10	4.40	6.60	7.60
15	36	4.20	4.95	5.10	5.50	7.90	8.75
18	21	3.10	3.40	3.55	3.75	6.05	7.50
18	24	3.50	3.75	4.00	4.25	6.50	8.00
18	30	4.00	4.35	4.65	5.00	6.90	8.45
18	36	4.55	5.05	5.25	5.75	8.80	9.40
24	24	4.35	4.60	5.10	5.45	8.00	9.00
24	30	5.25	5.45	5.75	6.15	9.10	9.60
24	36	5.70	6.15	6.75	7.40	9.95	10.75

12 Gauge Metal

For all boxes of size of less than 360 square inches add 70 per cent. to the 16 gauge list.
For all boxes of size over 360 square inches add 36 per cent. to the 14 gauge list.

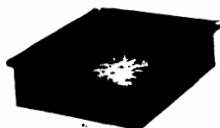
Approximate Size, Inches, of 30 Ampere, 250 Volt Porcelain Cutout from which you can figure any size distributed.

Type	Without Switch	—PLUG FUSE—		N. C. Enclosed Fuse
		Knife Switch	Snap Switch	
Two-wire main line.....	2½ x 3	6½ x 4		3½ x 3
Two-wire main line, two-wire single branch.....	3¾ x 3	7½ x 3½	6¾ x 3	5½ x 3
Two-wire main, two-wire double branch.....	6 x 3	11 x ¾	11½ x 3	8½ x 3
Three-wire main line.....	4½ x 3	7 x 5		3½ x 4
Three-wire main, three-wire single branch.....	5 x 4½	9 x 5½		6½ x 4
Three-wire main, two-wire double branch.....	6½ x 3	11½ x 3½	12½ x 3	9½ x 4
Three-wire main, three-wire double branch.....	7 x 5			9½ x 4

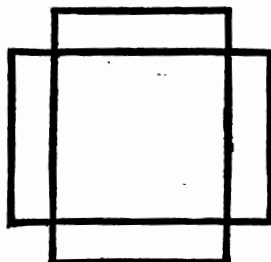
*For any of the 16 gauge size metal boxes in 14 gauge, add 25 per cent. to 16 gauge list.

Delivery F. O. B. Factory, Toledo, Ohio. For warehouse deliveries write nearest house.
Conduit and Wiring Accessories

SECURITY STEEL BOXES



Flanged Flush Box



Make sketch like this and mark location of special knock outs

Flanged Flush Box 16 Gauge Metal

				Add for Steel Doors and Trims with Plain Lock or Spring Catch								Add for Steel Doors and Trims with Plain Lock or Spring Catch			
Width	Length	Inches						Width	Length	Inches					
6 x 8	3 Inch	4 1/4 Inch	6 Inch					12 x 21	3 Inch	4 1/2 Inch	6 Inch				
8 x 8	\$0.50	\$0.60	.....	\$1.25				14 x 12	.80	.90	1.10				
8 x 10	.65	.75	.....	1.40				14 x 15	.85	.95	1.15				
8 x 12	.65	.75	.....	1.50				14 x 24	1.40	1.50	1.70				
10 x 12	.75	.85	\$1.00	1.60				14 x 30	1.55	1.65	1.90				
10 x 15	.80	.95	1.10	1.75				14 x 36	1.70	1.80	2.05				
10 x 18	.85	1.00	1.15	1.85				18 x 21	1.35	1.50	1.75				
12 x 12	.80	.85	1.00	2.25				18 x 24	1.55	1.70	1.95				
12 x 15	.85	.95	1.10	1.85				18 x 30	1.70	1.85	2.10				
12 x 18	.95	1.10	1.25	2.00				18 x 36	1.95	2.00	2.25				
				2.15											

Approximate size, inches, of 30 amperes, 250 volt porcelain cutouts from which can be figured any size distribution.

Type	Plug Fuse			N. C. Enclosed Fuse
	Without Switch	Knife Switch	Snap Switch	
Two-wire main line.....	2 1/4 x 3	6 1/2 x 4	.....	3 1/4 x 3
Two-wire main line—two-wire single branch.....	3 1/4 x 3	7 1/2 x 3 1/4	6 1/4 x 3	5 1/4 x 3
Two-wire main—two-wire double branch.....	6 x 3	11 x 3 1/4	11 1/2 x 3	8 1/4 x 3
Three-wire main line.....	4 1/2 x 3	7 x 5	.....	3 1/4 x 4
Three-wire main—three-wire single branch.....	5 x 4 1/4	9 x 5 1/4	.....	6 1/4 x 4
Three-wire—two-wire double branch.....	6 1/2 x 3	11 1/2 x 3 1/4	12 1/2 x 3	9 1/2 x 3
Three-wire main—three-wire double branch.....	7 x 5	.....	.....	9 1/2 x 4

Extra Charges

Plain weatherproof boxes with overhanging and slanting roof, add to list of surface type 50%. Galvanized take three times the surface list.

Galvanized boxes take twice the list of surface type.

Knock-outs for 1/2 inch conduit, spaced 1 1/2 inches center to center, are regular.

For each variation from 1/2 inch a net charge of 35 cents is made. This covers any number of knockouts of size specified in any number of boxes.

Plain cupboard locks, add net 15 cents.

Thirty degree slanting bottoms for surface type boxes 4 inches deep, 4 inches to 10 inches wide, add to list 15 cents; 12 inches to 15 inches wide, add 20 cents; 16 inches to 24 inches wide, 25 cents.

Standard Packages

10 boxes of a size and kind constitute a standard package.

WEIGHT

Estimate the area in square feet of the steel and multiply by the weight below:

No. 16 U. S. Gauge, 2.5 lbs. per square foot. No. 14 U. S. Gauge, 3.13 lbs. per square foot. No. 12 U. S. Gauge, 4.38 lbs. per square foot.

Underwriters' Requirements

Demand the use of No. 14 gauge metal in steel cabinets having an area of 360 square inches and less than 1200 square inches. On all boxes having an area greater than 1200 square inches No. 12 U. S. Gauge metal is required.

Unless otherwise advised, all boxes are hinged on long side.

How to Order

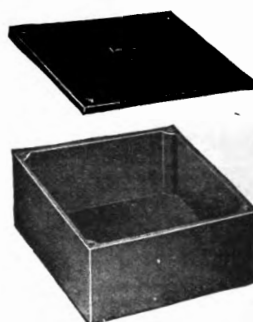
Please ship us Security Iron Boxes as follows:

No. Boxes	Gauge		Size of Boxes			Surface Type	Flush Type Box Only	Flush Type with Door and Trim	Knock-Outs
	Metal	Width	Length	Depth					

Delivery F. O. B. Factory, Toledo, O. For warehouse deliveries write nearest house.

Conduit and Wiring Accessories

CAST IRON FLOOR BOXES AND COVERS


Flanged Type

Unflanged Type

Cast Iron Boxes and Covers

FLANGED BOXES AND COVERS

List No.	Inside Dimensions L. W. D.	List Price Each	List No.	Inside Dimensions L. W. D.	List Price Each
581284	4 x 4 x 3	\$1.26	581294	8 x 8 x 4	\$3.72
581285	6 x 5 x 3	2.10	581295	12 x 6 x 4	4.98
581286	8 x 4 x 3	2.22	581296	12 x 12 x 4	7.80
581287	6 x 6 x 3	1.98	581297	8 x 8 x 6	5.58
581288	8 x 6 x 3	2.46	581298	12 x 6 x 6	6.60
581289	8 x 8 x 3	3.54	581299	12 x 12 x 6	9.90
581290	12 x 6 x 3	3.72	581300	18 x 14 x 6	19.98
581291	12 x 12 x 3	6.48	581301	10 x 10 x 8	12.50
581292	6 x 6 x 4	2.10	581302	24 x 9 x 8	22.20
581293	8 x 6 x 4	3.54			

Unflanged Boxes and Covers

List No.	Inside Dimensions L. W. D.	List Price Each	List No.	Inside Dimensions L. W. D.	List Price Each
581303	6 x 4 x 1½	\$0.90	581318	18 x 6 x 3½	\$5.76
581304	10¼ x 2¼ x 1¼	1.80	581319	28 x 24 x 3½	49.96
581305	9½ x 3½ x 1½	1.80	581320	6 x 6 x 4	1.44
581306	3½ x 3½ x 2	.60	581321	8 x 6 x 4	2.34
581307	4 x 4 x 2	.96	581322	9 x 6 x 4	2.88
581308	6 x 3 x 2	.84	581323	10 x 6 x 4	2.70
581309	6 x 4 x 2	.90	581324	8 x 8 x 4	3.60
581310	10 x 5 x 2½	3.00	581325	12 x 12 x 4	7.50
581311	4 x 4 x 3	.90	581326	15 x 7 x 4½	5.40
581312	5 x 5 x 3	1.20	581327	18 x 12 x 5	14.40
581313	6 x 5 x 3	1.44	581328	8 x 6 x 6	4.20
581314	8 x 6 x 3	1.98	581329	12 x 6 x 6	6.30
581315	7 x 5 x 3	1.98	581330	24 x 16 x 8	27.76
581316	7 x 7 x 3	2.70	581331	14 x 14 x 10	22.20
581317	12 x 6 x 3	3.00			

Drilling Holes

List No.	Inside Dimensions	List Price
581332	½ in.	\$0.144
581333	¾ in.	.18
581334	1 in.	.28
581335	1½ in. to 3 ins.	.36

Drilling and Tapping Holes

List No.	Inside Dimensions	List Price
581336	½ in.	\$0.22
581337	¾ in.	.29
581338	1 in.	.54
581339	1½ in.	.76
581340	1½ in. to 3 ins.	1.08

Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
 Conduit and Wiring Accessories

FLOOR BOXES



1 Actual Size
"Gem"



1 Actual Size
"Acme"

"Krantz" Gem Floor Boxes

This is a small non-adjustable, watertight floor box in which a receptacle can be installed after the floor is laid, without breaking the floor joints. The floor flange need never be removed. No screws needed to put bridge with receptacle in position.

List No.		*List Price Each
6041	Galvanized cast iron box body.....	\$0.62
6047	Brass nozzle cover with gasket and bridge support.....	1.08
6051	Brass cover plate.....	.54
6052	Brass cover plate with $\frac{1}{2}$ in. plug.....	.68
6053	Brass cover plate with $\frac{3}{4}$ in. plug.....	.78
6054	Brass cover plate with 1 in. plug.....	.86
6057	Rubber gasket for cover.....	.05
6541	Complete gem box consisting of box body No. 6041, gasket No. 6057, cover No. 6052..	1.34
6542	Complete gem box consisting of box body No. 6041, gasket No. 6057, nozzle cover No. 6047, center No. 7011.....	2.06

Accessories

7021	Steel bridge for receptacle.....	\$0.16
7051	G. E. receptacle and plug.....	.38
7054	Hubbell receptacle and plug.....	.56
7001	Brass nozzle for Hubbell receptacle.....	.90
7002	Brass nozzle with insulating bushing No. 1386.....	1.04
7011	Brass center flat.....	.32
7012	Brass center with $\frac{1}{2}$ in. plug.....	.54
7013	Brass center with $\frac{3}{4}$ in. plug.....	.64
7014	Brass center with 1 in. plug.....	.72

KRANTZ "ACME" FLOOR BOX

This box is adjustable, and watertight cover can be tilted half an inch in any direction.

6061	Galvanized cast iron box body.....	\$1.26
6062	Rubber gasket.....	.13
6063	Adjustable ring with inside fastening ring No. 6064.....	.64
6065	Adjustable cover ring with brass floor flange No. 6005.....	1.32
6007	Brass nozzle cover with rubber gasket and receptacle bridge support.....	1.42
6011	Brass cover plate.....	.82
6012	Brass cover plate with $\frac{1}{2}$ in. plug.....	.96
6013	Brass cover plate with $\frac{3}{4}$ in. plug.....	1.06
6014	Brass cover plate with 1 in. plug.....	1.14
6017	Rubber gasket for cover plate.....	.07
6561	Complete Acme box consisting of box body No. 6061, gasket No. 6062, adjustable ring No. 6065, gasket No. 6017, cover No. 6012.....	4.34
6562	Complete Acme box consisting of box body No. 6061, gasket No. 6062, adjustable ring No. 6063, cover ring No. 6055, nozzle cover No. 6007, center No. 7012.....	5.04

Accessories

7021	Steel bridge for receptacle.....	\$0.16
7051	G. E. receptacle and plug.....	.38
7054	Hubbell receptacle and plug.....	.56
7001	Brass nozzle for Hubbell receptacle.....	.90
7002	Brass nozzle with insulating bushing.....	1.04
7011	Brass center flat.....	.32
7012	Brass center with $\frac{1}{2}$ in. plug.....	.54
7013	Brass center with $\frac{3}{4}$ in. plug.....	.64
7014	Brass center with 1 in. plug.....	.72

*Delivery F. O. B. Factory, Brooklyn, New York. For warehouse deliveries write nearest house.

PATTERSON ADJUSTABLE FLOOR BOXES

National Code Standard



No. 4000
With 10 amp. 250 volt
Receptacles and Plugs



No. 4000B
Blank Bronze Plate
No Receptacle or Plug



No. 4000BN
With Double-Outlet Nozzle
With 10 amp. 250 volts
Receptacle and Plug

Adjustable Floor Boxes

Patterson Adjustable Floor Boxes Nos. 4000, 4000B and 4000BN are made for cement and granolithic type floor work.

Universal steel template permits mounting in box, without additional drilling or tapping, the following receptacles: Diamond H, Bryant, Chapman, Arrow E, Pringle, H. & H. Krantz, Hubbell and Mesco; thus giving a range of from 10 to 25 amperes, 250 volts. The plate has permanent outer bronze edge which can be cemented into floor and a removable inside plate, giving easy access to the box at all times without disturbing cemented edge of plate. Regularly tapped for four $\frac{1}{2}$ inch conduit entrances in sides, and one in bottom. When specially ordered, furnished with any arrangement of conduit entrances desired.

With wooden plug furnished with each box, lower sections when set in floor during roughing may be "plugged up" and kept clear of dirt; when cement or granolithic flooring is put down, it will harden around this circular wooden plug and as plug is exact size of bronze face plate, a clean circular hole will be ready for bronze surface plate to snugly fit in when, at time of finishing, wood plug is split out with chisel.

In Patterson Adjustable Floor Boxes, the vertical up-and-down adjustment of 1 inch is ample for any variation of floor level and side or off-level adjustment of $\frac{3}{8}$ inch, makes possible the perfect flushing of plate with surface of floor. The box is universal, giving any combination of conduit entrances. Every possible connection to lighting circuits without additional machine work can be made. as follows:—

- (a) By portable cord through dome-cap with rubber bushing.
- (b) By $\frac{3}{8}$ inch brass tubing into dome-cap when bushing is removed.
- (c) By $\frac{1}{2}$ inch conduit into flush disc when removable plug is taken out.

List No.	Receptacle and Plug Equipment	Diameter Ins. Bronze Plate	Depth Ins. Over All	Std. Pkg.	Wt. Lbs. Std. Pkg.	*List Price Each
4000	10 amp. 250 v., 2 wire.....	5 $\frac{1}{8}$	5 $\frac{1}{8}$ x 4 $\frac{1}{8}$	24	230	\$9.00
4003	10 amp. 250 v., 3 wire.....	4 $\frac{1}{8}$	5 $\frac{1}{8}$ x 4 $\frac{1}{8}$	24	230	10.50
4000B	No receptacle or plug.....	5 $\frac{1}{8}$	5 $\frac{1}{8}$ x 4 $\frac{1}{8}$	24	215	8.00
4000BN	10 amp. 250 v., 2 wire.....	5 $\frac{1}{8}$	5 $\frac{1}{8}$ x 4 $\frac{1}{8}$	24	225	9.00
4003BN	10 amp. 250 v., 3 wire.....	5 $\frac{1}{8}$	5 $\frac{1}{8}$ x 4 $\frac{1}{8}$	24	225	10.50

No receptacles or plugs are included in prices given above.

No. 4000 is for receptacle and plug work.

No. 4000B is with blank bronze plate.

No. 4000BN is with double outlet nozzle.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
 conduit and Wiring Accessories

PATTERSON NON-ADJUSTABLE FLOOR BOXES

National Code Standard



Nos. 3000 and 3000A
10 Amp., 250 Volts



Nos. 3000B and 3000AB
With Blank Bronze Plate
Receptacle and Plug
cannot be used



Nos. 3000BN and 3000ABN
With Double-Outlet Nozzle
Receptacle and Plug
cannot be used

Non-Adjustable Floor Boxes

All Patterson Floor Boxes shown on this page are double gasketed throughout, thoroughly waterproof; all parts except floor box itself are heavy cast bronze; the box itself is galvanized iron.

In Nos. 3000 and 3000A standard 10 ampere receptacles are provided with brass covered plugs. With other floor boxes on this page, no receptacles or plugs are furnished.

Iron floor boxes are regularly drilled and tapped for four $\frac{1}{2}$ inch conduit entrances, two in sides and two in bottom, adapting them to flexible or rigid conduit work without extra drilling. They will be furnished when specially ordered with any arrangement of conduit entrances. Removable plugs are furnished closing all but one outlet.

Cardboard shims are furnished with each box and with these shims bronze plate can be easily brought flush with the floor without taking extreme care in cutting; the setting of a Patterson Floor Box is thus made quicker and easier than any floor box on the market.

Receptacles may be removed from box for easy wiring by simply loosening two screws.

Rubber gasket fits into "under-cut" of bronze plate, so that it does not easily fall out.

Hard rubber bushing in dome cap is sunk flush, overcoming entirely the annoyance of breakage, so universally experienced in other floor boxes.

All Patterson Floor Boxes may be set with an expansion bit, guaranteeing rapid work.

Boxes with letter "A" in the model number differ from those without, only in the size of the plate, which is in the "A" box $\frac{3}{8}$ inch larger diameter—easier to cut in because of flange extending over edge of box.

FLOOR BOX WITH DOME FITTINGS AND FLUSH DISCS With Receptacles and Plugs

List No.	Diameter Ins. Bronze Plate	Depth Ins. Over All	Std. Pkg.	Wt. Lbs. Std. Pkg.	*List Price Each
3000	3 $\frac{1}{4}$	3 $\frac{3}{8}$	24	91	\$2.50
3000A	4 $\frac{1}{4}$	3 $\frac{3}{8}$	24	102	4.50

Furnished complete with receptacle and plug. 10 amperes, 250 vol's.

FLOOR BOX WITH BLANK BRONZE PLATES No Receptacle or Plug

*3000B	3 $\frac{1}{4}$	3 $\frac{3}{8}$	24	81	\$3.00
*3000AB	4 $\frac{1}{4}$	3 $\frac{3}{8}$	24	92	3.50

*Have no receptacles or plugs.

FLOOR BOX WITH DOUBLE OUTLET NOZZLES No Receptacle or Plug

*3000BN	3 $\frac{1}{4}$	3 $\frac{3}{8}$	24	87	\$4.00
*3000ABN	4 $\frac{1}{4}$	3 $\frac{3}{8}$	24	98	4.50

*Have no receptacles or plugs.

Patterson Floor Boxes listed above are designed for wood-floor work and for work where it is unnecessary to have the plates of the box adjustable.

Nos. 3000 and 3000A are for receptacle and plug work.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Conduit and Wiring Accessories

FIELDING RECEPTACLES AND PLUGS

NATIONAL CODE STANDARD



No. 1505



No. 1500T

Sectional Mica Pockets

50 Amperes, 250 Volts

Fielding Receptacle Plugs are made of dry mica discs, without shellac or other similar substances, threaded on a steel mandrel, placed under heavy pressure and then turned down with a diamond tool. Polarity cannot be reversed, yet by parallel-band construction, a round and quickly entered plug is retained, rated at 50 amperes, but will not heat at 200 amperes; waterproof, fireproof, absolutely indestructible. Aluminum plug handle has bronze locking collar, firmly gripping by a rubber gasket the surface of cable, no knot necessary to tie, but positively secured against any strain coming on the terminal connections. Duplex closing covers operated by a patented device, giving independent control of the covers, make quick plugging possible with no danger of mashing the fingers from entering plug. Simple lifting of the ring inside of plate raises both covers—letting go, gravity drops them flush with the floor.

Flush Floor Type

List No.		Size Plate Inches	Depth Inches	*List Price Each
1505	Stage pocket and plug complete.....	9x9	8 1/4	\$48.00
1505G2	Two gang pocket with two plugs.....	13x9	8 1/4	96.00
1505GR2	Two gang pocket only, no plugs.....	13x9	8 1/4	48.00
1505P	Plug only with handle and locking collar.....	....	7 1/2	24.00
1505R	Pocket only.....	9x9	8 1/4	24.00

Two gang only 4 inches wider than one gang.

Side Wall Receptacles and Plugs

50 Amperes, 250 Volts

Fielding Receptacles Nos. 1500T and 1500B are designed for work where the receptacle is to be attached to side wall or iron column, switchboard panel, etc. They have all the points of superiority noted above in detail, and have been adopted as a standard by many railroads for storage battery charging panels. They are also used on garage switchboards of up-to-date design. Furnished with brass plate in place of heavy iron plate if desired. Size of brass plate can be as low as 5 1/2 inches square. Depth from surface of plate to back of porcelain, 4 1/4 inches.

Wall Type

List No.	Mr. No.	Conduit Enters From	Length	Width	Depth	*List Price Each
1500T	Receptacle complete.....	Top	6 3/4	6 3/4	5 1/2	\$40.00
1500B	Receptacle complete.....	Bottom	6 3/4	6 3/4	5 1/2	40.00
1500TR	Receptacle only.....	Top	6 3/4	6 3/4	5 1/2	20.00
1500BR	Receptacle only.....	Bottom	6 3/4	6 3/4	5 1/2	20.00
1500P	Plug only, aluminum handle.....	....	9 1/2	2 1/2	...	20.00

Prices for gang receptacles in proportion.

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

Conduit and Wiring Accessories

FULLMAN FLOOR OUTLETS



No. 400, 413 and 465

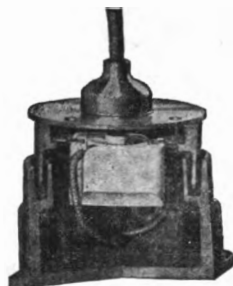


No. 421 With 466 Bell Nozzle

Adjustable Watertight Floor Boxes

The covers of Fullman floor boxes always align automatically with the finished floor. They also provide for vertical adjustment of cover up to 2½ inches. The elasticity of adjustment together with watertight features are secured by the exclusive design of ring which fits the groove. The covers of 4¼ inch and 4¾ inch outlets are furnished with ½ inch or 2 inch flush plugs, as desired. Bell nozzles and 2 inch plugs adapt outlets for porcelain receptacles and plugs. The box bodies of 4¼ inch and 4¾ inch outlets are drilled and tapped with four ½ inch conduit holes, three of which are closed with slotted steel screw plugs.

4¼ INCH AND 4¾ INCH OUTLETS



No. 466

List No.		*List Price Each
**400	Outlet with round 4¼ in. diameter brass cover plate with ½ in. flush brass plug for No. 465 Drip Nozzle or ½ in. conduit. Nozzle not included in list price.	\$4.00
**401	Outlet with round 4¼ in. diameter brass cover plate with 2 in. flush brass plug for No. 466 Bell Nozzle. Nozzle not included in list price.	4.50
**420	Outlet with round 4¾ in. diameter brass cover plate with ½ in. flush brass plug for No. 465 Drip Nozzle or ½ in. conduit. Nozzle not included in list price.	4.50
**421	Outlet with round 4¾ in. diameter brass cover plate with 2 in. flush brass plug for No. 466 Bell Nozzle. Nozzle not included in list price.	5.00

Parts

402	4¼ in. box body only.	\$2.27
404	4¼ in. box body only (for large Conduit).	2.27
422	4¾ in. box body only.	2.60

GANG OUTLETS

...	Section of gang outlet, box body only.	\$2.20
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Parts

413	Brass flange ring for No. 400 or No. 401 Floor Outlet.	\$0.75
440	Brass flange ring for No. 420 or No. 421 Floor Outlet.	1.00
465	Drip nozzle for No. 400 or No. 420 Floor Outlets, also for No. 458 Cover Plates for gang outlets.	1.00
466	Bell nozzle for No. 401 or No. 421 Floor Outlets, also for No. 459 Cover Plates for gang outlets.	1.00

NON-ADJUSTABLE FLOOR BOXES

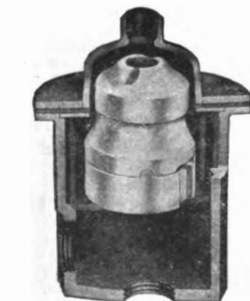
Watertight

477	Outlet complete with receptacle, plug, nozzle and 2 in. flush brass plug.	\$3.60
478	Porcelain plug and receptacle only.	.54
479	Brass, bell nozzle only.	.72
480	2 in. flush brass plug only.	.26

**SINGLE FLOOR OUTLETS

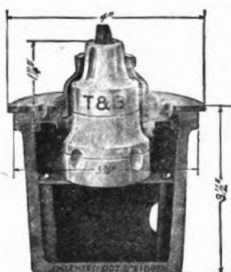
NOTE: These outlets consist of box body, iron adjusting ring, brass cover plate, rubber gasket and sealing cement. See list of accessories above if additional parts are required. Porcelain receptacles and attachment plugs illustrated with adjustable outlets are not included in list prices.

*Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

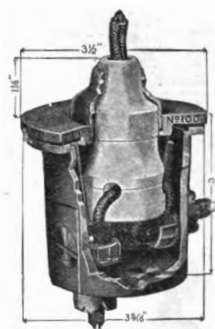


Section No. 477 Outlet Showing Parts Assembled

T & B WATERTIGHT FLOOR BOXES



No. 1100



No. 100

NO. 1100—ADJUSTABLE

The flush plate of the No. 1100 box is 4 inches in diameter and the total depth under the floor is $3\frac{1}{4}$ inches. Will take from $\frac{1}{2}$ to 1 inch conduit with receptacle in place. Each one is packed in neat strong box, clearly marked.

List No.		*List Price Each
6198	Back only.....	\$1.32
6199	Brass cover, flush plug and gasket.....	2.40
6200	Brass nozzle.....	1.50
6201T	Receptacle, strap and screw.....	.84
6202T	Box complete.....	4.80
.....	Brass cover, with $\frac{1}{2}$ in. pipe plug.....	1.80

NO. 100—NON-ADJUSTABLE

This box is largely used where an adjustable box is unnecessary or where the conduits are not over $\frac{1}{2}$ inch. Each box is drilled and tapped for four $\frac{1}{2}$ inch conduits, and brass plugs are furnished so that holes not in use can be hermetically sealed.

Boxes are galvanized inside and outside.

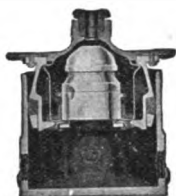
The nozzle is of such size that the receptacle can be removed without the use of tools.

List No.		*List Price Each
28355	Back only.....	\$1.08
28356	Brass cover and flush plug.....	.75
28357	Brass nozzle.....	.36
28358	Receptacle and strap.....	.75
28359	Box complete.....	3.00

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.
Conduit and Wiring Accessories

58-2

SPRAGUE WATERTIGHT FLOOR BOXES



Sectional View No. 6650
Adjustable Floor Box showing
Receptacle in Position



No. 6650
Showing extreme
Adjustment



No. 6660
Non-Adjustable
Floor Box



No. 6860
Non-Adjustable
Floor Box

Sprague Floor Boxes

ADJUSTABLE FLOOR BOXES

General Dimensions: Outside diameter floor plate, 5 inches; outside diameter box body, $4\frac{1}{4}$ inches; total height to floor plate on low adjustment, $4\frac{1}{4}$ inches; total height to floor plate on high adjustment, $5\frac{1}{4}$ inches; vertical adjustment, $\frac{1}{4}$ inches.

Outlets: Adjustable floor boxes as listed will be furnished without any openings in the bottom, but if required can be drilled and tapped for four (4) $\frac{1}{2}$ inch, $\frac{3}{4}$ inch or 1 inch outlets. There are two (2) $\frac{1}{2}$ inch drilled and tapped holes in the sides, straightaway one of which is plugged.

List No.	Description	Wt. per 1000 Lbs.	*List Price Each
6650	Adjustable box, complete.....	643	\$6.00
6651	Box body only.....	282	1.32
6652	Adjustable cover.....	147	1.50
6653	Expansion ring.....	28	.60
6654	Expansion gasket.....	9	.42

NON-ADJUSTABLE FLOOR BOXES

General Dimensions: Outside diameter floor plate, 4 inches; outside diameter box body, $2\frac{1}{4}$ inches; height box body, $3\frac{1}{4}$ inches.

Outlets: Not tapped in bottom; two (2) straightaway $\frac{1}{2}$ inch holes will be drilled and tapped in the sides, one plugged.

6660	Non-adjustable box, complete.....	358	\$4.20
6661	Box body only.....	214	1.68
6662	Brass floor flange.....	18	.66

FLOOR BOX PARTS Interchangeable with Above Boxes

6670	Flush closing plate.....	33	\$0.60
6671	Brass nozzle.....	53	.84
6672	Receptacle saddle.....	8	.06
6673	Hard rubber outlet bushing.....	13 oz.	.04
6674	Soft rubber compression bushing.....	13 oz.	.06
6675	Nozzle or plate gasket.....	5 oz.	.04
6676	$\frac{1}{2}$ in. pipe plug.....	10	.03
6677	$\frac{3}{4}$ inch pipe plug.....	14	.04
6678	1 in. pipe plug.....	19	.05

NON-ADJUSTABLE FLOOR BOX

General Dimensions: Outside diameter floor plate, $3\frac{1}{2}$ inches; box body, $3\frac{1}{4}$ inches; height of box body, $2\frac{1}{4}$ inches.

Outlets: Two (2) in opposite sides for $\frac{1}{2}$ inch conduit. Two (2) in bottom for $\frac{1}{2}$ inch conduit, or box can be furnished with one outlet in bottom for $\frac{3}{4}$ inch conduit.

6860	Non-Adjustable Box complete.....	218	\$3.00
6861	Box body (hot galvanized finish).....	127	1.08
6862	Brass floor flange.....	50	.54
6863	Flush closing plate.....	13	.24
6864	Brass nozzle.....	14	.36
6865	Receptacle saddle.....	5	.06
6866	$\frac{3}{4}$ inch outlet bushing.....	10 oz.	.06
6867	Plate gasket (soft rubber).....	5	.04
6868	Nozzle gasket (soft rubber).....	$1\frac{1}{2}$	.04
6869	$\frac{1}{2}$ inch pipe plug.....	3	.03
6870	$\frac{3}{4}$ inch pipe plug.....	5	.04

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

SUSPENSION HANGERS



Hanger Used Alone



Porcelain Bushing Used with Hanger

Minerallac Cable and Conduit Hangers

These hangers are made of the best spring steel and are much stronger than cast iron hangers for the same purpose. They are easily and quickly put in place enabling great rapidity in running open wiring, conduit and cable. They are especially adapted for tile and beam work, as it is necessary to drill but one hole in surface wired over. These hangers are approved by the Underwriters' National Electric Association.

List Prices and Data

List No.	Size of 250-Volt Lead-Covered Cable	Size Conduit	Diameter of Opening		Approx. Wgt. per 100	Std. Pkg.	List Price per 100
			Min.	Max.			
0	3 cond. No. 14 to 7 cond. No. 14.....	$\frac{3}{8}$ in.	$\frac{5}{8}$ in.	$\frac{7}{8}$ in.	4 lbs.	100	\$8.26
1	No. 1 to 4-0.....	$\frac{1}{2}$ & $\frac{3}{4}$ in.	$\frac{7}{8}$ in.	1 $\frac{1}{4}$ ins.	4 $\frac{1}{2}$ lbs.	100	9.12
2	No. 4-0 to 300M.....	1 in.	1 $\frac{1}{4}$ ins.	1 $\frac{3}{4}$ ins.	6 $\frac{1}{2}$ lbs.	100	13.06
3	500 M. to 750 M.....	1 $\frac{1}{4}$ ins.	1 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	7 lbs.	100	13.06
4	800 M. to 1125 M.....	1 $\frac{1}{2}$ ins.	1 $\frac{3}{4}$ ins.	1 $\frac{3}{4}$ ins.	12 lbs.	100	16.20
5	1500 M.....	2 ins.	2 ins.	2 $\frac{1}{2}$ ins.	13 lbs.	100	17.40
6	2000 M. (3 cond. 4-0).....	2 $\frac{1}{2}$ ins.	2 $\frac{1}{4}$ ins.	3 ins.	24 $\frac{1}{2}$ lbs.	100	19.44

Standard finish japan.

The above prices do not include stove bolts.

For galvanized add \$0.02 each.

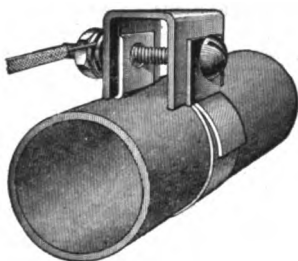
Porcelain Bushings

For Minerallac Hangers

List No.	Size of 250-Volt Rubber Covered Cable	Diameter of Opening		Approximate Wgt. per 100	List Price per 100
		Min.	Max.		
1	8-2-0.....	$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	8 lbs.	\$12.60
2	3-0-4-0.....	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	12 lbs.	14.40
3	250 M.-450 M.....	$\frac{7}{8}$ in.	1 $\frac{1}{4}$ ins.	13 lbs.	15.54
4	500 M.-700 M.....	1 $\frac{1}{4}$ ins.	1 $\frac{3}{4}$ ins.	22 lbs.	18.36
5	750 M.-1000 M.....	1 $\frac{3}{8}$ ins.	1 $\frac{1}{2}$ ins.	27 lbs.	20.40
6	1125 M.-2500 M.....	1 $\frac{1}{2}$ ins.	2 ins.	32 lbs.	22.20

Conduit and Wiring Accessories

GROUND CLAMPS



No. V-2



No. 3

Vogel Ground Clamp

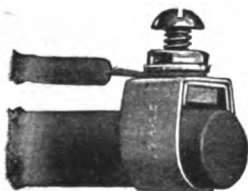
This ground clamp is adjustable to different sized pipes and cables from $\frac{1}{2}$ inch to 2 inches. It has no set screw to puncture lead pipe or cable; the band is of copper, heavily tinned. Clamping body, bolts and nuts are of heavy brass. This clamp remains tight under expansion or contraction of the pipe, the spring tension of the clamping piece does the trick; will safely carry 300 amperes.

List No.	List Price Each
V-2 Vogel Ground Clamp	\$0.11 $\frac{1}{4}$

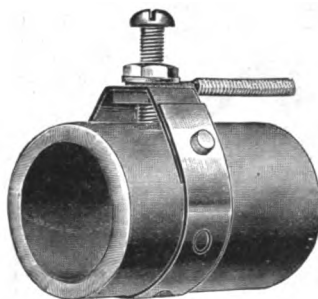
Blackburn Nos. 3 and 4 Ground Clamps

These clamps are very simple in construction, being composed of a flexible perforated copper band to encircle the pipe and a removable copper lug with a boss raised on the flat that fits into perforations in the band and through which is threaded the tightening screw with lock nut. These clamps are for use on power and lighting circuits. They fit pipe cable or flexible conduit.

List No.	Std. Pkg.	Wt. per 100	List Price		
			Each	per 100	per 1000
3 Fits $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 and 1 $\frac{1}{4}$ in. pipe	50	12	\$0.20	\$18.00	\$180.00
4 Fits 1 $\frac{1}{2}$, 2, 2 $\frac{1}{2}$ and 3 in. pipe	50	16	.24	22.00	190.00



No. 0



No. A-1

Blackburn Adjustable Ground Clamps

These clamps are approved for telephone circuits. They can be attached without disengaging any of its parts. The screw draws the band tightly against the pipe, at the same time chafes the surface of the pipe, thereby securing a good electrical contact. This connection is quicker made and much better than the average soldered joints.

List No.	Std. Pkg.	Wt. per 1000	List Price Each
0 Fits $\frac{3}{8}$ and $\frac{1}{2}$ in. ground rods	100	30	\$0.14
A-1 Fits 1 $\frac{1}{2}$, 2, 2 $\frac{1}{2}$ and 3 in. pipe	100	50	.14
2 Fits 1 $\frac{1}{2}$, 2, 2 $\frac{1}{2}$ and 3 in. pipe	100	60	.16

CLAMPS, CLEATS AND STRAPS

Ground Clamps

G-V—TYPE A GROUND CLAMP

This Clamp is copper, tinned. For No. 4 wire and smaller. No iron enters into the construction of this clamp.



G. V. Type A

List No.	Size	Std. Pkg.	List Price Each	List No.	Size	Std. Pkg.	List Price Each
5014	BX	100	\$0.15	5112	1 1/2"	50	\$0.26
5038	3/8"	100	.15	5002	2 "	50	.32
5012	1/2"	100	.15	5212	2 1/2"	25	.35
5034	3/4"	100	.17	5003	3 "	25	.39
5001	1 "	75	.21	5312	3 1/2"	10	.48
5114	1 1/4"	75	.24	5004	4 "	10	.54

SHAWMUT GROUND CLAMP

These Clamps are made for use on 3/8 inch to 3 inch pipe, and are so constructed as to give the maximum strength with a minimum amount of metal, thus reducing cost. The Clamps will hold No. 4 Ground Wire.

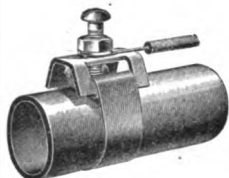


"Shawmut" Ground Clamp

List No.	Size	List Price Each	List No.	Size	List Price Each
580881	3/8"	\$0.12	580886	1 1/2"	\$0.23
580882	1/2"	.12	580887	2 "	.26
580883	3/4"	.14	580888	2 1/2"	.29
580884	1 "	.17	580889	3 "	.32
580885	1 1/4"	.20	.....	.....	.....

NEW YORK GROUND CLAMP

These Ground Clamps are made in three types, A, B, and D. Type A clamps are for connecting telephone and telegraph ground wires to pipes or cables. Type B clamps are for making ground connections for electric light wires without the use of solder. Binding posts provide connections for No. 2 and No. 4 B. & S. wires. Type D for electric light and motor work.



New York Type A

List No.	Type	Size	List Price per 100	List No.	Type	Size	List Price per 100
580890	A	1" pipe	\$9.60	580988	B	3" pipe	\$59.50
580891	A	2" pipe	12.00	580989	B	4" pipe	63.75
580892	A	3" pipe	14.40	580990	D	1" pipe	43.40
580893	B	1" pipe	52.70	580991	D	2" pipe	46.20
580847	B	2" pipe	56.10	580992	D	3" pipe	49.06
				580993	D	4" pipe	51.80

SECURITY CONDUIT CLAMP

This Clamp may be used for supporting conduit on brick or concrete walls, ceilings, iron beams, etc. It is stamped from 3/8 inch steel and is black enameled to prevent rust. These clamps are made in 1/2, 3/4, and 1 inch size, and are packed in boxes containing 100 of a size.



Security Conduit Clamp

List No.	Size	Less than 100	100-500	500-1000	1000 and Over
580894	1/2"	\$30.00	\$24.00	\$20.00	\$18.00
580895	3/4"	45.00	36.00	30.00	27.00
580896	1 "	75.00	60.00	50.00	45.00



Cleat

BRASS CLEATS

List No.	Description	Std. Pkg.	List Price per 100
15118	For 1/8" outside diameter wire.....	250	\$7.50
15100	For 3/16" outside diameter wire.....	250	9.00
15103	For 1/4" outside diameter wire.....	250	12.00
15108	For 5/16" outside diameter wire.....	250	15.00
15102	Corner Cleat, for 3/8" outside diameter wire..	250	9.00
15104	Corner Cleat, for 1/2" outside diameter wire..	250	5.60
15116	Corner Cleat, for 3/4" outside diameter wire..	250	15.00

Corner Cleat

PIPE STRAPS

List No.	Size	Aprx. Qty.	Lbs. per Carton	List Price per Lb.	List No.	Size	Aprx. Qty.	Lbs. per Carton	List Price per Lb.
580904	1/4" Pipe Strap	32	5	\$0.24	580913	3 " Pipe Strap	5	5	\$0.24
580905	3/8" Pipe Strap	30	5	.24	580909	1 1/4" Pipe Strap	16	5	.24
580906	1/2" Pipe Strap	25	5	.24	580910	1 1/2" Pipe Strap	10	5	.24
580907	3/4" Pipe Strap	20	5	.24	580911	2 " Pipe Strap	8	5	.24
580908	1 " Pipe Strap	18	5	.24	580912	2 1/2" Pipe Strap	6	5	.24

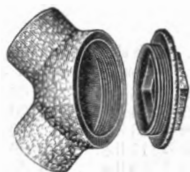
Above packed in cartons of 5 pounds each at additional charge of 4 cents per carton.



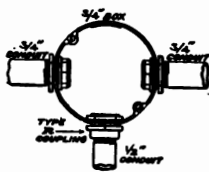
Pipe Strap

Conduit and Wiring Accessories

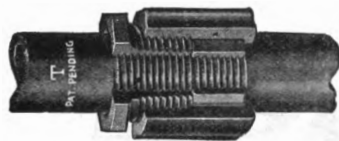
CONDUIT ACCESSORIES



Type L Conduit Fitting



Type R Conduit Box Connector



Conduit Coupling

Bendhick's Conduit Elbow

Type L

List No.	Size Conduit	Std. Pkg.	List Price Each	List No.	Size Conduit	Std. Pkg.	List Price Each
L. 1/2	1/2 in.	100	\$0.60	L. 1 1/2	1 1/2 ins.	20	\$1.80
L. 3/4	3/4 in.	100	.70	L. 2	2 ins.	10	3.00
L. 1	1 in.	50	.90	L. 2 1/2	2 1/2 ins.	4	6.00
L. 1 1/4	1 1/4 ins.	24	1.36	L. 3	3 ins.	4	7.00

Bendhick's Conduit Box Connector

Type R

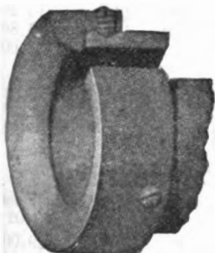
List No.	Sizes	Std. Pkg.	List Price Each	List No.	Sizes	Std. Pkg.	List Price Each
R. 12	1/2 to 3/4 in.	100	\$0.15	R. 34	3/2 to 1 in.	100	\$0.20
R. 21	3/2 to 1 in.	100	.20				

Erickson Conduit Coupling

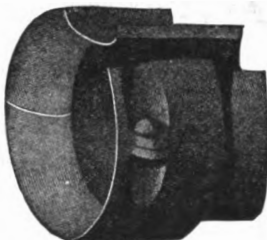
Does away with running threads. Permits opening of conduit at any point.

Size	Std. Pkg.	List Price per 100	Size	Std. Pkg.	List Price per 100
1/2 inch	100	\$19.20	1 1/4 inches	25	\$60.00
3/4 inch	50	24.00	1 1/2 inches	25	78.00
1 inch	25	33.60			

The above coupling furnished tinned or black at the same price.



Set Screw



Split



Threaded

Krantz Porcelain Lined Bushings

Porcelain Lined Threaded and Set Screw Bushings

These bushings are a great convenience where it is found difficult to place a thread on the conduit.

Size of Conduit, Inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
List Price per 100	\$24.00	\$26.68	\$33.34	\$37.34	\$44.00	\$50.68	\$72.00	\$88.00	\$106.68	\$130.68
Standard Package	100	100	60	60	50	20	20	20	10	10

Porcelain Lined Split Bushings

These bushings are designed to be used on conduits which have already been equipped with wire.

Size of Conduit, Inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
List Price per 100	\$40.00	\$40.00	\$50.68	\$58.68	\$64.00	\$72.68	\$100.00	\$120.00	\$146.68	\$166.68
Standard Package	100	100	60	60	50	50	20	20	10	10

CONDUIT FITTINGS

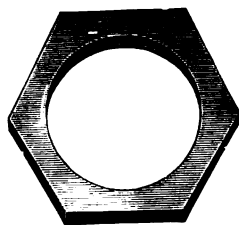
Bushings



Bushing

Size	Std. Pkg.	Weight per 100	List Price per 100
$\frac{1}{8}$ -inch.....	1000	3 lbs.	\$6.00
$\frac{1}{4}$ -inch.....	100	4 lbs.	8.00
$\frac{3}{8}$ -inch.....	100	13 lbs.	10.80
1 -inch.....	100	17 lbs.	12.96
1 $\frac{1}{4}$ -inch.....	50	19 lbs.	14.40
1 $\frac{1}{2}$ -inch.....	50	27 lbs.	28.80
2 -inch.....	25	34 lbs.	43.20
2 $\frac{1}{2}$ -inch.....	25	49 lbs.	64.80
3 -inch.....	20	85 lbs.	76.96
3 $\frac{1}{2}$ -inch.....	20	110 lbs.	102.60
4 -inch.....	20	130 lbs.	205.20
4 $\frac{1}{2}$ -inch.....	20	165 lbs.	207.78
5 -inch.....	15	247 lbs.	249.32
6 -inch.....			

Locknuts



Locknut

Size	Std. Pkg.	Weight per 100	List Price per 100
$\frac{1}{8}$ -inch.....	1000	2 lbs.	\$1.50
$\frac{1}{4}$ -inch.....	100	2 lbs.	2.50
$\frac{3}{8}$ -inch.....	100	4 lbs.	5.00
1 -inch.....	100	7 lbs.	8.00
1 $\frac{1}{4}$ -inch.....	50	10 lbs.	8.64
1 $\frac{1}{2}$ -inch.....	50	12 lbs.	14.40
2 -inch.....	25	20 lbs.	21.60
2 $\frac{1}{2}$ -inch.....	25	66 lbs.	28.80
3 -inch.....	25	52 lbs.	43.20
3 $\frac{1}{2}$ -inch.....	25	60 lbs.	51.30
4 -inch.....	20	100 lbs.	71.82
4 $\frac{1}{2}$ -inch.....	20	140 lbs.	82.06
5 -inch.....	15		102.60
6 -inch.....			

Armored Flexible Conduit Bushings For Connecting Flexible Conduit to Outlet Boxes



Armored Conduit Bushing

Size	Std. Pkg.	Weight per 100	List Price per 100
For $\frac{1}{8}$ -inch flexible conduit.....	100	9 lbs.	\$9.00
For $\frac{1}{4}$ -inch flexible conduit.....	100	14 lbs.	13.20
For 1 -inch flexible conduit.....	50	19 lbs.	16.80
For 1 $\frac{1}{4}$ -inch flexible conduit.....	50	22 lbs.	24.00

Price includes locknut.

Armored Conductor Bushings

For Connecting Flexible Armored Conductor to Outlet Boxes



Armored Conductor Bushing

Size	Std. Pkg.	Weight per 100	List Price per 100
$\frac{3}{8}$ in. For No. 14-2W Armored conductor.....	100	8 lbs.	\$9.00
$\frac{1}{2}$ in. For No. 12-3W, 14-BXL-2W or 14-BX-3.....	100	10 lbs.	9.00

Price includes locknut.

G. V. Pipe Caps



G. V. Pipe Cap

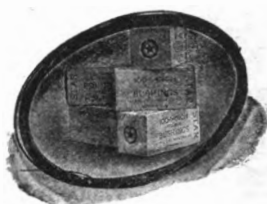
List No.	Size	List Price Each	List No.	Size	List Price Each
1012	$\frac{1}{8}$ inch	\$0.35	1212	2 $\frac{1}{2}$ inch	\$2.94
1034	$\frac{1}{4}$ inch	.44	1003	3 inch	3.98
1001	1 inch	.68	1312	3 $\frac{1}{2}$ inch	6.66
1114	1 $\frac{1}{4}$ inch	.80	1004	4 inch	7.88
1112	1 $\frac{1}{2}$ inch	1.14	1006	6 inch	25.92
1002	2 inch	1.64			

$\frac{1}{8}$, $\frac{1}{4}$ and 1 inch put up ten in a box.
1 $\frac{1}{4}$ and 1 $\frac{1}{2}$ inch put up six in a box.

CONDUIT FITTINGS



Gas Elbow



Fish Wire

Gas Elbows

List No.		List Price per 100
90	$\frac{1}{2}$ in. x $\frac{1}{2}$ in. Gas Elbows	\$26.68
91	$\frac{1}{2}$ in. x $\frac{3}{8}$ in. Gas Elbows	26.68
92	$\frac{3}{8}$ in. x $\frac{3}{8}$ in. Gas Elbows	26.68

Fish Wire

This wire is regularly furnished in 100, 200, 250 and 300 feet lengths, but can be furnished in any length desired.

List No.		List Price per 100 feet
1000	Fish Wire, $\frac{1}{4}$ in. (standard size)	\$2.00
1001	Fish Wire, $\frac{3}{16}$ in.	3.00
1002	Fish Wire, $\frac{1}{8}$ in.	4.00



Pipe Hook



Nipples



Coupling

Pipe Hooks

List No.		Std. Pkg.	Pkg. Wgt.	List Price per 100
6050	$\frac{3}{8}$ in. Pipe Hook	100	1 $\frac{1}{2}$ lbs.	\$0.84
6051	$\frac{1}{2}$ in. Pipe Hook	100	2 $\frac{1}{4}$ lbs.	.94
6052	$\frac{3}{4}$ in. Pipe Hook	100	2 $\frac{3}{4}$ lbs.	1.06
6053	1 in. Pipe Hook	100	3 $\frac{1}{4}$ lbs.	1.20
6054	1 $\frac{1}{4}$ in. Pipe Hook	100	4 $\frac{1}{4}$ lbs.	1.38
6055	1 $\frac{1}{2}$ in. Pipe Hook	100	5 $\frac{1}{4}$ lbs.	1.56
6056	2 in. Pipe Hook	100	12 $\frac{1}{2}$ lbs.	4.20

Chase Nipples

List No.		Std. Pkg.	List Price per 100
3620	$\frac{3}{8}$ in. Nipples	1000	\$6.00
3621	$\frac{1}{2}$ in. Nipples	1000	6.00
3622	$\frac{3}{4}$ in. Nipples	100	8.64
3623	1 in. Nipples	100	16.20
3624	1 $\frac{1}{4}$ in. Nipples	100	19.44
3625	1 $\frac{1}{2}$ in. Nipples	50	21.60
3626	2 in. Nipples	50	32.40
3627	2 $\frac{1}{2}$ in. Nipples	25	54.00
3628	3 in. Nipples	25	86.40
3629	3 $\frac{1}{2}$ in. Nipples	20	270.00

Chase Couplings

List No.		Std. Pkg.	List Price per 100
3630	$\frac{1}{2}$ in. Coupling	1000	\$7.20
3631	$\frac{3}{4}$ in. Coupling	1000	7.20
3632	1 in. Coupling	100	9.72

Standard gas pipe threaded.

CONDUIT FITTINGS



Jiffy Bushing Connector

No. 2 and 4
Universal BushingNo. 911
Conduit Clamp

Jiffy Bushing Connectors

The Jiffy Bushing Connector is an absolutely new and original device for connecting metallic flexible conductors, sizes No. 14-2 wire, No. 14-3 wire, No. 12-2 wire. This bushing fits any round or straight edge box and always leaves a neat outside appearance. No inside locknut to adjust. The locking and grounding fingers are tempered and absolutely rust proof, giving not only a positive but a permanent ground jiffy, while its construction of a combination locknut and spring washer working on a saw-tooth thread gives the tightness and secureness demanded by inspectors and cannot work loose from vibration.

	List Price Each
Jiffy Bushing Connector.....	\$0.14

Universal Bushings

Universal Bushings are approved by the National Board of Fire Underwriters.

List No.		Std. Pkg.	List Price per 100
1	For $\frac{3}{8}$ in. knockout, $\frac{1}{4}$ in. and $\frac{1}{8}$ in. tubing.....	100	\$2.40
2	For $\frac{1}{2}$ in. knockout, $\frac{1}{4}$ in. and $\frac{1}{8}$ in. tubing.....	100	2.80
3	For $\frac{3}{4}$ in. knockout, $\frac{1}{2}$ in. tubing.....	100	2.40
4	For $\frac{1}{2}$ in. knockout, $\frac{1}{2}$ in. tubing.....	100	2.80

H and H Conduit Clamp

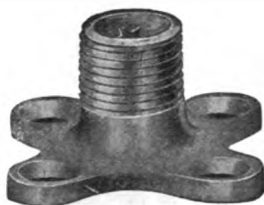
For Armored Conductor

Schedule H

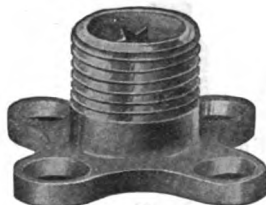
You can run armored conduit into a 2 inch H and H shallow box by using the No. 911 H and H Conduit Clamp. It is very quickly and easily installed, takes up no room at all within the box.

List No.		Std. Pkg.	List Price per 100
911	Conduit Clamp.....	100	\$12.96

FIXTURE STEMS, BEAM STRAP AND FIXTURE HANGERS



Fixture Stem
1/4 inch Solid



Fixture Stem
1/4 inch Solid



Fixture Stem
1/4 inch Hollow

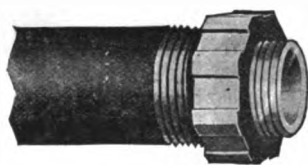
Fixture Stems

List No.	Description	Finish	Std. Pkg.	List Price per 100
1300	3/8 in. solid.....	Sherardized	100	\$4.00
1301	1/2 in. solid.....	Sherardized	100	8.20
1305	3/8 in. hollow.....	Sherardized	100	4.00
1306	1/2 in. hollow.....	Sherardized	100	8.20

Packed in cartons containing 100 stems.

Enameled finish also furnished at same price as sherardized.

Stove bolts with nuts are not included in price of stems and are furnished at \$2.50 per 1000. Two bolts usually specified for each fixture stem.



No. 1326



Nos. 1327 and 1325

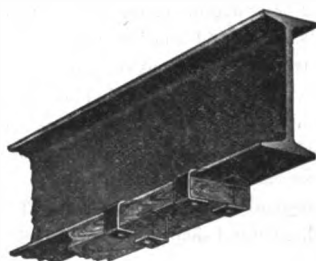


Conduit Bushing Adapters

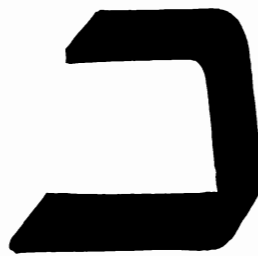
List No.	Sizes	List Price per 100
1325	1/4 in. male x 1/2 in. female.....	\$9.00
1326	1/2 in. male x 3/4 in. female.....	18.00
1327	1 in. male x 3/4 in. female.....	18.00



No. 1316



Showing Application to Beam



Beam Strap

Hickey Fixture Hangers

List No.	Sizes	List Price per 100
1315	3/8 in. male x 1/2 in. female.....	\$27.00
1316	1/2 in. male x 1/2 in. female.....	27.00
1317	3/8 in. male x 3/4 in. female.....	27.00
1318	1/2 in. male x 3/4 in. female.....	27.00

Beam Strap

List No.	Finish	Std. Pkg.	List Price per 100
700	Sherardized.....	100	\$4.74

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse delivery write nearest house.

UNIVERSAL INSULATOR SUPPORTS

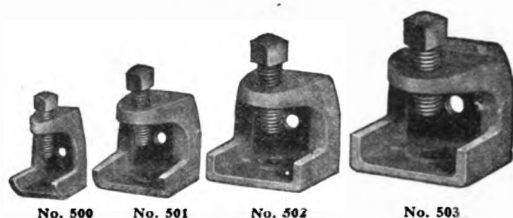


Fig. 1

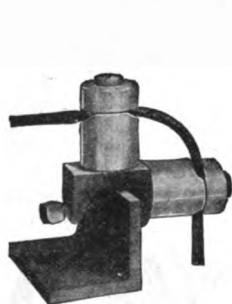


Fig. 2

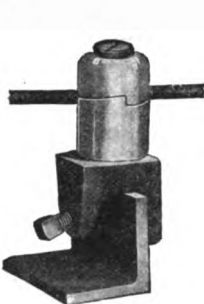


Fig. 3



Fig. 4



Fig. 5

Clamping Supports

These supports are made in four sizes (as shown in figure 1) to take all sizes of porcelain and glass insulators. They are made of the best grade malleable iron and specially designed for securing insulators to open steel framework (as shown in figure 2) for wiring mills, foundries, factories, piers, elevated railroads and similar structures. They are easily attached in any position to beams, angles, plates, bars, tanks, pipes, etc., and by their use electric wiring for lights, motors, generators, etc., can be installed with a great saving of labor and material. These supports eliminate the necessity of designing and making forgings, hook bolts, straps and other special rigging. They do away with wood blocks or strips, thus avoiding shrinkage troubles, loose construction sagging wire and danger from fire. Changes in wiring can be made without loss or extra cost by simply moving supports to new location. The strength of the steel framework is not impaired due to the fact that there is no drilling of holes. Two insulators can be fastened to each support when desired (as shown in figure 3). These supports are a quick and reliable means of securing all kinds of porcelain and glass insulators to exposed steel framework. Figure 4 shows 2 inch and 1½ inch supports with insulators applied to angle iron. They can be used in any position on the flanges of any standard rolled steel structural shape such as channel, Z bars, round, square and flat bars, also gas and water pipes, etc.

List No.	Size of Support	For Insulators	Std. Tapped Holes for Screws	List Price per 100
500	1 inch,	5½—5½ split.....	¼ inch—20 (No. 14-20)	\$20.00
501	1½ inch,	9419—4½—33 Sec.....	⅜ inch—18 (No. 18-18)	34.00
502	2 inch,	9420—1—2—3 W G—3½—24—26—30— Murdock B.....	⅝ inch—16 (No. 24-16)	46.00
503	2½ inch,	29—40—52—53—Murdock A & B 38 and wood pin.....	¾ inch—13	68.00

Standard finish black enameled. Sherardized extra. No extra charge for special drilling when necessary.
Conduit and Wiring Accessories

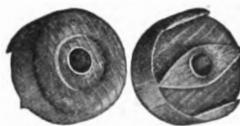
STAPLES AND TACKS



No. 1



Insulated Saddle Staples



Compressed Cleats

Blake Insulated Staples

Designed for use on all low voltage circuits of interior wiring, such as telephone, telegraph, messenger call, annunciator and bell work.

List No.		List Prices			
		Single Pkg. per 100	Lots 1000 to 5000 per 1000	Lots 5000 to 10000 per 1000	Lots 10000 and Over per 1000
1	For hardwood, for single and twisted pair wire....	\$0.30	\$2.90	\$2.80	\$2.60
3	For general use, for single and twisted pair wire....	.30	2.90	2.80	2.60
5	For hardwood, for twisted 3 wire and extra heavy pair wire.....	.34	3.20	3.10	2.90
6	For general use, for twisted 3 wire and extra heavy pair wire.....	.34	3.20	3.10	2.90
7	For softwood, for twisted 3 wire and extra heavy pair wire.....	.34	3.20	3.10	2.90

Insulated Saddle Staples

List No.	Inches in Diameter	List Price per 1000
5	5/100.....	\$1.20
10	10/100.....	1.40
15	15/100.....	1.60
25	25/100.....	3.40
50	50/100.....	10.80
40	40/100.....	10.00
100	1.....	13.60

Blake Compressed Cleats

These compressed cleats are treated so as to be impervious to dampness and moisture. They will not break under the blow of the hammer, so that wire nails can be used as well as screws. This enables a saving to be effected in both material and labor.

Single Pkg. of 100 Cleats per Pkg.	List Prices			
	1000 and less than 5000 per 1000	5000 and less than 10000 per 1000	10000 and Over per 1000	
	\$0.70	\$5.50	\$5.30	\$5.00

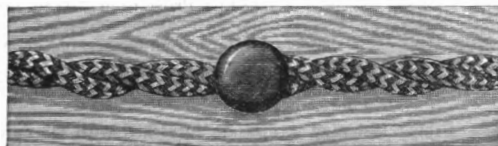
Blake Compressed Cleats.....

Leather Nail Heads

These leather nail heads or washers are used to prevent cracking the porcelain in knob or cleat wiring.				
Wgt. Per Box of 1000 1 lb.	Less than 10000	10000-25000	25000-50000	50000 and Over
	\$1.00	\$0.70	\$0.40	\$0.32



No. 15 No. 18 No. 20 No. 22



Milonite Nails

Milonite Nails

"Milonite" Perfection Insulated Nails

Diameter of head in four sizes. Length of nail to suit. Prevent short-circuiting. Color matches wire or wall. Wire can be taken down without cutting or injuring insulation.

List No.		List Price per 1000
15	Nails (plain top).....	\$2.04
18	Nails (plain top).....	2.04
20	Nails (plain top).....	2.38
22	Nails (plain top).....	2.72

Note: The above furnished in any color desired except white, for which add 34 cents to list.

CONDULET BODIES WITH OBROUND OPENINGS

TYPE A

TYPE B

TYPE BE

Types A and B Condulet Bodies Take Obround Covers and Obround Conduletto Fittings

Type BE Condulet Bodies Take Obround Covers Only



TYPE A CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue Number..	A1	A2	A3	A4	A5	A6
Standard Package..	200	100	50	20	10	5
Ship. Wt. Std. Pkg..	130 lbs.	95 lbs.	80 lbs.	60 lbs.	40 lbs.	30 lbs.
List Price, each....	\$.24	\$.31	\$.43	\$.62	\$.80	\$1.66
Size in inches.....	2 1/2	3	3 1/2	4	5	6
Catalogue Number..	A7	A8	A9	A10	A12	A14
Standard Package..	5	5	5	5	5	5
Ship. Wt. Std. Pkg..	50 lbs.	55 lbs.	65 lbs.	70 lbs.	90 lbs.	100 lbs.
List Price, each....	\$4.95	\$5.45	\$10.40	\$11.70	\$20.00	\$30.00



TYPE B CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number..	B1	B2	B3	B4	B5
Standard Package..	200	100	50	20	10
Ship. Wt. Std. Pkg..	140 lbs.	100 lbs.	80 lbs.	65 lbs.	40 lbs.
List Price, each....	\$.29	\$.36	\$.50	\$.80	\$1.04
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number..	B6	B7	B8	B9	B10
Standard Package..	5	5	5	5	5
Ship. Wt. Std. Pkg..	30 lbs.	50 lbs.	60 lbs.	65 lbs.	70 lbs.
List Price, each....	\$2.14	\$5.35	\$5.85	\$11.35	\$12.70



TYPE BE CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue Number..	BE1	BE2	BE3	BE4	BE5	BE6
Standard Package..	200	100	50	20	10	5
Ship. Wt. Std. Pkg..	390 lbs.	300 lbs.	190 lbs.	120 lbs.	100 lbs.	80 lbs.
List Price, each....	\$.40	\$.50	\$.85	\$1.30	\$2.00	\$3.50
Size in inches.....	2 1/2	3	3 1/2	4	5	6
Catalogue Number..	BE7	BE8	BE9	BE10	BE12	BE14
Standard Package..	5	5	5	5	5	5
Ship. Wt. Std. Pkg..	160 lbs.	160 lbs.	225 lbs.	225 lbs.	430 lbs.	430 lbs.
List Price, each....	\$9.35	\$10.15	\$21.30	\$25.30	\$70.00	\$80.00

Important Information Concerning Condulet Bodies Listed on This Page

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size, except that type BE Condulet bodies take Obround covers only.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on pages 184 and 185. Obround gaskets are listed on page 176. Condulet reducers are listed on page 171. Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive, and on page 161.

(Cross Reference Page 21)

CONDULET BODIES WITH OBOUND OPENINGS—Continued

TYPE C TYPE CO TYPE D

Take Obround Covers and Obround Conduletto Fittings



TYPE C CONDULET BODIES—Black Enamel Finish					
Size in inches.	1/2	3/4	1	1 1/4	1 1/2
Catalogue No.	C1	C2	C3	C4	C5
Standard Package.	200	100	50	20	10
Weight Std. Pkg. .	165 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each. .	\$.36	\$.41	\$.59	\$.94	\$1.22
Size in inches.	2	2 1/2	3	3 1/2	4
Catalogue No.	C6	C7	C8	C9	C10
Standard Package.	5	5	5	5	5
Weight Std. Pkg. .	35 lbs.	65 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each. .	\$2.43	\$6.25	\$7.40	\$16.70	\$18.30



TYPE CO CONDULET BODIES—Black Enamel Finish					
Size in inches.	1/2	3/4	1	1 1/4	1 1/2
Catalogue No.	CO11	CO22	CO33	CO44	CO55
Standard Package.	75	50	25	15	10
Weight Std. Pkg. .	120 lbs.	100 lbs.	60 lbs.	50 lbs.	50 lbs.
List Price, each. .	\$.50	\$.65	\$.75	\$1.25	\$1.60
Size in inches.	2	2 1/2	3	3 1/2	4
Catalogue No.	CO66	CO77	CO88	CO99	CO1010
Standard Package.	5	5	5	5	5
Weight Std. Pkg. .	45 lbs.	70 lbs.	80 lbs.	100 lbs.	120 lbs.
List Price, each. .	\$3.25	\$7.80	\$9.25	\$21.00	\$23.00



TYPE D CONDULET BODIES—Black Enamel Finish					
Size in inches.	1/2	3/4	1	1 1/4	1 1/2
Catalogue No.	D1	D2	D3	D4	D5
Standard Package.	75	50	25	15	10
Weight Std. Pkg. .	60 lbs.	60 lbs.	40 lbs.	50 lbs.	45 lbs.
List Price, each. .	\$.34	\$.41	\$.57	\$.94	\$1.22
Size in inches.	2	2 1/2	3	3 1/2	4
Catalogue No.	D6	D7	D8	D9	D10
Standard Package.	5	5	5	5	5
Weight Std. Pkg. .	35 lbs.	65 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each. .	\$2.43	\$6.25	\$7.40	\$16.70	\$18.30

Important Information Concerning Condulet Bodies Listed on This Page

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on pages 184 and 185. Obround gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive, and on page 161.

CONDULET BODIES WITH OBROUND OPENINGS—Continued

TYPE E

TYPE F

TYPE FE

Type E Condulet Bodies Take Obround Covers and Obround Conduletto Fittings

Types F and FE Condulet Bodies Take Obround Covers Only

TYPE E CONDULET BODIES—Black Enamel Finish						
Size in inches	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number ..	E1	E2	E3	E4	E5	
Standard Package...	200	100	50	20	10	
Shipping Wt. Std. Pkg.	140 lbs.	110 lbs.	80 lbs.	60 lbs.	40 lbs.	
List Price, each	\$.29	\$.35	\$.50	\$.80	\$1.04	
Size in inches	2	2 1/2	3	3 1/2	4	
Catalogue Number ..	E6	E7	E8	E9	E10	
Standard Package...	5	5	5	5	5	
Shipping Wt. Std. Pkg.	35 lbs.	55 lbs.	60 lbs.	65 lbs.	70 lbs.	
List Price, each	\$2.14	\$5.35	\$5.85	\$11.35	\$12.70	

TYPE F CONDULET BODIES—Black Enamel Finish						
Size in inches	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number ..	F1	F2	F3	F4	F5	
Standard Package...	100	100	50	20	10	
Shipping Wt. Std. Pkg.	150 lbs.	200 lbs.	175 lbs.	105 lbs.	65 lbs.	
List Price, each	\$.50	\$.65	\$1.05	\$1.64	\$2.52	
Size in inches	2	2 1/2	3	3 1/2	4	
Catalogue Number ..	F6	F7	F8	F9	F10	
Standard Package...	5	5	5	5	5	
Shipping Wt. Std. Pkg.	45 lbs.	115 lbs.	115 lbs.	265 lbs.	315 lbs.	
List Price, each	\$4.40	\$11.70	\$12.70	\$26.60	\$31.60	

TYPE FE CONDULET BODIES—Black Enamel Finish						
Size in inches	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue Number ..	FE1	FE2	FE3	FE4	FE5	FE6
Standard Package...	100	100	50	20	10	5
Shipping Wt. Std. Pkg.	240 lbs.	350 lbs.	240 lbs.	175 lbs.	130 lbs.	100 lbs.
List Price, each	\$.50	\$.65	\$1.05	\$1.64	\$2.52	\$4.40
Size in inches	2 1/2	3	3 1/2	4	5	6
Catalogue Number ..	FE7	FE8	FE9	FE10	FE012	FE014
Standard Package...	5	5	5	5	5	5
Shipping Wt. Std. Pkg.	200 lbs.	200 lbs.	320 lbs.	320 lbs.	600 lbs.	600 lbs.
List Price, each	\$11.70	\$12.70	\$26.60	\$31.60	\$90.00	\$100.00

Important Information Concerning Condulet Bodies Listed on This Page

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size, except that types F and FE Condulet bodies take Obround covers only.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on pages 184 and 185. Obround gaskets are listed on page 176. Condulet reducers are listed on page 171. Condulet bodies with Obround openings are listed on pages 31 to 39a, inclusive, and on page 141.

(Cross Reference Page 23)

CONDULET BODIES WITH OBOURND OPENINGS—Continued
TYPE LB TYPE LF TYPE LL TYPE LR

Take Obround Covers and Obround Conduletto Fittings



TYPE LB CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LB11	LB22	LB33	LB44	LB55
Standard Package	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$.40	\$.45	\$.65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LB66	LB77	LB88	LB99	LB1010
Standard Package	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10



TYPE LF CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LF11	LF22	LF33	LF44	LF55
Standard Package	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$.40	\$.45	\$.65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LF66	LF77	LF88	LF99	LF1010
Standard Package	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10



TYPE LL CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LL11	LL22	LL33	LL44	LL55
Standard Package	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$.40	\$.45	\$.65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LL66	LL77	LL88	LL99	LL1010
Standard Package	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10



TYPE LR CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LR11	LR22	LR33	LR44	LR55
Standard Package	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$.40	\$.45	\$.65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LR66	LR77	LR88	LR99	LR1010
Standard Package	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10

For finishes and other important information, see notes on page 26.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized types LB, LF, LL and LR Condulet bodies of the same size may be assorted to make up a standard package. No other assortment is allowed.









Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on pages 184 and 185. Obround gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive, and on page 161.

CONDULET BODIES WITH OBOURND OPENINGS—Continued

TYPE LBB TYPE LFB TYPE LLB TYPE LRB

Take Obround Covers and Obround Conduletto Fittings

TYPE LBB CONDULET BODIES—Black Enamel Finish							
	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
	Catalogue No.....	LBB11	LBB22	LBB33	LBB44	LBB55	
	Standard Pkg.....	100	75	50	20	10	
	Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.	
	List Price, each...	\$.40	\$.45	\$.65	\$1.04	\$1.37	
	Size in inches.....	2	2 1/2	3	3 1/2	4	
	Catalogue No.....	LFB66	LFB77	LFB88	LFB99	LFB100	
	Standard Pkg.....	5	5	5	5	5	
	Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.	
	List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10	
TYPE LFB CONDULET BODIES—Black Enamel Finish							
	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
	Catalogue No.....	LLB11	LLB22	LLB33	LLB44	LLB55	
	Standard Pkg.....	100	75	50	20	10	
	Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.	
	List Price, each...	\$.40	\$.45	\$.65	\$1.04	\$1.37	
	Size in inches.....	2	2 1/2	3	3 1/2	4	
	Catalogue No.....	LRB66	LRB77	LRB88	LRB99	LRB100	
	Standard Pkg.....	5	5	5	5	5	
	Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.	
	List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10	
TYPE LLB CONDULET BODIES—Black Enamel Finish							
	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
	Catalogue No.....	LRB11	LRB22	LRB33	LRB44	LRB55	
	Standard Pkg.....	100	75	50	20	10	
	Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.	
	List Price, each...	\$.40	\$.45	\$.65	\$1.04	\$1.37	
	Size in inches.....	2	2 1/2	3	3 1/2	4	
	Catalogue No.....	LRB66	LRB77	LRB88	LRB99	LRB100	
	Standard Pkg.....	5	5	5	5	5	
	Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.	
	List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10	
TYPE LRB CONDULET BODIES—Black Enamel Finish							
	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
	Catalogue No.....	LRB11	LRB22	LRB33	LRB44	LRB55	
	Standard Pkg.....	100	75	50	20	10	
	Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.	
	List Price, each...	\$.40	\$.45	\$.65	\$1.04	\$1.37	
	Size in inches.....	2	2 1/2	3	3 1/2	4	
	Catalogue No.....	LRB66	LRB77	LRB88	LRB99	LRB100	
	Standard Pkg.....	5	5	5	5	5	
	Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.	
	List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10	

For finishes and other important information, see notes on page 26.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized types LBB, LFB, LLB and LRB Condulet bodies of the same size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on pages 194 and 185. Obround gaskets are listed on page 176. Condulet reducers are listed on page 171. Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive, and on page 161.

(Cross Reference Page 25)

CONDULET BODIES WITH OBROUND OPENINGS—Continued

TYPE LBL TYPE LU TYPE U TYPE UB

Take Obround Covers and Obround Conduletto Fittings

	<div>TYPE LBL CONDULET BODIES</div> <div>Black Enamel Finish</div> <table> <tr> <td>Size in inches.....</td><td>1/2</td><td>3/4</td><td>1</td></tr> <tr> <td>Catalogue Number....</td><td>LBL111</td><td>LBL222</td><td>LBL333</td></tr> <tr> <td>Standard Package.....</td><td>50</td><td>35</td><td>25</td></tr> <tr> <td>Ship. Wt. Std. Pkg.....</td><td>60 lbs.</td><td>55 lbs.</td><td>55 lbs.</td></tr> <tr> <td>List Price, each.....</td><td>\$.65</td><td>\$.80</td><td>\$.95</td></tr> </table>	Size in inches.....	1/2	3/4	1	Catalogue Number....	LBL111	LBL222	LBL333	Standard Package.....	50	35	25	Ship. Wt. Std. Pkg.....	60 lbs.	55 lbs.	55 lbs.	List Price, each.....	\$.65	\$.80	\$.95																																								
Size in inches.....	1/2	3/4	1																																																										
Catalogue Number....	LBL111	LBL222	LBL333																																																										
Standard Package.....	50	35	25																																																										
Ship. Wt. Std. Pkg.....	60 lbs.	55 lbs.	55 lbs.																																																										
List Price, each.....	\$.65	\$.80	\$.95																																																										
	<div>TYPE LU CONDULET BODIES</div> <div>Black Enamel Finish</div> <table> <tr> <td>Size in inches.....</td><td>1/2</td><td>3/4</td><td>1</td></tr> <tr> <td>Catalogue Number....</td><td>LU111</td><td>LU222</td><td>LU333</td></tr> <tr> <td>Standard Package.....</td><td>50</td><td>35</td><td>25</td></tr> <tr> <td>Ship. Wt. Std. Pkg....</td><td>70 lbs.</td><td>65 lbs.</td><td>60 lbs.</td></tr> <tr> <td>List Price, each.....</td><td>\$.65</td><td>\$.80</td><td>\$.95</td></tr> </table>	Size in inches.....	1/2	3/4	1	Catalogue Number....	LU111	LU222	LU333	Standard Package.....	50	35	25	Ship. Wt. Std. Pkg....	70 lbs.	65 lbs.	60 lbs.	List Price, each.....	\$.65	\$.80	\$.95																																								
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	<div>TYPE U CONDULET BODIES—Black Enamel Finish</div> <table> <tr> <td>Size in inches</td><td>1/2</td><td>3/4</td><td>1</td><td>1 1/4</td><td>1 1/2</td></tr> <tr> <td>Cat. No.....</td><td>U11</td><td>U22</td><td>U33</td><td>U44</td><td>U55</td></tr> <tr> <td>Std. Pkg.....</td><td>100</td><td>50</td><td>40</td><td>20</td><td>10</td></tr> <tr> <td>Wt. Std. Pkg.</td><td>100 lbs.</td><td>80 lbs.</td><td>80 lbs.</td><td>75 lbs.</td><td>45 lbs.</td></tr> <tr> <td>List Price, ea.</td><td>\$.52</td><td>\$.57</td><td>\$.85</td><td>\$1.19</td><td>\$1.52</td></tr> <tr> <td>Size in inches</td><td>2</td><td>2 1/2</td><td>3</td><td>3 1/2</td><td>4</td></tr> <tr> <td>Cat. No.....</td><td>U66</td><td>U77</td><td>U88</td><td>U99</td><td>U1010</td></tr> <tr> <td>Std. Pkg.....</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td></tr> <tr> <td>Wt. Std. Pkg.</td><td>40 lbs.</td><td>70 lbs.</td><td>75 lbs.</td><td>90 lbs.</td><td>100 lbs.</td></tr> <tr> <td>List Price, ea.</td><td>\$2.90</td><td>\$7.10</td><td>\$8.10</td><td>\$18.60</td><td>\$20.60</td></tr> </table>	Size in inches	1/2	3/4	1	1 1/4	1 1/2	Cat. No.....	U11	U22	U33	U44	U55	Std. Pkg.....	100	50	40	20	10	Wt. Std. Pkg.	100 lbs.	80 lbs.	80 lbs.	75 lbs.	45 lbs.	List Price, ea.	\$.52	\$.57	\$.85	\$1.19	\$1.52	Size in inches	2	2 1/2	3	3 1/2	4	Cat. No.....	U66	U77	U88	U99	U1010	Std. Pkg.....	5	5	5	5	5	Wt. Std. Pkg.	40 lbs.	70 lbs.	75 lbs.	90 lbs.	100 lbs.	List Price, ea.	\$2.90	\$7.10	\$8.10	\$18.60	\$20.60
Size in inches	1/2	3/4	1	1 1/4	1 1/2																																																								
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Size in inches	1/2	3/4	1	1 1/4	1 1/2																																																								
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Std. Pkg.....	100	50	40	20	10																																																								
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Size in inches	2	2 1/2	3	3 1/2	4																																																								
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Important Information Concerning Condulet Bodies Listed on This Page

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182.

For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on page 185.

Obround gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive.

CONDULET BODIES WITH OBOUND OPENINGS—Continued

TYPE T

Takes Obound Covers and Obound Conduletto Fittings

		TYPE T CONDULET BODIES—Black Enamel Finish							
		Size in inches.....		$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$
				$\frac{1}{2}$	$\frac{3}{4}$	1	1	$\frac{1}{2}$	$\frac{1}{2}$
		Cat. No.....		T111*	T121*	T131	T212*		
		Std. Pkg.....		100	100	100	75		
		Wt. Std. Pkg.....		120 lbs.	120 lbs.	90 lbs.	75 lbs.		
		List Price, each.....		\$.48	\$.56	\$.63	\$.57		
				$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$
				1	1	1	1	1	1
		Cat. No.....		T222*	T232	T242	T252	T313	T323
		Std. Pkg.....		75	75	75	75	50	50
		Wt. Std. Pkg.....		85 lbs.	95 lbs.	100 lbs.	120 lbs.	95 lbs.	100 lbs.
		List Price, ea.		\$.57	\$.65	\$.77	\$.90	\$.80	\$.80
				$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$
				1	1	1	1	1	1
		Cat. No.....		T353*	T363*	T414	T424	T434	T444
		Std. Pkg.....		50	50	20	20	20	20
		Wt. Std. Pkg.....		125 lbs.	135 lbs.	70 lbs.	75 lbs.	80 lbs.	85 lbs.
		List Price, ea.		\$1.15	\$1.45	\$1.22	\$1.22	\$1.22	\$1.22
				$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$
				1	1	1	1	1	1
		Cat. No.....		T515	T525	T535	T545	T555	T565
		Std. Pkg.....		10	10	10	10	10	5
		Wt. Std. Pkg.....		45 lbs.	45 lbs.	50 lbs.	50 lbs.	50 lbs.	95 lbs.
		List Price, ea.		\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$2.52
				$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$
				1	1	1	1	1	1
		Cat. No.....		T636	T646	T656	T666	T757	T767
		Std. Pkg.....		5	5	5	5	5	5
		Wt. Std. Pkg.....		105 lbs.	115 lbs.	125 lbs.	135 lbs.	95 lbs.	100 lbs.
		List Price, ea.		\$2.56	\$2.55	\$2.55	\$2.55	\$7.45	\$7.45
				$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$
				1	1	1	1	1	1
		Cat. No.....		T878	T888	T979	T989	T999	T108
		Std. Pkg.....		5	5	5	5	5	5
		Wt. Std. Pkg.....		125 lbs.	135 lbs.	45 lbs.	45 lbs.	50 lbs.	50 lbs.
		List Price, ea.		\$8.15	\$8.15	\$22.60	\$22.60	\$22.60	\$24.80

Important Information Concerning Condulet Bodies Listed on This Page

The size of cover required for type T Condulet body is the same size as the conduit hubs at the ends of the cover opening.

Obound covers and Obound Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obound covers and Obound Conduletto fittings, and are so held in screw holes that they can not fall out.

For finishes, see page 26.

Black enameled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make a standard package. No other assortment is allowed. * $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch types T, TB and X Condulet bodies are regularly furnished with larger wiring chamber than other Obound Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the same size as other Obound Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying "Smaller Wiring Chamber."

Obound covers are listed on pages 30, 31 and 32. Obound Conduletto fittings are listed on page 185.

Obound gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies with Obound openings are listed on pages 21 to 29a, inclusive.

(Cross Reference Page 27)

CONDULET BODIES WITH OBOURND OPENINGS—Continued
TYPE TB TYPE TL TYPE TR
Take Obround Covers and Obround Conduletto Fittings

TYPE TB CONDULET BODIES—Black Enamel Finish						
Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	
Catalogue No.	TB111*	TB222*	TB333*	TB444	TB555	
Standard Package.	200	100	50	20	10	
Ship. Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.	
List Price, each ..	\$.48	\$.57	\$.80	\$1.22	\$1.69	
Size in inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	
Catalogue No.	TB666	TB777	TB888	TB999	TB1010	
Standard Package.	5	5	5	5	5	
Ship. Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.	
List Price, each ..	\$2.55	\$7.45	\$8.15	\$22.60	\$24.60	

TYPE TL CONDULET BODIES—Black Enamel Finish						
Size in inches	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	
	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{1}{2}$	$\frac{3}{4}$	
Catalogue No.	TL111	TL121	TL131	TL212	TL222	
Standard Package.	100	100	100	50	50	
Ship. Wt. Std. Pkg.	95 lbs.	100 lbs.	105 lbs.	115 lbs.	125 lbs.	
List Price, each ..	\$.48	\$.56	\$.63	\$.57	\$.57	
Size in inches	$\frac{3}{4}$ — $\frac{3}{4}$	1—1	1—1	1—1	$1\frac{1}{4}$ — $1\frac{1}{4}$	
	1	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	
Catalogue No.	TL232	TL313	TL323	TL333	TL444	
Standard Package.	50	40	40	40	20	
Ship. Wt. Std. Pkg.	135 lbs.	100 lbs.	100 lbs.	100 lbs.	75 lbs.	
List Price, each ..	\$.65	\$.80	\$.80	\$.80	\$1.22	

TYPE TR CONDULET BODIES—Black Enamel Finish						
Size in inches	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$	
	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{1}{2}$	$\frac{3}{4}$	
Catalogue No.	TR111	TR121	TR131	TR212	TR222	
Standard Package.	100	100	100	50	50	
Ship. Wt. Std. Pkg.	95 lbs.	100 lbs.	105 lbs.	115 lbs.	125 lbs.	
List Price, each ..	\$.48	\$.56	\$.63	\$.57	\$.57	
Size in inches	$\frac{3}{4}$ — $\frac{3}{4}$	1—1	1—1	1—1	$1\frac{1}{4}$ — $1\frac{1}{4}$	
	1	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	
Catalogue No.	TR232	TR313	TR323	TR333	TR444	
Standard Package.	50	40	40	40	20	
Ship. Wt. Std. Pkg.	135 lbs.	100 lbs.	100 lbs.	100 lbs.	75 lbs.	
List Price, each ..	\$.65	\$.80	\$.80	\$.80	\$1.22	

The size of cover required for a type TL or TR Condulet body is the same size as the conduit hubs at the ends of the cover opening.

Obround covers and Obround Condulet to fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

Assortments: Black enameled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make up a standard package. Black enameled and galvanized types TL and TR Condulet bodies with the same size cover openings may be assorted to make up a standard package. No other assortment is allowed.

* $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch types T, TB and X Condulet bodies are regularly furnished with larger wiring chamber than other Obround Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the same size as other Obround Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying "Smaller Wiring Chamber."


For finishes, see note on page 26. Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on page 185. Obround gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive.

CONDULET BODIES WITH OBOURND OPENINGS—Continued

TYPE X

Takes Obround Covers and Obround Conduletto Fittings

		TYPE X CONDULET BODIES—Black Enamel Finish							
	Size, in inches.....	$\frac{1}{2} \times \frac{1}{2}$		$\frac{1}{2} \times \frac{1}{2}$		$\frac{3}{4} \times \frac{3}{4}$		$\frac{1}{2} \times \frac{1}{2}$	
	Catalogue Number.....	X1111*		X2111		X2112*		X2222*	
	Standard Package.....	75		50		50		50	
	Shipping Weight Std. Pkg....	95 lbs.		65 lbs.		70 lbs.		85 lbs.	
	List Price, each.....	\$.60		\$.77		\$.77		\$.77	
Size in inches.....		$\frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4} \times \frac{3}{4}$	$\frac{1}{2} \times 1$	$\frac{3}{4} \times 1$	1×1	$1 \times \frac{1}{2}$	$1 \times \frac{3}{4}$	1×1
Catalogue Number.....		X3112	X3222	X3113	X3223	X3333*	X4113	X4222	X4222
Standard Package.....		35	35	35	35	35	20	20	20
Weight Std. Pkg.....		50 lbs.	45 lbs.	50 lbs.	60 lbs.	75 lbs.	55 lbs.	60 lbs.	60 lbs.
List Price, each.....		\$1.05	\$1.05	\$1.05	\$1.05	\$1.05	\$1.24	\$1.24	\$1.24
Size in inches.....		$\frac{3}{4} \times 1$	1×1	$\frac{1}{2} \times 1$	$\frac{3}{4} \times 1$	1×1	$1 \times \frac{1}{2}$	$1 \times \frac{3}{4}$	1×1
Catalogue Number.....		X4223	X4333	X4114	X4224	X4444	X5114	X5224	X5224
Standard Package.....		20	20	20	20	20	10	10	10
Weight Std. Pkg.....		65 lbs.	70 lbs.	75 lbs.	80 lbs.	85 lbs.	40 lbs.	45 lbs.	45 lbs.
List Price, each.....		\$1.24	\$1.24	\$1.24	\$1.24	\$1.24	\$1.78	\$1.78	\$1.78
Size in inches.....		$\frac{3}{4} \times 1$	1×1	$\frac{1}{2} \times 1$	$\frac{3}{4} \times 1$	1×1	$1 \times \frac{1}{2}$	$1 \times \frac{3}{4}$	1×1
Catalogue Number.....		X5225	X5333	X5334	X5335	X5555	X6115	X6225	X6225
Standard Package.....		10	10	10	10	10	5	5	5
Weight Std. Pkg.....		50 lbs.	50 lbs.	55 lbs.	55 lbs.	60 lbs.	35 lbs.	35 lbs.	35 lbs.
List Price, each.....		\$1.78	\$1.78	\$1.78	\$1.78	\$1.78	\$2.85	\$2.85	\$2.85
Size in inches.....		1×1	1×1	1×1	1×1	1×1	1×1	1×1	1×1
Cat. No.....		X6335	X6336	X6666	X7335	X7555	X7567	X7777	X8556
Std. Pkg.....		5	5	5	5	5	5	5	5
Wt. Std. Pkg.....		40 lbs.	40 lbs.	45 lbs.	70 lbs.	75 lbs.	75 lbs.	75 lbs.	80 lbs.
List Price, ea.....		\$2.85	\$2.85	\$2.85	\$8.95	\$8.95	\$8.95	\$8.95	\$9.95
Size in inches.....		1×1	1×1	1×1	1×1	1×1	1×1	1×1	1×1
Cat. No.....		X8667	X8888	X9667	X9778	X9999	X1078	X1089	X1010
Std. Pkg.....		5	5	5	5	5	5	5	5
Wt. Std. Pkg.....		85 lbs.	90 lbs.	95 lbs.	100 lbs.	105 lbs.	105 lbs.	110 lbs.	115 lbs.
List Price, ea.....		\$9.95	\$9.95	\$25.00	\$25.00	\$25.00	\$27.00	\$27.00	\$27.00

The size of cover required for type X Condulet body is the same size as the largest conduit hub. Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

For finishes, see page 26.

Black enameled and galvanized type X Condulet bodies with the same size cover openings may be assorted to make up a standard package. No other assortment is allowed.

* $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch types T, TB and X Condulet bodies are regularly furnished with larger wiring chamber than other Obround Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the same size as other Obround Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying "Smaller Wiring Chamber."

Obround covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on page 185. Obround gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive.

(Cross Reference Page 29)

CONDULET BODIES WITH OBOURND OPENINGS—Continued

TYPES DF, LFM, LFN, TM AND TMD

Condulets for Gooseneck Brackets and Similar Installations

Types DF and TM Condulet Bodies Take Obround Covers only

Types LFM, LFN and TMD Condulet Bodies Take Obround Covers and Obround Conduletto Fittings

TYPE DF CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No.	DF1	DF2	DF3
Std. Pkg.	35	35	35
Wt. Std. Pkg..	100 lbs.	120 lbs.	160 lbs.
List, each	\$1.15	\$1.30	\$1.55

Type DF Condulet with gooseneck bracket and type VA Condulet.

TYPE LFM CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No.	LFM11	LFM22	LFM33
Std. Pkg.	35	35	35
Wt. Std. Pkg..	90 lbs.	100 lbs.	110 lbs.
List, each	\$1.15	\$1.30	\$1.55

Type LFM Condulet with gooseneck bracket and type WV Condulet.

TYPE LFN CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No.	LFN11	LFN22	LFN33
Std. Pkg.	35	35	35
Wt. Std. Pkg..	90 lbs.	100 lbs.	110 lbs.
List, each	\$1.15	\$1.30	\$1.55

Type LFN Condulet with lighting fixture.

TYPE TM CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No.	TM111	TM222	TM333
Std. Pkg.	35	35	35
Wt. Std. Pkg..	100 lbs.	110 lbs.	125 lbs.
List, each	\$1.30	\$1.45	\$1.70

Type TM Condulet with gooseneck bracket and type WV Condulet.

TYPE TMD CONDULET BODIES

Black Enamel Finish

Size in ins.	1/2	3/4	1
Cat. No. ..	TMD111	TMD222	TMD333
Std. Pkg. .	35	35	35
Wt. Pkg. .	105 lbs.	115 lbs.	130 lbs.
List, each..	\$1.55	\$1.70	\$1.95

Type TMD Condulet with gooseneck bracket and type WV Condulet.

Obround Covers are listed on pages 30, 31 and 32. Obround Conduletto fittings are listed on page 185.

Obround Gaskets are listed on page 179. Condulet reducers are listed on page 171.

Condulet bodies with Obround openings are listed on pages 21 to 29a, inclusive.

(Cross Reference Page 29a)

OBROUND COVERS

For Types A, B, BE, C, CO, D, DF, E, F, FE, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TJD, TL, TM, TR, U, UB and X Condulet Bodies

Furnished with Fastening Screws



COMPOSITION COVERS WITH WIRE HOLES—See note below*

Size of Cover.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5 or 6
Std. Pkg. Assorted.	200	100	50	20	10	5	5	5	5	5	5
1-wire Standard†	Cat. No. CF11 List, ea. \$.20	CF21 \$.30	CF31 \$.50	CF41 \$1.00	CF51 \$1.10	CF61 \$1.20	CF71 \$1.60	CF81 \$1.60	CF91 \$2.50	CF1001 \$2.50	CF1401 \$4.00
1-wire Special†	Cat. No. CF118 List, ea. \$.20	CF218 \$.30	CF318 \$.50	CF418 \$1.00	CF518 \$1.10	CF618 \$1.20	CF718 \$1.60	CF818 \$1.60	CF918 \$2.50	CF10018 \$2.50	Not made
2-wire	Cat. No. CF12 List, ea. \$.20	CF22 \$.30	CF32 \$.50	CF42 \$1.00	CF52 \$1.10	CF62 \$1.20	CF72 \$1.60	CF82 \$1.60	CF92 \$2.50	CF1002 \$2.50	CF1402 \$4.00
3-wire	Cat. No. CF13 List, ea. \$.20	CF23 \$.30	CF33 \$.50	CF43 \$1.00	CF53 \$1.10	CF63 \$1.20	CF73 \$1.60	CF83 \$1.60	CF93 \$2.50	CF1003 \$2.50	CF1403 \$4.00
4-wire	Cat. No. CF1400 List, ea. \$.20	CF2400 \$.30	CF3400 \$.50	CF4400 \$1.00	CF5400 \$1.10	CF6400 \$1.20	CF7400 \$1.60	CF8400 \$1.60	CF9400 \$2.50	CF10400 \$2.50	CF14400 \$4.00
5-wire	Cat. No. Not made List, ea. \$.30	CF2500 \$.50	CF3500 \$1.00	CF4500 \$1.10	CF5500 \$1.20	CF6500 \$1.60	CF7500 \$1.60	CF8500 \$2.50	CF9500 \$2.50	CF10500 \$2.50	CF14500 \$4.00
6-wire	Cat. No. Not made List, ea. \$.30	CF2600 \$.50	CF3600 \$1.00	CF4600 \$1.10	CF5600 \$1.20	CF6600 \$1.60	CF7600 \$1.60	CF8600 \$2.50	CF9600 \$2.50	CF10600 \$2.50	CF14600 \$4.00
7-wire	Cat. No. Not made List, ea. \$.30	CF2700 \$.50	CF3700 \$1.00	CF4700 \$1.10	CF5700 \$1.20	CF6700 \$1.60	CF7700 \$1.60	CF8700 \$2.50	CF9700 \$2.50	CF10700 \$2.50	CF14700 \$4.00
8-wire	Cat. No. Not made List, ea. \$.30	CF2800 \$.50	CF3800 \$1.00	CF4800 \$1.10	CF5800 \$1.20	CF6800 \$1.60	CF7800 \$1.60	CF8800 \$2.50	CF9800 \$2.50	CF10800 \$2.50	CF14800 \$4.00
9-wire	Cat. No. Not made List, ea. \$.30	CF2900 \$.50	CF3900 \$1.00	CF4900 \$1.10	CF5900 \$1.20	CF6900 \$1.60	CF7900 \$1.60	CF8900 \$2.50	CF9900 \$2.50	CF10900 \$2.50	CF14900 \$4.00
Blank	Cat. No. CF100 List, ea. \$.20	CF200 \$.30	CF300 \$.50	CF400 \$1.00	CF500 \$1.10	CF600 \$1.20	CF700 \$1.60	CF800 \$1.60	CF900 \$2.50	CF1000 \$2.50	CF14000 \$4.00
Weight Std. Pkg....	40 lbs.	30 lbs.	20 lbs.	20 lbs.	18 lbs.	12 lbs.	18 lbs.	25 lbs.	30 lbs.	40 lbs.	50 lbs.



Illustrating
Use of
1-Wire Hole,
1/2 Male Nipple
Cover

OBROUND PORCELAIN COVERS WITH 1-WIRE HOLE AND
1/2 MALE NIPPLE

Size of Cover.....	1/2	3/4	1
For Drop Catalogue No.	191	291	391
Cord and Standard Pkg.	200	100	50
Fixture Pull Weight Std. Pkg... 55lbs.	40lbs.	30lbs.	30lbs.
Switches List Price, each ...	\$.35	\$.40	\$.50

†Standard and special 1-wire hole covers differ only in diameter of wire hole; see schedule on page 172. Standard 1-wire hole covers will always be furnished, unless order specifically calls for special 1-wire hole covers.

Obround covers are interchangeable on corresponding sizes of Condulet bodies with Obround openings. 2 1/2 and 3-inch Obround covers are interchangeable. 3 1/2 and 4-inch Obround covers are interchangeable.

Above composition Obround covers of the same size may be assorted to make up a standard package, regardless of style of cover.

Assortment specified on page 32 applies to above Obround porcelain covers 191, 291 and 391. Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

*For diameter of wire holes in covers, see page 172.

Obround gaskets are listed on page 176. Condulet bodies that take Obround covers are listed on pages 21 to 29a, inclusive.

(Cross Reference Page 30)

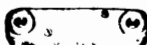
OBOUND COVERS

For Types A, B, BE, C, CO, D, DF, E, F, FE, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TJD, TL, TM, TR, U, UB AND X Condulet Bodies

Furnished with Fastening Screws



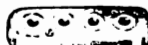
Porcelain, 1-Wire Hole



Porcelain, 2-Wire Hole



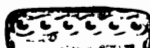
Porcelain, 3-Wire Hole



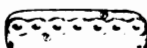
Porcelain, 4-Wire Hole



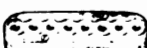
Porcelain, 5-Wire Hole



Porcelain, 6-Wire Hole



Porcelain, 7-Wire Hole



Porcelain, 8-Wire Hole



Porcelain, for Weather-Proof Socket



Blank Metal

Size of Cover	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5 or 6
Std. Pkg. Assorted	200	100	50	20	10	5	5	5	5	5	5

PORCELAIN COVERS WITH WIRE HOLES—See note below*

1-wire Standard †	Cat. No.	11	21	31	41	51	61	71	81	91	101	1401
	List, ea.	\$.10	\$.15	\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
1-wire Special †	Cat. No.	11S	21S	31S	41S	51S	61S	71S	81S	91S	101S	Not made
	List, ea.	\$.10	\$.15	\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	
2-wire	Cat. No.	12	22	32	42	52	62	72	82	92	102	1402
	List, ea.	\$.10	\$.15	\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
3-wire	Cat. No.	13	23	33	43	53	63	73	83	93	103	1403
	List, ea.	\$.10	\$.15	\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
4-wire	Cat. No.	1400	2400	3400	4400	5400	6400	7400	8400	9400	10400	14400
	List, ea.	\$.10	\$.15	\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
5-wire	Cat. No.	Not made	2500	3500	4500	5500	6500	7500	8500	9500	10500	14500
	List, ea.		\$.15	\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
6-wire	Cat. No.	Not made	2600	3600	4600	5600	6600	7600	8600	9600	10600	14600
	List, ea.		\$.15	\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
7-wire	Cat. No.	Not made	Not made	3700	4700	5700	6700	7700	8700	9700	10700	14700
	List, ea.			\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
8-wire	Cat. No.	Not made	Not made	3800	4800	5800	6800	7800	8800	9800	10800	14800
	List, ea.			\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
9-wire	Cat. No.	Not made	Not made	3900	4900	5900	6900	7900	8900	9900	10900	14900
	List, ea.			\$.25	\$.36	\$.48	\$.60	\$.80	\$.80	\$.90	\$.90	\$2.00
For W. P. Socket	Cat. No.	14	24	34	†Standard and special 1-wire hole covers differ only in diameter of wire hole; see schedule on page 172. Standard 1-wire hole covers will always be furnished, unless order specifically calls for special 1-wire hole covers.							
	List, ea.	\$.16	\$.25	\$.40								
Weight Std. Pkg. . .		50 lbs.	35 lbs.	25 lbs.	25 lbs.	20 lbs.	15 lbs.	20 lbs.	20 lbs.	30 lbs.	30 lbs.	40 lbs.

BLANK METAL COVERS—Black Enamel Finish

Sheet Steel	Cat. No.	100	200	300	400	500	600	700	800	900	1000	14000
	List, ea.	\$.08	\$.11	\$.23	\$.32	\$.45	\$.56	\$.75	\$.75	\$.80	\$.80	\$1.25
Weight Std. Pkg. . .		30 lbs.	15 lbs.	10 lbs.	10 lbs.	10 lbs.	5 lbs.	10 lbs.	10 lbs.	15 lbs.	15 lbs.	20 lbs.
Cast Iron (Flange)	Cat. No.	100f	200f	300f	400f	500f	600f	700f	800f	900f	1000f	14000f
	List, ea.	\$.16	\$.22	\$.35	\$.50	\$.70	\$.90	\$1.15	\$1.15	\$1.25	\$1.25	\$1.75
Weight Std. Pkg. . .		90 lbs.	60 lbs.	35 lbs.	25 lbs.	15 lbs.	10 lbs.	10 lbs.	15 lbs.	20 lbs.	25 lbs.	30 lbs.

*For diameter of wire holes in covers, see page 172.









For finishes, assortments, and other important information, see notes on opposite page.

Oboound gaskets are listed on page 176.

Condulet bodies that take Oboound covers are listed on pages 21 to 29a, inclusive.

(Cross Reference Page 31)

OBROUND CQVERS—Continued

Size of Cover.....		1/2	3/4	1	1 1/4	1 1/2
Std. Pkg. Assorted.....		200	100	50	20	10
METAL COVERS WITH NIPPLES—Black Enamel Finish						
 Metal, 1/8 Male Nipple	1/8 Male	Catalogue No. 15 List, each.....	25 \$.25	35 \$.35	45 \$.46	55 \$.58
	1/8 Female	Catalogue No. 16 List, each.....	26 \$.25	36 \$.35	46 \$.46	56 \$.58
 Metal, 1/4 Female Nipple	1/4 Male	Catalogue No. 113 List, each.....	213 \$.28	313 \$.38	413 \$.49	513 \$.61
	1/4 Female	Catalogue No. 114 List, each.....	214 \$.28	314 \$.38	414 \$.49	514 \$.61
 Metal, 3/8 Male Nipple	3/8 Male	Catalogue No. 17 List, each.....	27 \$.30	37 \$.40	47 \$.51	57 \$.63
	3/8 Female	Catalogue No. 18 List, each.....	28 \$.30	38 \$.40	48 \$.51	58 \$.63
 Metal, 1/2 Female Nipple	1/2 Male	Catalogue No. Not made List, each.....	215 \$.35	315 \$.45	415 \$.56	515 \$.68
	1/2 Female	Catalogue No. Not made List, each.....	216 \$.35	316 \$.45	416 \$.56	516 \$.68
Ship. Weight Std. Pkg.		40 lbs.	25 lbs.	20 lbs.	10 lbs.	10 lbs.
PORCELAIN COVERS WITH NIPPLES						
 Porcelain, 1/8 Male Nipple	1/8 Male	Catalogue No. 19 List, each.....	29 \$.30	39 \$.43	49 \$.58	59 \$.72
	1/8 Female	Catalogue No. 110 List, each.....	210 \$.30	310 \$.43	410 \$.58	510 \$.72
 Porcelain, 1/4 Female Nipple	1/4 Male	Catalogue No. 119 List, each.....	219 \$.35	319 \$.48	419 \$.63	519 \$.77
	1/4 Female	Catalogue No. 120 List, each.....	220 \$.35	320 \$.48	420 \$.63	520 \$.77
 Porcelain, 3/8 Male Nipple	3/8 Male	Catalogue No. 111 List, each.....	211 \$.41	311 \$.53	411 \$.68	511 \$.82
	3/8 Female	Catalogue No. 112 List, each.....	212 \$.41	312 \$.53	412 \$.68	512 \$.82
 Porcelain, 1/2 Female Nipple	1/2 Male	Catalogue No. 121 List, each.....	221 \$.46	321 \$.58	421 \$.73	521 \$.87
	1/2 Female	Catalogue No. 122 List, each.....	222 \$.46	322 \$.58	422 \$.73	522 \$.87
Ship. Weight Std. Pkg.		60 lbs.	40 lbs.	30 lbs.	30 lbs.	25 lbs.

Obround covers are interchangeable on corresponding sizes of Condulet bodies with Obround openings. 2 1/2 and 3-inch Obround covers are interchangeable. 3 1/2 and 4-inch Obround covers are interchangeable.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes see page 182. For brass and bronze covers, plain and with special finishes, see page 182. For aluminum covers, plain and with black enamel finish, see page 182.

Black enameled, galvanized and porcelain Obround covers of the same size may be assorted to make up a standard package, regardless of style of cover. No other assortment is allowed. Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

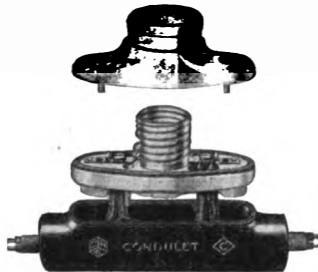
Obround gaskets are listed on page 176. Condulet bodies that take Obround covers are listed on pages 21 to 29a, inclusive.

(Cross Reference Page 32)

CROUSE-HINDS FITTINGS FOR OBROUND CONDULET BODIES

For Types A, B, C, CO, D, E, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TL, TR, U, UB, and X Condulet Bodies

Obround Conduleto Fittings are listed on page 185, and are as follows: Receptacle with Shade Holder Groove, Receptacle without Shade Holder Groove, Cord Rosette, Fixture Rosette with 1-8 Male Nipple, Fixture Rosette with 1-8 Female Nipple, Hubbell Attachment Plug Receptacle and Hubbell Polarity Plug Receptacle



Type C Condulet Body
And Obround Conduleto Receptacle with Shade Holder Groove
(Exploded View)



Type C Condulet Body
And Obround Conduleto Hubbell Attachment Plug Receptacle
(Exploded View)

CONDULET BODY EXTENSIONS

For Condulet Bodies with Obround Openings, Except Types BE, F, FE, DF and TM

Take Obround Covers and Obround Conduleto Fittings

Furnished with Mat (White Enameled) and Necessary Fastening Screws



Condulet Body Extension Mat

Condulet body extensions deepen the wiring chamber of Obround Condulet bodies and bring the cover opening flush with the plaster line.

An Obround Condulet cover or an Obround Conduleto fitting is fastened direct to the Condulet body extension.

The mat serves as a finish and is held in position by the fastening screws of the Condulet cover or Conduleto fitting.



Illustration Showing Type C Condulet Body with Condulet Body Extension Installed Back of Plaster Line and Mat and Obround Porcelain 4-Wire Hole Cover Installed on Surface of Wall

Size in inches	1/2			3/4			1		
Depth of Extension	7/8	1 1/2	2	7/8	1 1/2	2	7/8	1 1/2	2
Catalogue No.	Ex12	Ex15	Ex16	Ex22	Ex25	Ex26	Ex32	Ex35	Ex36
Standard Pkg.	50	50	50	35	35	35	25	25	25
Wt. Std. Pkg.	40 lbs.	45 lbs.	60 lbs.	45 lbs.	50 lbs.	65 lbs.	35 lbs.	40 lbs.	50 lbs.
List Price, each ..	\$.50	\$.55	\$.60	\$.60	\$.65	\$.70	\$.70	\$.75	\$.80

Size in inches	1 1/4			1 1/2			2 2 1/2 or 3 3 1/2 or 4		
Depth of Extension	7/8	1 1/2	2	7/8	1 1/2	2	2	2 1/2	3
Catalogue No.	Ex42	Ex45	Ex46	Ex52	Ex55	Ex56	Ex66	Ex77	Ex98
Standard Pkg.	20	20	20	10	10	10	5	5	5
Wt. Std. Pkg.	35 lbs.	45 lbs.	55 lbs.	25 lbs.	30 lbs.	35 lbs.	25 lbs.	40 lbs.	55 lbs.
List Price, each ..	\$.85	\$.95	\$1.05	\$1.00	\$1.10	\$1.20	\$1.75	\$2.70	\$3.70

Finishes: Black enamel is the standard finish for Condulet body extensions, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet body extensions will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet body extensions, plain and with special finishes, see page 182. For aluminum Condulet body extensions, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet body extensions of the same size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages 30, 31 and 32. Obround Conduleto fittings are listed on page 185. Obround gaskets are listed on page 176. Condulet bodies that take above Condulet body extensions are listed on pages 21 to 29a, inclusive.

(Cross Reference Page 32a)

OTHER MANUFACTURERS' FITTINGS FOR OBROUND
CONDULET BODIES

The Arrow Electric Company, Bryant Electric Company, General Electric Company, Hart & Hegeman Manufacturing Company, Pass & Seymour, and the Perkins Electric Switch Manufacturing Company each make a special base for mounting fittings of their own manufacture on any 1/2-inch Obround Condulet Body.

Below are shown a few of these fittings and an exploded view illustrating the way they are mounted on Condulet bodies.



We also furnish fittings of manufacture other than Crouse-Hinds. One-half-inch Obround Condulet bodies take the following:

Snap Switches: ARROW E. BRYANT—New Wrinkle, G. E. CO. HART & HEGEMAN. PERKINS—New Wrinkle.

Switch Rosettes: ARROW E—Arrow Forty and Arrow Twenty. BRYANT—New Wrinkle. PASS & SEYMOUR—Fluto.

Sockets and Receptacles: ARROW E—Arrow Forty and Arrow Twenty. BRYANT—New Wrinkle. G. E. CO.—Fluted Catch. PASS & SEYMOUR—Fluto. PERKINS—New Wrinkle.



CONDULETS

TYPE CH TYPE CHC

FOR CUTLER-HAMMER PUSH BUTTON SWITCHES—7102 AND 7103

Furnished with Fastening Screws for Switches




Type CH with Switch




Type CHC with Switch

TYPE CH CONDULETS—Black Enamel Finish

	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CH1	CH2	CH3
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.	40 lbs.	35 lbs.	30 lbs.
	List Price, each	\$.35	\$.40	\$.45

TYPE CHC CONDULETS—Black Enamel Finish

	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CHC1	CHC2	CHC3
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.	50 lbs.	45 lbs.	40 lbs.
	List Price, each	\$.45	\$.50	\$.55

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182.

For cast brass and cast bronze Condulets, plain and with special finishes, see page 182. Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

We will furnish Cutler-Hammer switches. Condulet reducers are listed on page 171.

(Cross Reference Page 33)


CONDULET BODIES—FD SERIES, DEEP TYPE

TYPES FD, FDA, FDC, FDL AND FDR


**For Single Push Button, Double Push Button or Flush Rotary Switches (Deep or Shallow);
Flush Plug Receptacles (Deep or Shallow), and Porcelain or Metal Covers**

**Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 inches; Width, 2 3-4 inches;
Depth, 2 11-16 inches. Furnished with Fastening Screws for Fittings**


TYPE FD CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number.....	FD1	FD2	FD3
	Standard Package.....	75	50	25
	Shipping Weight Std. Pkg.	200 lbs.	140 lbs.	80 lbs.
	List Price, each	\$.75	\$.85	\$1.00


TYPE FDA CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number.....	FDA1	FDA2	FDA3
	Standard Package.....	50	30	20
	Shipping Weight Std. Pkg.	160 lbs.	90 lbs.	80 lbs.
	List Price, each	\$.75	\$.85	\$1.00


TYPE FDC CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number.....	FDC11	FDC22	FDC33
	Standard Package.....	75	50	25
	Shipping Weight Std. Pkg.	210 lbs.	170 lbs.	110 lbs.
	List Price, each	\$.85	\$1.05	\$1.25

TYPE FDL CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number.....	FDL11	FDL22	FDL33
	Standard Package.....	50	30	20
	Shipping Weight Std. Pkg.	150 lbs.	95 lbs.	75 lbs.
	List Price, each	\$.85	\$1.05	\$1.25

TYPE FDR CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number.....	FDR11	FDR22	FDR33
	Standard Package.....	50	30	20
	Shipping Weight Std. Pkg.	150 lbs.	95 lbs.	75 lbs.
	List Price, each	\$.85	\$1.05	\$1.25

Covers for above Condulet bodies are listed on pages 46 and 47. We will furnish switches or receptacles for above Condulet bodies, and enumerate them on page 37. For finishes and assortments, see note on page 37. Gasket is listed on page 176. Condulet reducers are listed on page 171.
Listings of the FD series of Condulet bodies are continued on pages 36 and 37.

(Cross Reference Page 35)


CONDULET BODIES—FD SERIES, DEEP TYPE—Continued

TYPES FDLA, FDD, FDCC, FDCA AND FDCT


For Single Push Button, Double Push Button or Flush Rotary Switches (Deep or Shallow);
Flush Plug Receptacles (Deep or Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4-9-32 Inches; Width, 2-3-4 Inches;
Depth, 2-11-16 Inches. Furnished with Fastening Screws for Fittings


TYPE FDLA CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FDLA11	FDLA22	FDLA33
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	150 lbs.	95 lbs.	75 lbs.
	List Price, each	\$.85	\$1.05	\$1.25


TYPE FDD CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FDD11	FDD22	FDD33
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	150 lbs.	95 lbs.	75 lbs.
	List Price, each	\$.85	\$1.05	\$1.25


TYPE FDCC CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$ in. main $\frac{1}{2}$ in. branches	$\frac{3}{4}$ in. main $\frac{1}{2}$ in. branches	1 in. main $\frac{1}{2}$ in. branches
	Catalogue Number	FDCC111	FDCC211	FDCC311
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	165 lbs.	105 lbs.	85 lbs.
	List Price, each	\$1.10	\$1.30	\$1.55

TYPE FDCA CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FDCA111	FDCA222	FDCA333
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	160 lbs.	105 lbs.	85 lbs.
	List Price, each	\$1.10	\$1.35	\$1.55

TYPE FDCT CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FDCT111	FDCT222	FDCT333
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	160 lbs.	105 lbs.	85 lbs.
	List Price, each	\$1.10	\$1.35	\$1.55

Covers for above Condulet bodies are listed on pages 46 and 47. We will furnish switches or receptacles for above Condulet bodies, and enumerate them on page 37. For finishes and assortments, see note on page 37. Gasket is listed on page 176. Condulet reducers are listed on page 171.
Listings of the FD series of Condulet bodies are continued on page 37.

(Cross Reference Page 36)


CONDULET BODIES—FD SERIES, DEEP TYPE—Continued

TYPES FDT AND FDX


**For Single Push Button, Double Push Button or Flush Rotary Switches (Deep or Shallow);
Flush Plug Receptacles (Deep or Shallow), and Porcelain or Metal Covers**

**Over-all Dimensions of Body, Exclusive of Hubs: Length, 4-9-32 Inches; Width, 2-3-4 Inches;
Depth, 2-11-16 Inches. Furnished with Fastening Screws for Fittings**

TYPE FDT CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number.....	FDT111	FDT222	FDT333
	Standard Package.....	50	30	20
	Shipping Weight Std. Pkg.	160 lbs.	105 lbs.	85 lbs.
	List Price, each.....	\$1.10	\$1.35	\$1.55

TYPE FDX CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number.....	FDX1111	FDX2222	FDX3333
	Standard Package.....	50	30	20
	Shipping Weight Std. Pkg.	180 lbs.	115 lbs.	90 lbs.
	List Price, each.....	\$1.30	\$1.60	\$1.80

Important Information Concerning Condulet Bodies Listed on Pages 35, 36 and 37

We will furnish fittings for the FD series of Condulet bodies and switches and receptacles suitable for them are as follows:

Single Push Button Switches: PERKINS—2457, 2458, 2459, 2460, 2461, 2462, 2491, 2492, 2493, 2494.

Double Push Button Switches: ARROW E—6500, 6501, 6502, 6503. DIAMOND H—050, 060, 070, 080. G. E. CO.—68247, 68248, 68249, 68250. HART & HEGEMAN—701, 702, 703, 704, 2081, 2082, 2083, 2084. CUTLER—“S.F.” MACHEN & MAYER—2000, 2001, 2002, 2003. KNOWLES—2971, 2972, 2973, 2974. MET. SWITCHBOARD CO.—1111, 1112, 1113, 1114. PERKINS—2201, 2202, 2203, 2204. CUTLER-HAMMER CO.—7201, 7202, 7203.

Double Push Button Lock Switches: ARROW E—6504, 6505, 6506, 6507. DIAMOND H—055, 065, 075, 085. G. E. CO.—GE688, GE689, GE690, GE691. HART & HEGEMAN—701, 702, 703, 704, 2081, 2082, 2083, 2084. MACHEN & MAYER—2004, 2005, 2006, 2007, 2008. KNOWLES—12971, 12972, 12973, 12974. MET. SWITCHBOARD CO.—1131, 1132, 1133, 1134. PERKINS—2295, 2296, 2297, 2298.

Double Push Button, Removable Mechanism, Switches: G. E. CO.—GE731, GE732, GE733. PERKINS—2519, 2520, 2521, 2522, 2523, 2524.

Double Push Button, Removable Mechanism, Lock Switches: G. E. CO.—GE684, GE685, GE686. PERKINS—2519, 2520, 2521, 2525, 2526, 2527.

Double Push Button, Momentary Contact Switch: HART & HEGEMAN—2061.

Flush Rotary Switches: ARROW E—6250, 6251, 6252, 6253, 6254, 6255, 6256, 6257. DIAMOND H—0105, 0110, 0120, 0130, 0140, 0150, 0160. G. E. CO.—60468, 60469, 60470, 60473, 60475, 60476, 60477, 60478, 60479, 60480. HART & HEGEMAN—600, 601, 602, 603, 604, 2263. PERKINS—2205, 2206, 2207, 2208, 2209, 2210, 2224, 2325.

Flush Plug Receptacles: ARROW E—1064. MACHEN & MAYER—2042, 4355. MET. SWITCHBOARD CO.—1043. PERKINS—281, 1363, 1708. HUBBELL—5547, 5552, 5579. TRUMBULL—1005, 1008. G. E. CO.—36817.

Removable Flush Wall Receptacles: G. E. CO.—GE692. PERKINS—2520, 2528.

Double Door Flush Receptacle: G. E. CO.—GE287.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Covers for above Condulet bodies are listed on pages 46 and 47. Gasket is listed on page 176. Condulet reducers are listed on page 171.


CONDULET BODIES—FS SERIES, SHALLOW TYPE

TYPES FS, FSA, FSC, FSL AND FSR


For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow);
Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 Inches; Width, 2 3-4 Inches;
Depth, 1 7-8 Inches. Furnished with Fastening Screws for Fittings


TYPE FS CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number	FS1	FS2	FS3
	Standard Package	75	50	25
	Shipping Weight Std. Pkg..	165 lbs.	120 lbs.	65 lbs.
	List Price, each	\$.65	\$.75	\$.85


TYPE FSA CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number	FSA1	FSA2	FSA3
	Standard Package	50	30	20
	Shipping Weight Std. Pkg..	140 lbs.	75 lbs.	60 lbs.
	List Price, each	\$.65	\$.75	\$.85


TYPE FSC CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number	FSC11	FSC22	FSC33
	Standard Package	75	50	25
	Shipping Weight Std. Pkg..	175 lbs.	150 lbs.	90 lbs.
	List Price, each	\$.75	\$.90	\$1.10

TYPE FSL CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number	FSL11	FSL22	FSL33
	Standard Package	50	30	20
	Shipping Weight Std. Pkg..	130 lbs.	80 lbs.	60 lbs.
	List Price, each	\$.75	\$.90	\$1.10

TYPE FSR CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number	FSR11	FSR22	FSR33
	Standard Package	50	30	20
	Shipping Weight Std. Pkg..	130 lbs.	80 lbs.	60 lbs.
	List Price, each	\$.75	\$.90	\$1.10

Covers for above Condulet bodies are listed on pages 46 and 47. We will furnish switches or receptacles for above Condulet bodies, and mount them on page 41. For finishes and assortments, see note on page 41. Gasket is listed on page 170. Condulet reducers are listed on page 171.
Listings of the FS series of Condulet bodies are continued on pages 40 and 41.

(Cross Reference Page 30)


CONDULET BODIES—FS SERIES, SHALLOW TYPE—Continued

TYPES FSLA, FSS, FSCC, FSCA AND FSCT


For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4-9-32 inches; Width, 2 3-4 inches; Depth, 1 7-8 inches. Furnished with Fastening Screws for Fittings


TYPE FSLA CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FSLA11	FSLA22	FSLA33
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	130 lbs.	80 lbs.	60 lbs.
	List Price, each	\$.75	\$.90	\$1.10


TYPE FSS CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FSS11	FSS22	FSS33
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	130 lbs.	80 lbs.	60 lbs.
	List Price, each	\$.75	\$.90	\$1.10


TYPE FSCC CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$ in. main $\frac{1}{2}$ inch branches	$\frac{3}{4}$ in. main $\frac{1}{2}$ inch branches	1 in. main $\frac{1}{2}$ inch branches
	Catalogue Number	FSCC111	FSCC211	FSCC311
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	140 lbs.	90 lbs.	70 lbs.
	List Price, each	\$1.00	\$1.20	1.45

TYPE FSCA CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FSCA111	FSCA222	FSCA333
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	140 lbs.	90 lbs.	70 lbs.
	List Price, each	\$1.00	\$1.25	\$1.45

TYPE FSCT CONDULET BODIES—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number	FSCT111	FSCT222	FSCT333
	Standard Package	50	30	20
	Ship. Weight Std. Pkg.	140 lbs.	90 lbs.	70 lbs.
	List Price, each	\$1.00	\$1.25	\$1.45

Covers for above Condulet bodies are listed on pages 46 and 47. We will furnish switches or receptacles for above Condulets bodies, and enumerate them on page 41. For finishes and assortments, see note on opposite page. Gasket is listed on page 176. Condulet reducers are listed on page 174.

Listings of the FS series of Condulet bodies are continued on page 41.

(Cross Reference Page 40)


CONDULET BODIES—FS SERIES, SHALLOW TYPE—Continued

TYPES FST AND FSX


For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow);
Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 inches; Width, 2 3-4 inches;
Depth, 1 7-8 inches. Furnished with Fastening Screws for Fittings

TYPE FST CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number	FST111	FST222	FST333
	Standard Package	50	30	20
	Shipping Weight Std. Pkg..	140 lbs.	90 lbs.	70 lbs.
	List Price, each	\$1.00	\$1.25	\$1.45

TYPE FSX CONDULET BODIES—Black Enamel Finish

	Size in inches	1/2	3/4	1
	Catalogue Number	FSX1111	FSX2222	FSX3333
	Standard Package	50	30	20
	Shipping Weight Std. Pkg..	160 lbs.	100 lbs.	75 lbs.
	List Price, each	\$1.20	\$1.50	\$1.70

Important Information Concerning Condulet Bodies Listed on Pages 39, 40 and 41

We will furnish fittings for the FS series of Condulet bodies, and switches and receptacles suitable for them are as follows:

Single Push Button Switches: PERKINS—2457, 2458, 2459, 2460, 2461, 2462, 2491, 2492, 2493, 2494.

Double Push Button Switches: ARROW E—6500, 6501, 6502, 6503. DIAMOND H—050, 060, 070, 080. G. E. CO.—68247, 68248, 68249, 68250. HART & HEGEMAN—2081, 2082, 2083, 2084. CUTLER—"S-F." MACHEN & MAYER—2000, 2001, 2002, 2003. KNOWLES—2971, 2972, 2973, 2974. PERKINS—2201, 2202, 2203, 2204. CUTLER-HAMMER CO.—7201, 7202, 7203.

Double Push Button Lock Switches: ARROW E—6504, 6505, 6506, 6507. DIAMOND H—055, 065, 075, 085. G. E. CO.—GE688, GE689, GE690, GE691. HART & HEGEMAN—2081, 2082, 2083, 2084. MACHEN & MAYER—2004, 2005, 2006, 2007, 2008. KNOWLES—12971, 12972, 12973, 12974. PERKINS—2293, 2296, 2297, 2298.

Double Push Button, Removable Mechanism, Switches: G. E. CO.—GE731, GE732, GE733. PERKINS—2519, 2520, 2521, 2522, 2523, 2524.

Double Push Button, Removable Mechanism, Lock Switches: G. E. CO.—GE684, GE685, GE686. PERKINS—2519, 2520, 2521, 2525, 2526, 2527.

Flush Rotary Switches: ARROW E—6250, 6251, 6252, 6253, 6254, 6255, 6256, 6257. DIAMOND H—0105, 0110, 0120, 0130, 0140, 0150, 0160. G. E. CO.—60468, 60469, 60470, 60473, 60475, 60476, 60477, 60478, 60479, 60480. HART & HEGEMAN—600, 601, 602, 603, 604, 2263. PERKINS—2205, 2206, 2207, 2208, 2209, 2210, 2224, 2233.

Flush Plug Receptacles: ARROW E—1064. MACHEN & MAYER—2042, 4355. PERKINS—281, 1363, 1708. HUBBELL—5547, 5552, 5579. TRUMBULL—1005, 1008. G. E. CO.—36817.

Removable Flush Wall Receptacles: G. E. CO.—GE692. PERKINS—2520, 2528.

Double Door Flush Receptacle: G. E. CO.—GE287.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Covers for above Condulet bodies are listed on pages 46 and 47. Gasket is listed on page 176. Condulet reducers are listed on page 171.

(Cross Reference Page 41)

CONDULET BODIES—TWO-GANG FS SERIES—SHALLOW TYPE

TWO-GANG TYPES FS, FSC AND FSD

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow), and Blank Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4-5-8 Inches; Width, 4-9-32 Inches; Depth, 17-8 Inches. Furnished with Fastening Screws for Fittings



Two-Gang Type FS with Cover for Single Push Button Switches



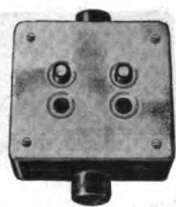
Two-Gang Type FS with Cover for Flush Rotary Switches (Broken-away View, Showing Switches Mounted)



Two-Gang Type FS with Cover for Flush Rotary Switches



Two-Gang Type FSD with Blank Metal Cover



Two-Gang Type FSD with Cover for Double Push Button Switches



TWO-GANG TYPE FS CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$ in. main	$\frac{3}{4}$ in. main	1 in. main
Catalogue Number	FS12	FS22	FS32
Standard Package	50	25	15
Shipping Weight Std. Pkg..	140 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.20	\$1.30	\$1.40



TWO-GANG TYPE FSC CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$ in. mains	$\frac{3}{4}$ in. mains	1 in. mains
Catalogue Number	FSC112	FSC222	FSC332
Standard Package	50	25	15
Shipping Weight Std. Pkg..	150 lbs.	100 lbs.	60 lbs.
List Price, each	\$1.30	\$1.40	\$1.55



TWO-GANG TYPE FSD CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$ in. main $\frac{1}{2}$ in. branches	$\frac{3}{4}$ in. main $\frac{1}{2}$ in. branches	1 in. main $\frac{1}{2}$ in. branches
Catalogue Number	FSD1112	FSD2112	FSD3112
Standard Package	50	25	15
Shipping Weight Std. Pkg..	160 lbs.	110 lbs.	70 lbs.
List Price, each	\$1.45	\$1.55	\$1.65

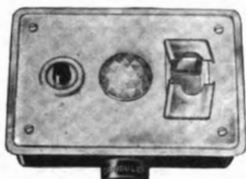
Covers for above Condulet bodies are listed on page 48. We will furnish switches for above Condulet bodies, and enumerate them on page 41. For finishes and assortments, see note on page 45. Condulet reducers are listed on page 171.

CONDULET BODIES—THREE-GANG FS SERIES—SHALLOW TYPE

THREE-GANG TYPES FS, FSC AND FSD

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Bryant Heater Control Combination 398 (less Plate), and Blank Metal Covers

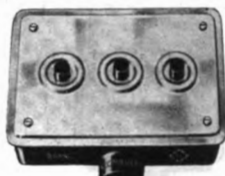
Over-all Dimensions of Body, Exclusive of Hubs: Length, 6 1-2 inches; Width, 4 9-32 inches; Depth, 1 7-8 inches. Furnished with Fastening Screws for Fittings



Three-Gang Type FS with Crouse-Hinds Cover for Bryant Heater Control Combination 398



Three-Gang Type FS with Cover for Single Button Switches (Broken-away View, Showing Switches Mounted)



Three-Gang Type FS with Cover for Single Push Button Switches



Three-Gang Type FSD with Cover for Flush Rotary Switches



Three-Gang Type FSD with Cover for Double Push Button Switches

THREE-GANG TYPE FS CONDULET BODIES

Black Enamel Finish

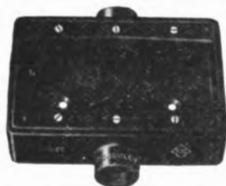
Size in inches	$\frac{1}{2}$ in. main	$\frac{3}{4}$ in. main	1 in. main
Catalogue Number....		FS23	FS33
Standard Package....	Not Practical	20	10
Ship. Wt. Std. Pkg....		110 lbs.	60 lbs.
List Price, each.....		\$1.80	\$1.95



THREE-GANG TYPE FSC CONDULET BODIES

Black Enamel Finish

Size in inches	$\frac{1}{2}$ in. mains	$\frac{3}{4}$ in. mains	1 in. mains
Catalogue Number....		FSC223	FSC333
Standard Package....	Not Practical	20	10
Ship. Wt. Std. Pkg....		115 lbs.	65 lbs.
List Price, each.....		\$1.90	\$2.05



THREE-GANG TYPE FSD CONDULET BODIES

Black Enamel Finish

Size in inches	$\frac{1}{2}$ in. main $\frac{1}{2}$ in. branches	$\frac{3}{4}$ in. main $\frac{1}{2}$ in. branches	1 in. main $\frac{1}{2}$ in. branches
Catalogue Number....	FSD11113	FSD21113	FSD31113
Standard Package....	35	20	10
Ship. Wt. Std. Pkg....	190 lbs.	120 lbs.	65 lbs.
List Price, each.....	\$1.95	\$2.15	\$2.30



Covers for above Condulet bodies are listed on page 48. We will furnish switches or Bryant heater control combination for above Condulet bodies, and enumerate switches on page 41. For finishes and assortments, see note on page 45. Condulet reducers are listed on page 171.

(Cross Reference Page 41)

CONDULET BODIES—FOUR-GANG FS SERIES—SHALLOW TYPE

FOUR-GANG TYPES FS, FSC AND FSD

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow), or Combinations for Heater Unit Service, Consisting of Clamp Receptacles and Switches and Plug Receptacles—Shallow

Over-all Dimensions of Body, Exclusive of Hubs: Length, 8-3/8 Inches; Width, 4-9/32 Inches; Depth, 1-7/8 Inches. Furnished with Fastening Screws for Fittings



Four-Gang Type FS with Cover for Double Push Button Switches
(Broken-away View, Showing Switches Mounted)



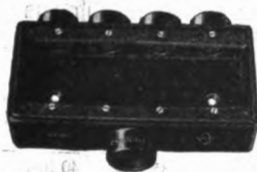
FOUR-GANG TYPE FS CONDULET BODIES
Black Enamel Finish

Size in inches....	1/2 in. main	3/4 in. main	1 in. main
Catalogue Number		FS24	FS34
Standard Package.	Not	20	10
Weight Std. Pkg..	Practical	125 lbs.	70 lbs.
List Price, each...		\$2.20	\$2.40



FOUR-GANG TYPE FSC CONDULET BODIES
Black Enamel Finish

Size in inches....	1/2 in. mains	3/4 in. mains	1 in. mains
Catalogue Number		FSC224	FSC334
Standard Package.	Not	20	10
Weight Std. Pkg..	Practical	130 lbs.	75 lbs.
List Price, each...		\$2.35	\$2.50



FOUR-GANG TYPE FSD CONDULET BODIES
Black Enamel Finish

Size in inches....	1/2 in. main 1/2 in. branches	3/4 in. main 1/2 in. branches	1 in. main 1/2 in. branches
Catalogue Number	FSD111114	FSD211114	FSD311114
Standard Package.	25	20	10
Weight Std. Pkg..	180 lbs.	150 lbs.	85 lbs.
List Price, each...	\$2.60	\$2.85	\$3.10

Important Information Concerning Condulet Bodies Listed on Pages 42, 43 and 45

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182.

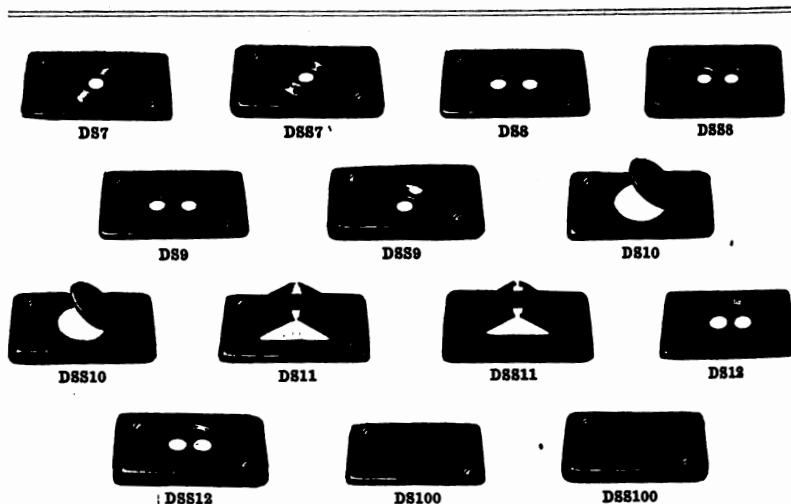
For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Covers for above Condulet bodies are listed on page 49. Crouse-Hinds clamp receptacle C337, listed on page 190, is suitable for use with heater combinations in these Condulets. Other suitable clamp receptacles are enumerated on page 95. Plug receptacles and switches for above Condulet bodies are enumerated on page 41. Condulet reducers are listed on page 171.

COVERS

For FD and FS Series of Condulet Bodies

Furnished with Fastening Screws



Style of Cover	Surface Type	Flush Type	Style of Cover	Surface Type	Flush Type
Standard Package.....	75	75	Standard Package.....	75	75

COVERS FOR SWITCHES AND PLUG RECEPTACLES, AND BLANK METAL COVERS

Black Enamel Finish

For Single Push Button Switch	Cat. No.. List, ea...	D87 \$.10	D8S7 \$.10	For Rectangular Plug Receptacle	Cat. No.. List, ea...	DS11 \$.80	DSS11 \$.80
For Double Push Button Switch	Cat. No.. List, ea...	D88 \$.10	DSS8 \$.10	For Hubbell Polarity Plug Receptacle 5552	Cat. No.. List, ea...	DS12 \$.20	DSS12 \$.20
For Flush Rotary Switch	Cat. No.. List, ea...	D89 \$.10	DSS9 \$.10	Blank Metal	Cat. No.. List, ea...	DS100 \$.10	DSS100 \$.10
For Round Plug Receptacle	Cat. No.. List, ea...	DS10 \$.60	DSS10 \$.60	Cast Iron	Cat. No.. List, ea...	DS100g \$.25	DSS100g \$.25
Shipping Weight Std. Pkg.	30 lbs.	35 lbs.		Shipping Weight Std. Pkg.	35 lbs.	40 lbs.	

Important Information Concerning Covers Listed on This and the Opposite Page

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at the same price as black enamel finish. For special plated finishes, see page 182.

For brass and bronze covers, plain and with special finishes, see page 182.

White enamel finish will be furnished on metal covers, if specifically ordered, at 50% increase over list price of black enamel finish.

All black enameled, galvanized and porcelain covers, listed on this and the opposite page, may be assorted to make up a standard package.

Condulet bodies that take above covers are listed on pages 35, 36, 37, 39, 40, 41 and 55.

Listings of covers are continued on page 47.

(Cross Reference Page 46)

COVERS—Continued

For FD and FS Series of Condulet Bodies

Furnished with Fastening Screws



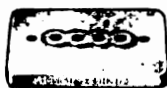
D81



D82



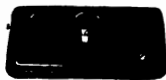
D83



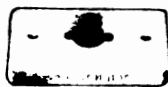
D8400



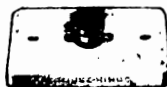
D817



D8818



D8111



D8112

PORCELAIN COVERS WITH WIRE HOLES

Style of Cover		Surface* Type	Flush* Type	Style of Cover		Surface* Type	Flush* Type
Standard Pkg.....		75	75	Standard Pkg.....		75	75
1-wire	Cat. No..	DS1		4-wire	Cat. No..	DS400	
	List, ea..	\$.20			List, ea..	\$.20	
2-wire	Cat. No..	DS2		5-wire	Cat. No..	DS600	
	List, ea..	\$.20			List, ea..	\$.20	
3-wire	Cat. No..	DS3		Shipping Weight Std. Pkg.			
	List, ea..	\$.20					
Shipping Weight Std. Pkg.		70 lbs.		Shipping Weight Std. Pkg.		70 lbs.	

METAL COVERS WITH NIPPLES—Black Enamel Finish

1/8 Male	Cat. No..	DS15	DSS15	3/8 Male	Cat. No..	DS17	DSS17
	List, ea..	\$.35	\$.35		List, ea..	\$.40	\$.40
1/8 Female	Cat. No..	DS16	DSS16	3/8 Female	Cat. No..	DS18	DSS18
	List, ea..	\$.35	\$.35		List, ea..	\$.40	\$.40
1/4 Male	Cat. No..	DS113	DSS113	1/2 Male	Cat. No..	DS115	DSS115
	List, ea..	\$.38	\$.38		List, ea..	\$.45	\$.45
1/4 Female	Cat. No..	DS114	DSS114	1/2 Female	Cat. No..	DS116	DSS116
	List, ea..	\$.38	\$.38		List, ea..	\$.45	\$.45
Shipping Weight Std. Pkg.		30 lbs.	35 lbs.	Shipping Weight Std. Pkg.		30 lbs.	35 lbs.

PORCELAIN COVERS WITH NIPPLES

1/8 Male	Cat. No..	DS19	3/8 Male	Cat. No..	DS111
	List, ea..	\$.40		List, ea..	\$.50
1/8 Female	Cat. No..	DS110	3/8 Female	Cat. No..	DS112
	List, ea..	\$.40		List, ea..	\$.50
1/4 Male	Cat. No..	DS119	1/2 Male	Cat. No..	DS121
	List, ea..	\$.45		List, ea..	\$.55
1/4 Female	Cat. No..	DS120	1/2 Female	Cat. No..	DS122
	List, ea..	\$.45		List, ea..	\$.55
Shipping Weight Std. Pkg.		80 lbs.	Shipping Weight Std. Pkg.		80 lbs.

*Porcelain covers are suitable for both surface and flush mounting.

Condulet bodies that take above covers are listed on pages 35, 36, 37, 39, 40 and 41.

For other important information concerning covers listed on this page, see note on page 46.

(Cross Reference Page 47)

GANG COVERS

For Two and Three-Gang Types FS, FSC and FSD Condulet Bodies
Furnished with Fastening Screws



S72



S82



SS92



SS1002

COVERS FOR TWO-GANG CONDULET BODIES—Black Enamel Finish

Style of Cover		Surface Type	Flush Type	Style of Cover		Surface Type	Flush Type
Standard Package		50	50	Standard Package		50	50
For Single Push Button Switches	Cat. No..	S72	SS72	For Flush Rotary Switches	Cat. No..	S92	SS92
	List, ea...	\$.20	\$.20		List, ea...	\$.20	\$.20
For Double Push Button Switches	Cat. No..	S82	SS82	Blank Metal	Cat. No..	S1002	SS1002
	List, ea...	\$.20	\$.20		List, ea...	\$.20	\$.20
Shipping Weight Std. Pkg.		30 lbs.	35 lbs.	Shipping Weight Std. Pkg.		30 lbs.	35 lbs.

Condulet bodies that take Two-Gang covers are listed on page 42.



SS73



SS83



S93



SS7113



S1003

COVERS FOR THREE-GANG CONDULET BODIES—Black Enamel Finish

Style of Cover		Surface Type	Flush Type	Style of Cover		Surface Type	Flush Type
Standard Package		35	35	Standard Package		35	35
For Single Push Button Switches	Cat. No..	S73	SS73	Crouse-Hinds Cover for Bryant Heater Control Combination 398 less Bryant Plate	Cat. No..	S7113	SS7113
	List, ea...	\$.40	\$.40		List, ea...	\$1.45	\$1.45
For Double Push Button Switches	Cat. No..	S83	SS83	Blank Metal	Cat. No..	S1003	SS1003
	List, ea...	\$.40	\$.40		List, ea...	\$.40	\$.40
For Flush Rotary Switches	Cat. No..	S93	SS93	Shipping Weight Std. Pkg.		40 lbs.	45 lbs.
	List ea...	\$.40	\$.40				
Shipping Weight Std. Pkg.		30 lbs.	35 lbs.				

Condulet bodies that take Three-Gang covers are listed on page 43.

Important Information Concerning Covers Listed on This Page

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes, see page 182. For brass and bronze covers, plain and with special finishes, see page 182.

White enamel finish will be furnished on metal covers, if specifically ordered, at 50% increase over list price of black enamel finish.

All black enameled and galvanized covers for Two-Gang FS series Condulet bodies may be assorted to make up a standard package.

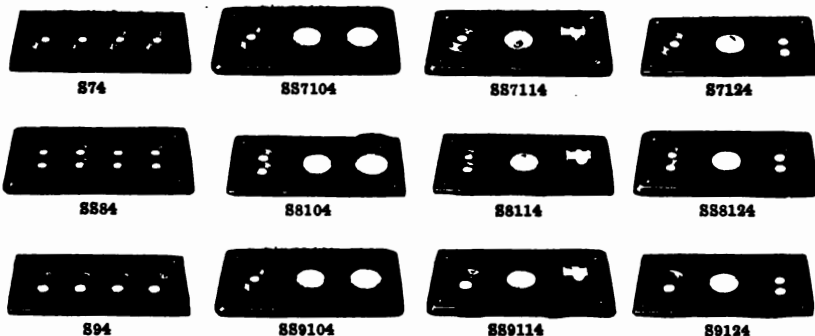
All black enameled and galvanized covers for Three-Gang FS series Condulet bodies may be assorted to make up a standard package.

(Cross Reference Page 48)

GANG COVERS

For Four-Gang Types FS, FSC and FSD Condulet Bodies

Furnished with Fastening Screws



COVERS FOR FOUR-GANG CONDULET BODIES—Black Enamel Finish

Style of Cover			Surface Type	Flush Type	Style of Cover			Surface Type	Flush Type
Standard Package			25	25	Standard Package			25	25
For Push Switches	Single Push Button	Cat. No. S74 List, ea. \$.60	SS74	\$.60	For Clamp Receptacle, Rectang. Attach. Plug Receptacle	And Single Push Button Switch	Cat. No. S7114 List, ea. \$1.10	SS7114	\$1.10
	Double Push Button	Cat. No. S84 List, ea. \$.60	SS84	\$.60		And Double Push Button Switch	Cat. No. S8114 List, ea. \$1.10	SS8114	\$1.10
	Flush Rotary	Cat. No. S94 List, ea. \$.60	SS94	\$.60		And Flush Rotary Switch	Cat. No. S9114 List, ea. \$1.10	SS9114	\$1.10
For Clamp Receptacle, Round Attachment Plug Receptacle	And Single Push Button Switch	Cat. No. S7104 List, ea. \$.85	SS7104	\$.85	For Clamp Receptacle, Hubbell Plus Receptacle 5552	And Single Push Button Switch	Cat. No. S7124 List, ea. \$.70	SS7124	\$.70
	And Double Push Button Switch	Cat. No. S8104 List, ea. \$.85	SS8104	\$.85		And Double Push Button Switch	Cat. No. S8124 List, ea. \$.70	SS8124	\$.70
	And Flush Rotary Switch	Cat. No. S9104 List, ea. \$.85	SS9104	\$.85		And Flush Rotary Switch	Cat. No. S9124 List, ea. \$.70	SS9124	\$.70
						Blank Metal	Cat. No. S1004 List, ea. \$.60	SS1004	\$.60
Weight Std. Pkg.			35 lbs.	45 lbs.	Weight Std. Pkg.			40 lbs.	50 lbs.

Important Information Concerning Covers Listed on This Page

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes, see page 182. For brass and bronze covers, plain and with special finishes, see page 182. For aluminum covers, plain and with black enamel finish, see page 182.

All black enameled and galvanized covers for Four-Gang FS series of Condulet bodies may be assorted to make up a standard package regardless of style of cover. No other assortment of covers only is allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies. This note also applies to covers listed on pages 46, 47, and 48.

White enamel finish will be furnished on metal covers, if specifically ordered, at 50% increase over list price of black enamel finish.

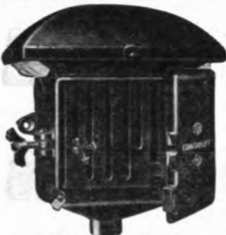
Condulet bodies that take above covers are listed on page 45.

(Cross Reference Page 49)

CONDULETS TYPE FF—SERVICE ENTRANCE

Fused and Weather-Proof—For 250 Volt Cartridge or 125 Volt Plug Fuse Cut-outs
Furnished with Universal Cut-out Fastening Plate, Porcelain Bushings and all necessary
Bolts and Screws, but without Cut-out

For 30 Ampere, 250 Volt Cartridge or 125 Volt Plug Fuse, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

	Style of Cut-out	Size in inches	1/2	3/4	1
	2-wire or 3-wire	Catalogue Number	FF13022	FF23022	FF33022
		Standard Package	20	20	10
		Weight Std. Pkg.	200 lbs.	230 lbs.	140 lbs.
		List Price, each	\$3.90	\$4.00	\$4.10
	Style of Cut-out	Size in inches	3/4	1	1 1/4
	4-wire	Catalogue Number	FF23042	FF33042	FF43042
		Standard Package	20	10	10
		Weight Std. Pkg.	280 lbs.	180 lbs.	195 lbs.
		List Price, each	\$4.75	\$4.90	\$5.10

Padlock is not included in list prices

For 60 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	1	1 1/4	Size in inches	Style of Cut-out	1	1 1/4	
2-wire or 3-wire	FF36022 10 170 lbs. \$5.00	FF48022 10 185 lbs. \$5.10	... Cat. No.... ... Std. Pkg.... .. Wt. Std. Pkg.. .. List, each...	4-wire	FF36042 10 195 lbs. \$6.85	FF48042 10 210 lbs. \$7.00	

For 100 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	1	1 1/2	2	Size in inches	Style of Cut-out	1 1/4	1 1/2	2
2-wire or 3-wire	FF510022 10 250 lbs. \$9.90	FF510022 5 145 lbs. \$10.30	FF610022 5 150 lbs. \$10.50	... Cat. No.... ... Std. Pkg.... .. Wt. Std. Pkg.. .. List, each...	4-wire	FF410042 10 300 lbs. \$12.10	FF510042 5 175 lbs. \$12.30	FF610042 5 170 lbs. \$12.50

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 125 Volt, Plug Fuse Cut-outs

2-Wire: BRYANT—(Cartridge) 1917, (Plug) 62965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34367, (Plug) 62965. NOARK—(Cartridge) 3327. PAISTE—(Cartridge) 72965, (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653, (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.
 3-Wire: BRYANT—(Cartridge) 1924, (Plug) 62165. D. & W.—(Cartridge) 91103. G. E. CO.—(Cartridge) 34372, (Plug) 62165. NOARK—(Cartridge) 3328. PAISTE—(Cartridge) 72165, (Plug) 2165. SHAWMUT—(Cartridge) 2079. TRUMBULL—(Cartridge) 21653, (Plug) 2165. WEBER—(Plug) 62165. UNION—(Cartridge) 2012.

4-Wire: Mount two 2-wire cut-outs side by side.

60 Ampere, 250 Volt, Cut-outs

2-Wire: BRYANT—(Cartridge) 1918. D. & W.—(Cartridge) 91108. G. E. CO.—(Cartridge) 34376. NOARK—(Cartridge) 3329. PAISTE—(Cartridge) 82965. SHAWMUT—(Cartridge) 2078. TRUMBULL—(Cartridge) 29658. UNION—(Cartridge) 2011.
 3-Wire: BRYANT—(Cartridge) 1925. D. & W.—(Cartridge) 91109. G. E. CO.—(Cartridge) 34377. NOARK—(Cartridge) 3330. PAISTE—(Cartridge) 82165. SHAWMUT—(Cartridge) 2080. TRUMBULL—(Cartridge) 21656. UNION—(Cartridge) 2013.

4-Wire: Mount two 2-wire cut-outs side by side.

100 Ampere, 250 Volt, Cut-outs

2-Wire: BRYANT—(Cartridge) 271. D. & W.—(Cartridge) 91119. G. E. CO.—(Cartridge) 36801. NOARK—(Cartridge) 3331. SHAWMUT—(Cartridge) 2101. UNION—(Cartridge) 2014.
 3-Wire: BRYANT—(Cartridge) 272. D. & W.—(Cartridge) 91120. G. E. CO.—(Cartridge) 36800. NOARK—(Cartridge) 3332. SHAWMUT—(Cartridge) 2102. UNION—(Cartridge) 2015.

4-Wire: Mount two 2-wire cut-outs side by side.

Padlock is not included in prices for Condulets.

For finishes and assortments, see note on page 57.

Condulet reducers are listed on page 171.

Condulets of the FF series are continued on page 52.

(Cross Reference Page 51)

CONDULETS

TYPE FF—SERVICE ENTRANCE—Continued


Fused and Weather-Proof—For 250 Volt Cartridge Fuse Cut-outs

Furnished Complete with Crouse-Hinds Slate Base Cut-outs, but without Fuses

Complete with 200 Ampere, 250 Volt, N. E. C. Main Line Cartridge Fuse Cut-outs



Furnished complete, except Fuses and Padlock

	Style of Cut-out		Size in inches	1¼	1½
	2-wire		Catalogue No.... Standard Package. Ship. Wt. Std. Pkg. List Price, each ..	FF420022 5 On request	FF520022 5 On request
	Style of Cut-out		Size in inches	2	2½
	2-wire		Catalogue No.... Standard Package. Ship. Wt. Std. Pkg. List Price, each ..	FF620022 5 On request	FF720022 5 On request
Furnished complete, except Fuses and Padlock					
Style of Cut-out	Size in inches	1¼	1½	2	2½
3-wire	Catalogue Number	FF420032	FF520032	FF620032	FF720032
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.. List Price, each	On request	On request	On request	On request
Style of Cut-out	Size in inches	1½	2	2½	3
4-wire	Catalogue Number	FF520042	FF620042	FF720042	FF820042
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.. List Price, each	On request	On request	On request	On request

Complete with 400 Ampere, 250 Volt, N. E. C. Main Line Cartridge Fuse Cut-outs

Style of Cut-out	Size in inches	2	2½	3	3½
2-wire	Catalogue Number	FF640022	FF740022	FF840022	FF940022
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.. List Price, each	On request	On request	On request	On request
Style of Cut-out	Size in inches	2	2½	3	3½
3-wire	Catalogue Number	FF640032	FF740032	FF840032	FF940032
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.. List Price, each	On request	On request	On request	On request
Style of Cut-out	Size in inches	2½	3	3½	4
4-wire	Catalogue Number	FF740042	FF840042	FF940042	FF1040042
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.. List Price, each	On request	On request	On request	On request

Slate base cut-outs, without fuses, are included in above list prices.

Padlock is not included in prices for Condulets.

We will furnish fuses.

For finishes and assortments, see note on page 57.

Conduit reducers are listed on page 171.

CONDULETS—FOR CONTROL OF HEATING DEVICES

TYPE—FH

TYPE—FHF

Furnished with Crouse-Hinds Receptacle CS37G, Adjustable Bar for Round Base Switch or Plug Receptacle and all necessary Fastening Screws

Furnished with Pilot Lamp Receptacle, Universal Cut-out Fastening Plate, Adapting Rings and Adjustable Bars for Switch and Attachment Plug Receptacle, Jewel in Cover and all necessary Bolts and Screws



Type FH
Showing Snap Switch, Plug Plug Receptacle, Cover DS10, Crouse-Hinds Receptacle CS37G with Guard and Incandescent Lamp Mounted



Type FHF
Showing Snap Switch, Cut-out, Incandescent Lamp and Attachment Plug Receptacle Mounted (Broken-away View)

TYPE FH CONDULETS—Black Enamel Finish

Form	Size in inches.....	1/2			3/4			1		
		Catalogue Number..	FH110	FH210	FH310	Standard Package...	15	15	10	75 lbs.
10		Ship. Wt. Std. Pkg.	95 lbs.	100 lbs.	75 lbs.	List Price, each	\$2.50	\$2.60	\$2.70	
30	Size in inches.....	1/2			3/4			1		
		Catalogue Number..	FH120	FH220	FH320	Standard Package...	15	15	10	90 lbs.
30		Ship. Wt. Std. Pkg.	120 lbs.	125 lbs.	90 lbs.	List Price, each	\$3.00	\$3.10	\$3.20	

TYPE FHF CONDULETS—Black Enamel Finish

Form	Size in inches.....	1/2			3/4		
		Catalogue Number.....	FHF120	FHF220	Standard Package.....	15	130 lbs.
30		Ship. Wt. Std. Pkg.....	130 lbs.	125 lbs.	List Price, each.....	\$4.65	\$4.75

Important Information Concerning Condulets Listed on This Page.

The adjustable bars and adapting rings furnished with each Condulet permit the proper mounting of any switch or Form 5 or Form 10, (or in case of type FHF Condulet, any Form 30) attachment plug receptacle enumerated on page 62 or 63.

The universal cut-out fastening plate, furnished with each type FHF Condulet, takes any of the following 2-wire, 30 ampere, 250 volt cartridge, or 2-wire, 30 ampere, 125 volt, plug fuse cut-outs:

BRYANT—(Cartridge) 1917, (Plug) 62965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34367, (Plug) 62965. NOARK—(Cartridge) 3327. FAISTE—(Cartridge) 72965, (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653, (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.

Type FHF Condulets are designed to take style H (bulb 89) lamp.

Type FH Condulet bodies take covers DS7, DS8, DS9, DS10, DS11 and DS12, listed on page 46. Receptacle CS37G is listed separately on page 190. Condulet reducers are listed on page 171.

For finishes and assortments, see note on page 57.

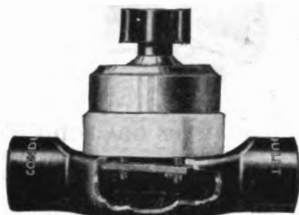
(Cross Reference Page 55)

CONDULET BODIES—G AND H SERIES

TYPES G AND GA

**Take Round Covers; 5, 10 or 20 Ampere Round Base Switches,
or Round Base Fittings**

Furnished with Adjustable Bar and all necessary Fastening Screws



Type G
Showing Snap Switch Mounted
(Broken-away View Illustrating use of Adjustable Bar
in Fastening Fitting or Cover to a Condulet Body
of the G and H Series)

Condulet bodies of the G and H series are so designed that covers, switches or fittings are fastened to them by means of an adjustable bar and two screws. The adjustable bar permits switch or fitting to be mounted in any desired position.

A gasket may be used between cover or fitting and Condulet body.

Gaskets are not furnished with Condulet bodies, and if desired must be ordered separately.

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages 62 and 63. The dimensions of these Condulet bodies are scheduled on page 56.



Type G



Type GA

Size	TYPE G BODIES			Black Enamel Finish	Size	TYPE GA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	G151	G1101	G1201	Catalogue Number.	1/2-inch	GA151	GA1101	GA1201
	100	75	50	..Standard Package..		100	75	50
	110 lbs.	90 lbs.	75 lbs.	..Ship. Wt. Std. Pkg..		120 lbs.	100 lbs.	80 lbs.
3/4-inch	\$.55	\$.65	\$.90	...List Price, each...	3/4-inch	\$.75	\$.85	\$1.10
	G252	G2102	G2202	Catalogue Number.		GA252	GA2102	GA2202
	50	25	25	..Standard Package..		50	25	25
1-inch	75 lbs.	55 lbs.	60 lbs.	..Ship. Wt. Std. Pkg..	1-inch	80 lbs.	60 lbs.	65 lbs.
	\$.65	\$.80	\$.95	...List Price, each...		\$.85	\$1.00	\$1.20
	G353	G3103	G3203	Catalogue Number.		GA353	GA3103	GA3203
1-inch	25	25	25	..Standard Package..	1-inch	25	25	25
	60 lbs.	65 lbs.	70 lbs.	..Ship. Wt. Std. Pkg..		65 lbs.	70 lbs.	75 lbs.
	\$.90	\$1.00	\$1.20	...List Price, each...		\$1.10	\$1.20	\$1.50

Important Information Concerning Condulet Bodies Listed on This Page

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

We will furnish switches or fittings for above Condulet bodies, and enumerate them on pages 62 and 63.

Gaskets are listed on page 176. Condulet reducers are listed on page 171.

Covers for Condulet bodies of the G and H series are listed on page 61.

Condulet bodies of the G and H series are listed on pages 57 to 60, inclusive.

(Cross Reference Page 57)

CONDULET BODIES—G AND H SERIES—Continued

TYPES GL, GLA, GT AND GTA

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches,
or Round Base Fittings

Furnished with Adjustable Bar and all necessary Fastening Screws



Type GL



Type GLA

Size	TYPE GL BODIES			Black Enamel Finish	Size	TYPE GLA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	GL151	GL1101	GL1201	...Catalogue No...	1/2-inch	GLA151	GLA1101	GLA1201
	100	75	50	Standard Package.		100	75	50
	110 lbs.	100 lbs.	80 lbs.	Weight Std. Pkg.		130 lbs.	110 lbs.	90 lbs.
3/4-inch	GL252	GL2102	GL2202	...Catalogue No...	3/4-inch	GLA252	GLA2102	GLA2202
	50	25	25	Standard Package.		50	25	25
	75 lbs.	55 lbs.	60 lbs.	Weight Std. Pkg.		95 lbs.	60 lbs.	65 lbs.
1-inch	GL353	GL3103	GL3203	...Catalogue No...	1-inch	GLA353	GLA3103	GLA3203
	25	25	25	Standard Package.		25	25	25
	60 lbs.	65 lbs.	75 lbs.	Weight Std. Pkg.		60 lbs.	65 lbs.	60 lbs.
	\$.60	\$.70	\$.95	..List Price, each..		\$.75	\$.85	\$1.10
	\$.70	\$.85	\$1.05			\$.85	\$1.00	\$1.20
	\$.95	\$1.05	\$1.35			\$1.10	\$1.20	\$1.50



Type GT



Type GTA

Size	TYPE GT BODIES			Black Enamel Finish	Size	TYPE GTA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	GT151	GT1101	GT1201	...Catalogue No...	1/2-inch	GTA151	GTA1101	GTA1201
	100	75	50	Standard Package.		100	75	50
	110 lbs.	100 lbs.	80 lbs.	Weight Std. Pkg.		160 lbs.	120 lbs.	100 lbs.
3/4-inch	GT252	GT2102	GT2202	...Catalogue No...	3/4-inch	GTA252	GTA2102	GTA2202
	50	25	25	Standard Package.		50	25	25
	75 lbs.	55 lbs.	60 lbs.	Weight Std. Pkg.		100 lbs.	60 lbs.	65 lbs.
1-inch	GT353	GT3103	GT3203	...Catalogue No...	1-inch	GTA353	GTA3103	GTA3203
	25	25	25	Standard Package.		25	25	25
	60 lbs.	65 lbs.	75 lbs.	Weight Std. Pkg.		60 lbs.	65 lbs.	75 lbs.
	\$.75	\$.85	\$1.10	..List Price, each..		\$.90	\$1.00	\$1.25
	\$.85	\$1.00	\$1.20			\$1.00	\$1.15	\$1.40
	\$1.10	\$1.20	\$1.50			\$1.35	\$1.45	\$1.80

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages 62 and 63. The dimensions of these Condulet Bodies: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182. Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

We will furnish switches or fittings for above Condulet bodies, and enumerate them on pages 62 and 63.

Gaskets are listed on page 176. Condulet reducers are listed on page 171.

Covers for Condulet bodies of the G and H series are listed on page 61.

Condulet bodies of the G and H series are listed on pages 57 to 60, inclusive.

(Cross Reference Page 58)

CONDULET BODIES—G AND H SERIES—Continued

TYPES GX, GXA, H AND HA

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches,
or Round Base Fittings

Furnished with Adjustable Bar and all necessary Fastening Screws



Type GX



Type GXA

Size	TYPE GX BODIES			Black Enamel Finish	Size	TYPE GXA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	GX151	GX1101	GX1201	...Catalogue No...	1/2-inch	GXA151	GXA1101	GXA1201
	100	75	50	...Standard Pkg...		100	75	50
	130 lbs.	120 lbs.	100 lbs.	Ship. Wt. Std. Pkg.		180 lbs.	150 lbs.	110 lbs.
3/4-inch	\$.90	\$1.00	\$1.25	...List Price, each...	3/4-inch	\$1.05	\$1.15	\$1.40
	GX252	GX2102	GX2202	...Catalogue No...		GXA252	GXA2102	GXA2202
	50	25	25	...Standard Pkg...		50	25	25
1-inch	85 lbs.	70 lbs.	80 lbs.	Ship. Wt. Std. Pkg.	1-inch	110 lbs.	75 lbs.	80 lbs.
	\$1.00	\$1.15	\$1.40	...List Price, each...		\$1.15	\$1.30	\$1.60
	GX353	GX3103	GX3203	...Catalogue No...		GXA353	GXA3103	GXA3203
1-inch	25	25	25	...Standard Pkg...	1-inch	25	25	25
	70 lbs.	80 lbs.	95 lbs.	Ship. Wt. Std. Pkg.		75 lbs.	80 lbs.	85 lbs.
	\$1.35	\$1.45	\$1.80	...List Price, each...		\$1.55	\$1.65	\$2.00



Type H



Type HA

Size	TYPE H BODIES			Black Enamel Finish	Size	TYPE HA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	H15	H110	H120	...Catalogue No...	1/2-inch	HA15	HA110	HA120
	100	75	50	...Standard Pkg...		100	75	50
	100 lbs.	85 lbs.	80 lbs.	Ship. Wt. Std. Pkg.		110 lbs.	95 lbs.	95 lbs.
3/4-inch	\$.45	\$.55	\$.80	...List Price, each...	3/4-inch	\$.50	\$.60	\$.85
	H25	H210	H220	...Catalogue No...		HA25	HA210	HA220
	50	25	25	...Standard Pkg...		50	25	25
1-inch	70 lbs.	50 lbs.	60 lbs.	Ship. Wt. Std. Pkg.	1-inch	80 lbs.	60 lbs.	65 lbs.
	\$.55	\$.70	\$.85	...List Price, each...		\$.60	\$.75	\$.90
	H35	H310	H320	...Catalogue No...		HA35	HA310	HA320
1-inch	25	25	25	...Standard Pkg...	1-inch	25	25	25
	50 lbs.	60 lbs.	70 lbs.	Ship. Wt. Std. Pkg.		60 lbs.	65 lbs.	75 lbs.
	\$.80	\$.90	\$1.10	...List Price, each...		\$.85	\$.95	\$1.20

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages 62 and 63. The dimensions of these Condulet Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182. Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

We will furnish switches or fittings for above Condulet bodies, and enumerate them on pages 62 and 63.

Gaskets are listed on page 176. Condulet reducers are listed on page 171.

Covers for Condulet bodies of the G and H series are listed on page 61.

Condulet bodies of the G and H series are listed on pages 57 to 60, inclusive.

(Cross Reference Page 59)

CONDULET BODIES—G AND H SERIES—Continued

TYPES HH, HHC, HLA AND GXB

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches, or Round Base Fittings—

Except Type GXB which is made in Form 10 Only

Furnished with Adjustable Bar and all necessary Fastening Screws



Type HH



Type HHC

Size	TYPE HH BODIES			Black Enamel Finish	Size	TYPE HHC BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	HH151	HH1101	HH1201	...Catalogue No...	1/2-inch	HHC151	HHC1101	HHC1201
	100	75	50	...Standard Pkg...		100	75	50
	130 lbs.	110 lbs.	100 lbs.	Ship. Wt. Std. Pkg.		160 lbs.	140 lbs.	110 lbs.
	\$.55	\$.65	\$.90	...List Price, each...		\$.75	\$.85	\$1.10
3/4-inch	HH252	HH2102	HH2202	...Catalogue No...	3/4-inch	HHC252	HHC2102	HHC2202
	50	25	25	...Standard Pkg...		50	25	25
	95 lbs.	65 lbs.	75 lbs.	Ship. Wt. Std. Pkg.		100 lbs.	70 lbs.	85 lbs.
	\$.65	\$.80	\$.95	...List Price, each...		\$.85	\$1.00	\$1.20
1-inch	HH353	HH3103	HH3203	...Catalogue No...	1-inch	HHC353	HHC3103	HHC3203
	25	25	25	...Standard Pkg...		25	25	25
	65 lbs.	70 lbs.	75 lbs.	Ship. Wt. Std. Pkg.		75 lbs.	80 lbs.	90 lbs.
	\$.90	\$1.00	\$1.20	...List Price, each...		\$1.10	\$1.20	\$1.50



Type HLA



Type GXB

Size	TYPE HLA BODIES			Black Enamel Finish	TYPE GXB BODIES			
	Form 5	Form 10	Form 20		Size	Form 10	Size	Form 10
1/2-inch	HLA151	HLA1101	HLA1201	...Catalogue No...	All Hubs 1/2-inch	GXB1101	Back Hub 3/4-inch	GXB1102
	100	75	50	...Standard Pkg...		75	75	75
	130 lbs.	110 lbs.	100 lbs.	Ship. Wt. Std. Pkg.		270 lbs.	SideHubs	290 lbs.
	\$.60	\$.70	\$.95	...List Price, each...		\$1.50	1/2-inch	\$1.60
3/4-inch	HLA252	HLA2102	HLA2202	...Catalogue No...				
	50	25	25	...Standard Pkg...				
	95 lbs.	65 lbs.	75 lbs.	Ship. Wt. Std. Pkg.				
	\$.70	\$.85	\$1.05	...List Price, each...				
1-inch	HLA353	HLA3103	HLA3203	...Catalogue No...				
	25	25	25	...Standard Pkg...				
	65 lbs.	70 lbs.	75 lbs.	Ship. Wt. Std. Pkg.				
	\$.95	\$1.05	\$1.35	...List Price, each...				

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages 62 and 63.

Important Information Concerning Condulet Bodies Listed on This Page

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182. Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

We will furnish switches or fittings for above Condulet bodies, and enumerate them on pages 62 and 63.

Gaskets are listed on page 176. Condulet reducers are listed on page 171.

Covers for Condulet bodies of the G and H series are listed on page 61.








Condulet bodies of the G and H series are listed on pages 57 to 60, inclusive.

(Cross Reference Page 80)

COVERS

For G and H Series of Condulet Bodies

Furnished with Fastening Screws

	Size of Cover.....		For Form 5 or Form 10 Bodies	For Form 20 Bodies	Size of Cover.....		For Form 5 or Form 10 Bodies	For Form 20 Bodies
Porcelain, 1-Wire Hole	Std. Pkg. Assorted..		100	50	Std. Pkg. Assorted..		100	50
PORCELAIN COVERS WITH WIRE HOLES								
	1-wire	Cat. No....	5101	201	3-wire	Cat. No....	5103	203
		List, each..	\$.10	\$.25		List, each..	\$.10	\$.25
	2-wire	Cat. No....	5102	202	4-wire	Cat. No....	510400	20400
		List, each..	\$.10	\$.25		List, each..	\$.10	\$.25
Porcelain, 4-Wire Hole	Weight Std. Pkg....		45 lbs.	60 lbs.	Weight Std. Pkg....		45 lbs.	60 lbs.
METAL COVERS WITH NIPPLES—Black Enamel Finish								
	1/8" Male	Cat. No....	5105	205	3/8" Male	Cat. No....	5107	207
		List, each..	\$.20	\$.35		List, each..	\$.25	\$.40
Metal, Male Nipple	1/8" Female	Cat. No....	5106	206	3/8" Female	Cat. No....	5108	208
		List, each..	\$.20	\$.35		List, each..	\$.25	\$.40
	1/4" Male	Cat. No....	51013	2013	1/2" Male	Cat. No....	51015	2015
		List, each..	\$.23	\$.38		List, each..	\$.30	\$.45
Metal, Female Nipple	1/4" Female	Cat. No....	51014	2014	1/2" Female	Cat. No....	51016	2016
		List, each..	\$.23	\$.38		List, each..	\$.30	\$.45
Weight Std. Pkg....		30 lbs.	35 lbs.	Weight Std. Pkg....		25 lbs.	30 lbs.	
PORCELAIN COVERS WITH NIPPLES								
	1/8" Male	Cat. No....	5109	209	3/8" Male	Cat. No....	51011	2011
		List, each..	\$.25	\$.43		List, each..	\$.35	\$.53
Porcelain, Male Nipple	1/8" Female	Cat. No....	51010	2010	3/8" Female	Cat. No....	51012	2012
		List, each..	\$.25	\$.43		List, each..	\$.35	\$.53
	1/4" Male	Cat. No....	51019	2019	1/2" Male	Cat. No....	51021	2021
		List, each..	\$.30	\$.48		List, each..	\$.40	\$.58
Porcelain, Female Nipple	1/4" Female	Cat. No....	51020	2020	1/2" Female	Cat. No....	51022	2022
		List, each..	\$.30	\$.48		List, each..	\$.40	\$.58
Weight Std. Pkg....		60 lbs.	55 lbs.	Weight Std. Pkg....		60 lbs.	55 lbs.	
BLANK METAL COVERS—Black Enamel Finish								
	For Form 5 or Form 10 Bodies	Sheet Steel	Cast Iron	Style of Cover		For Form 20 Bodies	Sheet Steel	Cast Iron
		51000 100 20 lbs. \$.08	51000g 100 20 lbs. \$.16	Catalogue Number.. Standard Package.. Weight Std. Pkg.. List, each..	2000 50 20 lbs. \$.23		2000g 50 20 lbs. \$.30	

The same covers fit both Form 5 and Form 10 Condulet bodies, and these covers are interchangeable on any Form 5 or Form 10 Condulet body of the G and H series.

Covers for Form 20 Condulet bodies are interchangeable on any Form 20 Condulet body of the G and H series.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes, see page 182. For brass and bronze covers, plain and with special finishes, see page 182. For aluminum covers, plain and with black enamel finish, see page 182.

Black enameled, galvanized and porcelain covers of the same size may be assorted to make up a standard package, regardless of style of cover. No other assortment of covers only is allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies.

Condulet bodies of the G and H series are listed on pages 57 to 60, inclusive. Gaskets are listed on page 176. For sizes of wire holes in covers, see page 172.

FITTINGS

For G and H Series of Conduit Bodies, FH Condulet Bodies and QH, QK and Z Series of Condulets

Type G Condulet
Showing Pull Switch
MountedType GT Condulet
Showing Hubbell Plug
Receptacle MountedType H Condulet
Showing Twin Socket
MountedType G Condulet
Showing Two-Light
Cluster Mounted

FORM 5 FITTINGS

Snap Switches: ARROW E—6100, 6101, 6102, 6103, 6106, 6107, 6200, 6201, 6202, 6203, 6208, 6209, 6210, 6211, 6223, 6224, 6225, 6226, *6400, *6401, *6402, *6403, *6420, *6421. CUTLER-HAMMER—7107, 7108. DIAMOND H—122, D-122, 123, 124, 125, D-125, 126, D-126, 220, D-220, 1220, D-1220, 1230, 1240, 1250, D-1250, 1260, D-1260, 2200, D-2200. G. E. CO.—59873, 59874, 59875, 60294, 60295, 60296, 60447, 60448, 60449, 60450, 60451, 60452, 60453, 60454, 60455, 60456, 60458, 60459, 60460, 60461, 60462, 60463, 60464, 60465, 60466, 60467, 60950, 60951, 60952, 60953, 60954, 60955, 62410, 62411, 62412, 100809, 100810, 100811, 100812, 104239, 104240, 104241, 104242, 114832, 114833, 114834, 114835, 114836, 114837, 114838, 114839, 114840, 114841, *114908, *114909, *114910, *114911, *114912, *114913, *114914, *114915, *114916, *114917. H. & H.—20, 120, 220, 320, 2085, 2086, 2087, 2088, 2089, 2090, 2148, 2161, 2162, 2163, *2311, *2312, *2313, *2314. PERKINS—2000, 2002, *2003, 2027, 2035, 2047, 2170, *2171, 2175, 2220, *2225, *2226, *2231, *2232, 2254, 2255, 2391, 2392, 2393, 2394, 2429, 2430, 2455, 2456. TRUMBULL—300, 301, 302, 303, 310, 311, 312, 313, 340, 341, 342, 343, 360, 361.

Pull Switches: HUBBELL—5027, 5795. PERKINS—372, 395.

Receptacles, Key: ARROW E—4009, 8025, 9184, 66609. BRYANT—4484, 66609. G. E. CO.—GE324, 27742, 29404, 105005, 105043. HUBBELL—3732. PAISTE—5406, 5408, 5410, 5545, 5547, 5549. P. & S.—132, 61237, 61387. WEBER—61462, 61672, 61673. Receptacles, Keyless: ARROW E—4010, 8026, 9185, 50717, 66610. BRYANT—50717, 50744, 66610. G. E. CO.—GE325, 49355, 50717, 50744, 88258, 100411, 105006, 105019, 105044. HUBBELL—3733. PAISTE—5407, 5409, 5411, 5546, 5548, 5550, 50717, 50744. PASS & SEYMOUR—108, 146, 50717, 60237, 60387, 61250, 88259. WEBER—61000, 61230, 61329, 61491, 61674, 61675.

Receptacles, Pull: ARROW E—8515, 66611. BRYANT—66611. G. E. CO.—GE326, 88961. HUBBELL—3731. PAISTE—5575, 5576, 5577, 61126. PASS & SEYMOUR—98, 129.

Receptacles, Attachment Plug: CUTLER-HAMMER—7618. G. E. CO.—49489. HUBBELL—5617, 5621.

Rosettes: G. E. CO.—39236, 39237, 40496, 59807, 60124. PASS & SEYMOUR—79, 390. WEBER—378, 378-A, 385.

Abolites: ADAMS-BAGNALL CO.—G-400.

FORM 10 FITTINGS

Snap Switches: ARROW E—6204, 6205, 6206, 6207, 6215, 6216, 6217, 6218, 6229, 6230, 6231, 6232, 6233, 6234, 6235, 6236, 6237, 6238, 6239, 6240, 6280, 6282, 6284, 6286, 6288, 6289, 6290, 6291, 6292, 6294, 6296, 6298, *6410, *6411, *6412, *6413, *6422, *6423, *6440, *6442, *6450, *6451. DIAMOND H—221, D-221, 222, D-222, 223, 224, 225, D-225, 226, D-226, *501, *D-501, *503, *506, *D-506, *507, *D-507, 2210, D-2210, 2220, D-2220, 2230, 2240, 2250, D-2250, 2260, D-2260, *5010, *D-5010, *5030, *5060, *D-5060, *5070, *D-5070. G. E. CO.—60451, 60452, 60453, 60454, 60460, 60461, 60462, 60463, 60464, 60465, 60466, 60467, 100809, 100810, 100811, 100812, 114832, 114833, 114834, 114835, 114836, 114837, 114838, 114839, 114840, 114841, 114842, 114843, 114844, 114845, 114846, 114847, 114848, 114849, 114850, 114851, *114908, *114909, *114910, *114911, *114912, *114913, *114914, *114915, *114916, *114917. H. & H.—*20 $\frac{1}{2}$, 21, 22, 23, *23 $\frac{1}{2}$, 24, 25, *27, 29, *50 $\frac{1}{2}$, *53 $\frac{1}{2}$, *57, *120 $\frac{1}{2}$, 121, 122, 123, *123 $\frac{1}{2}$, 124, 125, *127, 129, *150 $\frac{1}{2}$, *157, *220 $\frac{1}{2}$, 221, 222, 225, *227, 229, *250 $\frac{1}{2}$, *257, *320 $\frac{1}{2}$, 321, 322, 325, *327, 329, *350 $\frac{1}{2}$, *357, 429, 529, 629, 729, 2205, 2206, 2207, 2208, 2209, 2210, 2231, 2232, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249. PERKINS—2001, 2002, *2003, 2009, 2017, *2028, 2030, 2033, 2036, 2038, 2048, *2049, 2050, *2062, *2068, 2070, 2072, 2074, *2100, *2103, 2139, 2140, 2141, 2142, 2170, *2171, 2176, *2179, *2181, 2183, 2185, *2187, 2188, *2211, *2212, 2215, 2216, 2221, *2225, *2226, *2231, *2232, 2254, 2255, 2263, 2264, *2265, *2267, *2268, *2272, *2273, *2413, *2414, 2435, 2436, 2437, 2438, *2449, 2450, *2451, *2452, *2453. TRUMBULL—310, 311, 312, 313, 320, 321, 322, 323, 340, 341, 342, 343, 350, 351, 352, 353, 360, 361, 365, 366, 375, 376. *600 Volt.

(Cross Reference Page 62)

FITTINGS—Continued

**For G and H Series of Condulet Bodies, FH Condulet Bodies
and QH, QK and Z Series of Condulets**

FORM 10 FITTINGS—Continued

Pull Switches: PERKINS—414, 2309, 2310, 2311, 2312, 2313, 2314, 2387, 2388, 2389, 2390, 2395, 2396, 2546, 2547, 2548, 2549, 2550, 2560, 2561, 2562, 2563, 2564, 2565, 2566.

Ceiling Switches: G. E. CO.—GE136, GE137, GE138, GE140, GE248, GE249, GE250, GE857, GE858, GE859, 100248, 100249, 100250.

Receptacles, Key: ARROW E—8050, 68226. BRYANT—4009, 4488, 24990, 50729, 68226. G. E. CO.—24990, 28723, 28733, 29408, 29414, 34193, 38672, 38680, 50729, 100600. HUBBELL—3719, 3568, 3738. PAISTE—5590, 5598, 5606, 28723, 29408, 50729.

Receptacles, Keyless: ARROW E—8061, 68231. BRYANT—4000, 4001, 4002, 4010, 9401, 9404, 9405, 9406, 9447, 24993, 25093, 25094, 50732, 68231. G. E. CO.—9404, 9405, 24993, 25093, 25094, 28728, 28736, 29411, 29417, 34196, 38135, 38394, 38676, 38684, 50732, 100601. HUBBELL—3571, 3720, 3739. MANHATTAN—16427. PAISTE—5594, 5602, 5610, 9404, 9405, 28728, 29411, 38135, 38394, 50732. WEBER—61230.

Receptacles, Pull: ARROW E—8525, 68237. BRYANT—4019, 68237. HUBBELL—3737, 35006, 35009. PAISTE—5614, 5618, 5622.

Receptacles, Attachment Plug: CUTLER-HAMMER—7618. G. E. Co.—49489. HUBBELL—5617, 5621.

Rosettes: ARROW E—298, 871, 1502. BRYANT—298, 871, 873, 1073, 1502. G. E. CO.—40496, 59807, 60124. PAISTE—811, 814, 871, 873, 885. PASS & SEYMOUR—79, 390. PERKINS—3415, 3418. TRUMBULL—753, 756, 763, 986, 993. WEBER—378, 378-A, 385.

Clusters: BENJAMIN—22, 23, 82.

Abolites: ADAMS-BAGNALL CO.—G-401.

FORM 20 FITTINGS

Snap Switches: ARROW E—6115, 6116, 6117, 6118, 6120, 6121, 6122, 6123, 6124, 6125. DIAMOND H—322, D-322, 3220, D-3220. G. E. CO.—GE150, *21644, *21645, 68385, 68386, 68387, 68388, *114918, *114919, *114920, *114921, *114922, *114923, *114924, *114925, *114926, *114927. H. & H.—26, 31, 32, 33, 40, 42, 43, *47, 126, 131, 132, 133, 140, 142, 143, *147, 226, 231, 240, *241½, *247, 326, 331, 340, *341½, *347, 432, *441½, 442, 532, *541½, 542, *2164, *2165, *2166, *2167, *2168, *2169, *2170, *2171, *2172, *2173, *2174, *2175, *2176, *2177, *2193, *2194, *2195, *2196. PERKINS—2011, 2019, 2025, 2040, 2046, 2052, *2060, *2066, *2227, *2228, *2397, *2398, *2409, *2410, *2411, *2412, *2415, *2416, *2445, *2446, *2447, *2448.

Receptacles, Key: ARROW E—7513, 8044. BRYANT—4488, 24990, 50729, 68226. G. E. CO.—GE336, 24990, 28723, 28733, 29408, 29414, 34193, 38672, 38680, 50729, 88959, 105052. HUBBELL—3546, 3568, 3738, 3752. PAISTE—5569, 5571, 5573, 5590, 5598, 5606, 28723, 29408, 50729.

Receptacles, Keyless: ARROW E—7514, 8045. BRYANT—9404, 9405, 9406, 24993, 25093, 25094, 50732, 60020, 68231. G. E. CO.—GE337, 9404, 9405, 24993, 25093, 25094, 28728, 28736, 29411, 29417, 34196, 38135, 38394, 38676, 38684, 50732, 88960, 105004, 105055. HUBBELL—3571, 8739, 3754, 35036. PAISTE—5570, 5572, 5574, 5594, 5602, 5610, 9404, 9405, 28728, 29411, 38135, 38394, 50732.

Receptacles, Pull: ARROW E—4515, 8522. BRYANT—68237. G. E. CO.—GE338, 88964. HUBBELL—3737, 3750, 35009, 35034. PAISTE—5587, 5588, 5589, 5614, 5618, 5622.

Rosettes: BRYANT—871, 873, 1073. PAISTE—811, 814, 871, 873, 885. PERKINS—3415, 3418, 3421, 3424.

Clusters: BENJAMIN—32, 32½, 33.

Abolites: ADAMS-BAGNALL CO.—G-402.

*600 Volt.



Type G Condulet
Showing Snap Switch
Mounted



Type G1 Condulet
Showing Pull Socket
Mounted



Type G Condulet
Showing Abolite and
Shade Mounted

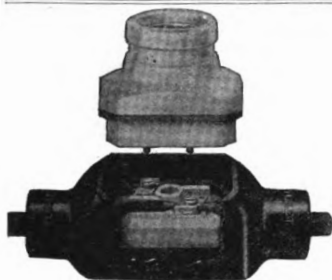


Type H Condulet
Showing Key Socket
Mounted

CONDULET BODIES—J AND K SERIES

TYPES J, JA AND JB

Take Norbitt Conduletto Fittings and Blank Metal Cover



Type J
Showing Norbitt Conduletto Receptacle with Shade Holder Groove
Mounted (Broken-away and Exploded View)

Condulet bodies of the J and K series are so designed that the bases of Norbitt Conduletto fittings or blank metal covers fasten to them by means of a single screw.

The cap of the Norbitt Conduletto Hubbell plug receptacle is secured to its base by a single center screw.

The cap of a Norbitt Conduletto receptacle or rosette is secured to its base by two screws, which also complete the electrical connection.

A gasket is furnished with each Norbitt Conduletto fitting and blank metal cover, and makes the installation weatherproof.



TYPE J CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	J11	J22	J33
Standard Package.....	200	100	50
Shipping Weight Std. Pkg.....	240 lbs.	150 lbs.	80 lbs.
List Price, each.....	\$.60	\$.75	\$1.05



TYPE JA CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	JA11	JA22	JA33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	80 lbs.
List Price, each.....	\$.70	\$.85	\$1.15



TYPE JB CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	JB11	JB22	JB33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.....	140 lbs.	120 lbs.	90 lbs.
List Price, each.....	\$.70	\$.85	\$1.15

Important Information Concerning Condulet Bodies Listed on This Page

Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.

Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Norbitt Conduletto fittings are listed on page 187. Blank metal cover is listed on page 87. Gasket for Norbitt Conduletto fittings and blank metal cover is listed on page 176. Condulet reducers are listed on page 171.



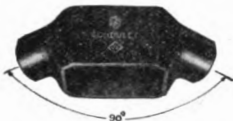


Condulet bodies of the J and K series are listed on pages 65 to 67, inclusive.

(Cross Reference Page 65)

CONDULET BODIES—J AND K SERIES—Continued

TYPES JL, JT, JU, JX AND K

Take Norbitt Conduletto Fittings and Blank Metal Cover

	TYPE JL CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	JL11	JL22	JL33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg.	140 lbs.	120 lbs.	90 lbs.
	List Price, each	\$.85	\$.95	\$1.05
	TYPE JT CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	JT111	JT222	JT333
	Standard Package	100	75	50
	Shipping Weight Std. Pkg.	150 lbs.	130 lbs.	100 lbs.
	List Price, each	\$.95	\$1.05	\$1.15
	TYPE JU CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	JU11	JU22	JU33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg.	160 lbs.	140 lbs.	110 lbs.
	List Price, each	\$.70	\$.85	\$1.15
	TYPE JX CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	JX1111	JX2222	JX3333
	Standard Package	100	75	50
	Shipping Weight Std. Pkg.	180 lbs.	140 lbs.	120 lbs.
	List Price, each	\$1.05	\$1.15	\$1.30
	TYPE K CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	K1	K2	K3
	Standard Package	100	75	50
	Shipping Weight Std. Pkg.	100 lbs.	85 lbs.	70 lbs.
	List Price, each	\$.50	\$.65	\$.95

Important Information Concerning Condulet Bodies Listed on This Page

Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.

Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Norbitt Conduletto fittings are listed on page 187. Blank metal cover is listed on opposite page. Gasket for Norbitt Conduletto fittings and blank metal cover is listed on page 176. Condulet reducers are listed on page 171.



Condulet bodies of the J and K series are listed on pages 65 to 67, inclusive.

(Cross Reference Page 66)

CONDULET BODIES—J AND K SERIES—Continued

TYPES KA, KB, KC AND KD

Take Norbitt Conduletto Fittings and Blank Metal Cover

	TYPE KA CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	KA1	KA2	KA3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	110 lbs.	90 lbs.	75 lbs.
	TYPE KB CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	KB1	KB2	KB3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	110 lbs.	90 lbs.	75 lbs.
	TYPE KC CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	KC1	KC2	KC3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	160 lbs.	125 lbs.	100 lbs.
	TYPE KD CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	KD1	KD2	KD3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	160 lbs.	125 lbs.	100 lbs.
	BLANK METAL COVER—Cast Iron			
	For 1-2, 3-4 and 1-inch Condulet Bodies of the J and K Series			
	Catalogue Number.....	J100	This blank metal cover is furnished with gasket and fastening screw.	
	Standard Package.....	200		
	Shipping Weight Std. Pkg.	90 lbs.		
	List Price, each.....	\$.30		

Important Information Concerning Condulet Bodies and Blank Metal Cover Listed on This Page
Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.

Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies and blank metal cover, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies and all galvanized finish on blank metal cover will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies and blank metal cover, plain and with special finishes, see page 182. For aluminum Condulet bodies and blank metal cover, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment of Condulet bodies is allowed.

Black enameled and galvanized blank metal covers may be assorted to make up a standard package. No other assortment of covers is allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

Norbitt Conduletto fittings are listed on page 187. Gasket for Norbitt Conduletto fittings and blank metal cover is listed separately on page 176. Condulet reducers are listed on page 171.

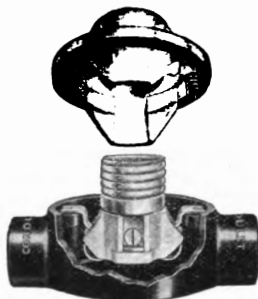
Condulet bodies of the J and K series are listed on pages 65 to 67, inclusive.

(Cross Reference Page 67)

CONDULET BODIES WITH ELLIPTICAL OPENINGS—RJ AND RK SERIES

TYPES RJ AND RJA

Take Elliptical Conduletto Fittings and Elliptical Covers



Type RJ
Showing Elliptical Conduletto Receptacle
(Broken-away and Exploded View)



Type RJ
Showing Elliptical Conduletto Rosette
(Broken-away and Exploded View)

Condulet bodies with elliptical openings are so designed that elliptical Conduletto fittings and elliptical covers fasten to them by means of two screws which are always accessible. These two screws secure both cap and base of an elliptical Conduletto fitting to the Condulet body.

Ample space is provided in the Condulet body for the unobstructed passage of extra wires. A gasket is furnished with each elliptical Conduletto fitting, and makes the installation weather-proof. Gaskets are not furnished with elliptical covers, and if desired must be ordered separately.



TYPE RJ CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	RJ11	RJ22	RJ33
Standard Package.....	200	100	50
Shipping Weight Std. Pkg....	240 lbs.	130 lbs.	80 lbs.
List Price, each	\$.50	\$.60	\$.90



TYPE RJA CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	RJA11	RJA22	RJA33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg....	140 lbs.	110 lbs.	85 lbs.
List Price, each	\$.60	\$.70	\$1.00

Important Information Concerning Condulet Bodies Listed on This Page

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page 189. Elliptical covers are listed on page 73.

Elliptical gaskets are listed on page 176. Condulet reducers are listed on page 171.






Condulet bodies of the RJ and RK series are listed on pages 69 to 72, inclusive.

(Cross Reference Page 69)

CONDULET BODIES WITH ELLIPTICAL OPENINGS—RJ AND RK SERIES—Continued

TYPES RJB, RJD, RJF, RJK AND RJL

Take Elliptical Conduletto Fittings and Elliptical Covers

	TYPE RJB CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJB11	RJB22	RJB33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	150 lbs.	120 lbs.	90 lbs.
	List Price, each	\$.70	\$.80	\$.90
	TYPE RJD CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJD11	RJD22	RJD33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	160 lbs.	130 lbs.	95 lbs.
	List Price, each	\$.60	\$.70	\$1.00
	TYPE RJF CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJF11	RJF22	RJF33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	170 lbs.	140 lbs.	100 lbs.
	List Price, each	\$.70	\$.80	\$.90
	TYPE RJK CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJK11	RJK22	RJK33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	160 lbs.	130 lbs.	95 lbs.
	List Price, each	\$.70	\$.80	\$.90
	TYPE RJL CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJL11	RJL22	RJL33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	150 lbs.	120 lbs.	90 lbs.
	List Price, each	\$.70	\$.80	\$.90

Important Information Concerning Condulet Bodies Listed on This Page

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page 189. Elliptical covers are listed on page 73. Elliptical gaskets are listed on page 176. Condulet reducers are listed on page 171.






Condulet bodies of the RJ and RK series are listed on pages 69 to 72, inclusive.

(Cross Reference Page 70)

CONDULET BODIES WITH ELLIPTICAL OPENINGS—RJ AND RK SERIES—Continued

TYPES RJR, RJT, RJU, RJX AND RK

Take Elliptical Conduletto Fittings and Elliptical Covers

	TYPE RJR CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJR11	RJR22	RJR33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	150 lbs.	120 lbs.	90 lbs.
	List Price, each	\$.70	\$.80	\$.90
	TYPE RJT CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJT111	RJT222	RJT333
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	160 lbs.	130 lbs.	95 lbs.
	List Price, each	\$.80	\$.90	\$1.00
	TYPE RJU CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJU11	RJU22	RJU33
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	135 lbs.	100 lbs.	80 lbs.
	List Price, each	\$.60	\$.70	\$.95
	TYPE RJX CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RJX1111	RJX2222	RJX3333
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	160 lbs.	130 lbs.	95 lbs.
	List Price, each	\$.90	\$1.00	\$1.10
	TYPE RK CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	RK1	RK2	RK3
	Standard Package	100	75	50
	Shipping Weight Std. Pkg..	135 lbs.	100 lbs.	80 lbs.
	List Price, each	\$.40	\$.55	\$.80

Important Information Concerning Condulet Bodies Listed on This Page

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page 189. Elliptical covers are listed on page 73. Elliptical gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies of the RJ and RK series are listed on pages 69 to 72, inclusive.

(Cross Reference Page 71)

CONDULET BODIES WITH ELLIPTICAL OPENINGS—RJ AND RK SERIES—Continued **TYPES RKA, RKB, RKC, RKD AND RKK**

Take Elliptical Conduletto Fittings and Elliptical Covers

	TYPE RKA CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	RKA1	RKA2	RKA3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	135 lbs.	100 lbs.	80 lbs.
	List Price, each.....	\$.50	\$.60	\$.90
	TYPE RKB CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	RKB1	RKB2	RKB3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	135 lbs.	100 lbs.	80 lbs.
	List Price, each.....	\$.50	\$.60	\$.90
	TYPE RKC CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	RKC1	RKC2	RKC3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	170 lbs.	140 lbs.	100 lbs.
	List Price, each.....	\$.50	\$.60	\$.90
	TYPE RKD CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	RKD1	RKD2	RKD3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	170 lbs.	140 lbs.	100 lbs.
	List Price, each.....	\$.50	\$.60	\$.90
	TYPE RKK CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number.....	RKK1	RKK2	RKK3
	Standard Package.....	100	75	50
	Shipping Weight Std. Pkg.	160 lbs.	130 lbs.	100 lbs.
	List Price, each.....	\$.50	\$.60	\$.90

Important Information Concerning Condulet Bodies Listed on This Page

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulet bodies, plain and with special finishes, see page 182. For aluminum Condulet bodies, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page 189. Elliptical covers are listed on page 73. Elliptical gaskets are listed on page 176. Condulet reducers are listed on page 171.

Condulet bodies of the RJ and RK series are listed on pages 69 to 72, inclusive.

(Cross Reference Page 72)

ELLIPTICAL COVERS

**For Condulet Bodies with Elliptical Openings—Types RJ and RK Series
Furnished with Fastening Screws**



RK01



RK020



RK013



RK00

Standard Package Assorted.....	200	Standard Package Assorted.....	200
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PORCELAIN WIRE HOLE AND BLANK METAL COVERS

1-wire	Catalogue Number.....	RK01	Sheet Steel	Catalogue Number.....	RK00
	List Price, each.....	\$.10		List Price, each.....	\$.08
2-wire	Catalogue Number.....	RK02	Cast Iron (Flange)	Catalogue Number.....	RK00f
	List Price, each.....	\$.10		List Price, each.....	\$.16
3-wire	Catalogue Number.....	RK03			
	List Price, each.....	\$.10			
Shipping Weight Std. Pkg.		60 lbs.	Shipping Weight Std. Pkg.		40 lbs.

METAL COVERS WITH NIPPLES—Black Enamel Finish

1/8" Male	Catalogue Number.	RK05	3/8" Male	Catalogue Number.	RK07
	List Price, each.	\$.20		List Price, each.	\$.25
1/8" Female	Catalogue Number.	RK06	3/8" Female	Catalogue Number.	RK08
	List Price, each.	\$.20		List Price, each.	\$.25
1/4" Male	Catalogue Number.	RK013	1/2" Male	Catalogue Number.	RK015
	List Price, each.	\$.23		List Price, each.	\$.30
1/4" Female	Catalogue Number.	RK014	1/2" Female	Catalogue Number.	RK016
	List Price, each.	\$.23		List Price, each.	\$.30
Shipping Weight Std. Pkg.		50 lbs.	Shipping Weight Std. Pkg.		60 lbs.

PORCELAIN COVERS WITH NIPPLES

1/8" Male	Catalogue Number.....	RK09	3/8" Male	Catalogue Number.....	RK011	
	List Price, each.....	\$.25		List Price, each.....	\$.35	
1/8" Female	Catalogue Number.....	RK010	3/8" Female	Catalogue Number.....	RK012	
	List Price, each.....	\$.25		List Price, each.....	\$.35	
1/4" Male	Catalogue Number.....	RK019	1/2" Male	Catalogue Number.....	RK021	
	List Price, each.....	\$.30		List Price, each.....	\$.40	
1/4" Female	Catalogue Number.....	RK020	1/2" Female	Catalogue Number.....	RK022	
	List Price, each.....	\$.30		List Price, each.....	\$.40	
Shipping Weight Std. Pkg.			90 lbs.	Shipping Weight Std. Pkg.		95 lbs.

Important Information Concerning Covers Listed on This Page

Elliptical covers are made in one size only, and are interchangeable on all elliptical Condulet bodies—RJ and RK series.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish, when specifically ordered, will be furnished at same price as black enamel finish. For special plated finishes, see page 182. For brass and bronze covers, plain and with special finishes, see page 182. For aluminum covers, plain and with black enamel finish, see page 182.

Black enameled, galvanized and porcelain elliptical covers may be assorted to make up a standard package. No other assortment is allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.







For sizes of wire holes in covers, see page 172.

Condulet bodies of the RJ and RK series are listed on pages 69 to 72, inclusive. Elliptical gaskets are listed on page 176.

CONDULETS—N SERIES TYPES N, NA, NC, NL, NT AND NX

For Stucco Work, Using Flush Pocket Receptacles—Crouse-Hinds, C9514; Bryant, 4033, 9514; G. E. Co., 9514; Paiste, 9514; P. & S., 9514, and Hubbell
 Flush Plug Receptacle, 5506

Furnished Complete with Telescopic Cover (1½-inch Telescope), Temporary Cap and all Necessary Fastening Screws, but without Receptacle

	TYPE N CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number	N1000	N2000	N3000
	Standard Package	100	75	25
	Shipping Weight Std. Pkg. .	125 lbs.	110 lbs.	55 lbs.
	TYPE NA CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number	NA1000	NA2000	NA3000
	Standard package	100	75	25
	Shipping Weight Std. Pkg. .	130 lbs.	135 lbs.	60 lbs.
 Broken-away View Showing Receptacle Installed Price do not include receptacle	TYPE NC CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number	NC11000	NC22000	NC33000
	Standard Package	100	75	25
	Shipping Weight Std. Pkg. .	165 lbs.	130 lbs.	70 lbs.
	TYPE NL CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number	NL11000	NL22000	NL33000
	Standard Package	100	75	25
	Shipping Weight Std. Pkg. .	165 lbs.	130 lbs.	70 lbs.
	TYPE NT CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number	NT111000	NT222000	NT333000
	Standard Package	100	75	25
	Shipping Weight Std. Pkg. .	175 lbs.	150 lbs.	80 lbs.
	TYPE NX CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number	NX1111000	NX2222000	NX3333000
	Standard Package	100	75	25
	Shipping Weight Std. Pkg. .	190 lbs.	170 lbs.	85 lbs.
	List Price, each	\$1.15	\$1.25	\$1.50

We will furnish receptacles for condulets listed above.
 Telescopic cover is listed separately on page 79 of Conduit Catalogue No. 1000

(Cross Reference Page 79)

**CONDULETS—PG SERIES
TYPES PG, PGB, PGC, PGCA, PGL, PGT AND PGG**

Take General Electric 2 H. P., 250-Volt, 3-Phase, Snap Switch 151394 with Protective Cover for Textile Mill Installations. Furnished with all necessary Fastening Screws



Showing Switch Installed
Prices do not include Switch

TYPE PG CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	PG1	PG2	PG3
Standard Package	35	25	10
Shipping Weight Std. Pkg.	85 lbs.	70 lbs.	50 lbs.
List Price, each	\$1.10	\$1.25	\$1.40



TYPE PGB CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	PGB11	PGB22	PGB33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55



TYPE PGC CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	PGC11	PGC22	PGC33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55



TYPE PGCA CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	PGCA111	PGCA222	PGCA333
Standard Package	35	25	10
Shipping Weight Std. Pkg.	125 lbs.	115 lbs.	60 lbs.
List Price, each	\$1.45	\$1.60	\$1.75



TYPE PGL CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	PGL11	PGL22	PGL33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55



TYPE PGT CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	PGT111	PGT222	PGT333
Standard Package	35	25	10
Shipping Weight Std. Pkg.	125 lbs.	115 lbs.	60 lbs.
List Price, each	\$1.45	\$1.60	\$1.75



TYPE PGG CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	PGG11	PGG22	PGG33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55

We will furnish switch for use with condulets of the PG series.
(Cross Reference Page 79A)

CONDULETS—P SERIES

TYPES P, PA, PC, PL, PT AND PX

Take 4 to 6-inch Canopies

For Electrolliers and Combination Gas and Electric Fixtures, also Abolite G404

TYPE P CONDULETS—Black Enamel Finish						
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number..	P1	P2	P3	P4	P5	
Standard Package..	35	25	10	10	10	
Ship. Wt. Std. Pkg..	120 lbs.	110 lbs.	60 lbs.	85 lbs.	90 lbs.	
List Price, each....	\$1.40	\$1.55	\$1.70	\$1.85	\$2.00	

TYPE PA CONDULETS—Black Enamel Finish						
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number..	PA1	PA2	PA3	PA4	PA5	
Standard Package..	35	25	10	10	10	
Ship. Wt. Std. Pkg..	130 lbs.	100 lbs.	50 lbs.	80 lbs.	85 lbs.	
List Price, each....	\$1.40	\$1.55	\$1.70	\$1.85	\$2.00	

TYPE PC CONDULETS—Black Enamel Finish						
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number..	PC11	PC22	PC33	PC44	PC55	
Standard Package..	35	25	10	10	10	
Ship. Wt. Std. Pkg..	160 lbs.	120 lbs.	70 lbs.	85 lbs.	90 lbs.	
List Price, each....	\$1.50	\$1.65	\$1.80	\$1.95	\$2.10	

TYPE PL CONDULETS—Black Enamel Finish						
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number..	PL11	PL22	PL33	PL44	PL55	
Standard Package..	35	25	10	10	10	
Ship. Wt. Std. Pkg..	160 lbs.	120 lbs.	70 lbs.	85 lbs.	90 lbs.	
List Price, each....	\$1.50	\$1.65	\$1.80	\$1.95	\$2.10	

TYPE PT CONDULETS—Black Enamel Finish						
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number..	PT111	PT222	PT333	PT444	PT555	
Standard Package..	35	25	10	10	10	
Ship. Wt. Std. Pkg..	170 lbs.	130 lbs.	75 lbs.	90 lbs.	95 lbs.	
List Price, each....	\$1.70	\$1.90	\$2.10	\$2.30	\$2.50	

TYPE PX CONDULETS—Black Enamel Finish						
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	
Catalogue Number..	PX1111	PX2222	PX3333	PX4444	PX5555	
Standard Package..	35	25	10	10	10	
Ship. Wt. Std. Pkg..	180 lbs.	140 lbs.	80 lbs.	95 lbs.	100 lbs.	
List Price, each....	\$1.80	\$2.00	\$2.20	\$2.40	\$2.60	

We will furnish accessories for use with Condulets of the P series.

For finishes and assortments, see note on page 89.

Grounding clamp, for use with combination gas and electric fixtures, is not included in prices for Condulets of the P series, but will be furnished, if specifically ordered. Condulet reducers are listed on page 171.

(Cross Reference Page 80a)







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CONDULETS—PM SERIES

TYPES PM, PMA, PMC, PML, PMT AND PMX

Take 3 to 4-inch Canopies

For Electroliners and Combination Gas and Electric Fixtures, also Abolite G403

TYPE PM CONDULETS—Black Enamel Finish						
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PM1	PM2	PM3	PM4	PM5
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	80 lbs.	65 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$.90	\$1.05	\$1.20	\$1.35	\$1.50
TYPE PMA CONDULETS—Black Enamel Finish						
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMA1	PMA2	PMA3	PMA4	PMA5
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	80 lbs.	65 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$.90	\$1.05	\$1.20	\$1.35	\$1.50
TYPE PMC CONDULETS—Black Enamel Finish						
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMC11	PMC22	PMC33	PMC44	PMC55
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	90 lbs.	85 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$1.05	\$1.20	\$1.35	\$1.50	\$1.65
TYPE PML CONDULETS—Black Enamel Finish						
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PML11	PML22	PML33	PML44	PML55
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	90 lbs.	85 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$1.05	\$1.20	\$1.35	\$1.50	\$1.65
TYPE PMT CONDULETS—Black Enamel Finish						
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMT111	PMT222	PMT333	PMT444	PMT555
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	120 lbs.	110 lbs.	55 lbs.	60 lbs.	65 lbs.
	List Price, each	\$1.25	\$1.40	\$1.55	\$1.70	\$1.85
TYPE PMX CONDULETS—Black Enamel Finish						
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMX1111	PMX2222	PMX3333	PMX4444	PMX5555
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	140 lbs.	120 lbs.	60 lbs.	65 lbs.	70 lbs.
	List Price, each	\$1.40	\$1.55	\$1.70	\$1.85	\$2.00

We will furnish accessories for use with Condulets of the PM series.

For finishes and assortments, see note on page 89.






Grounding clamp, for use with combination gas and electric fixtures, is not included in prices for Condulets of the PM series, but will be furnished, if specifically ordered. Condulet reducers are listed on page 171.

(Cross Reference Page 82a)

CONDULETS—PH SERIES
TYPES PH, PHC, PHL, PHT AND PHX

Take 4 to 6-inch Canopies

For Exposed Conduit Extensions from Concealed Wiring at Fixture Outlets
 For Electroliners and Combination Gas and Electric Fixtures, also Abolite G404

	TYPE PH CONDULETS—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	PH1	PH2	PH3
	Standard Package	35	25	10
	Shipping Weight Std. Pkg. .	165 lbs.	120 lbs.	65 lbs.
	List Price, each	\$1.50	\$1.65	\$1.80
	TYPE PHC CONDULETS—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	PHC11	PHC22	PHC33
	Standard Package	35	25	10
	Shipping Weight Std. Pkg. .	180 lbs.	130 lbs.	70 lbs.
	List Price, each	\$1.65	\$1.80	\$1.95
	TYPE PHL CONDULETS—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	PHL11	PHL22	PHL33
	Standard Package	35	25	10
	Shipping Weight Std. Pkg. .	180 lbs.	130 lbs.	70 lbs.
	List Price, each	\$1.65	\$1.80	\$1.95
	TYPE PHT CONDULETS—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	PHT111	PHT222	PHT333
	Standard Package	35	25	10
	Shipping Weight Std. Pkg. .	200 lbs.	145 lbs.	75 lbs.
	List Price, each	\$1.80	\$1.95	\$2.10
	TYPE PHX CONDULETS—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	PHX1111	PHX2222	PHX3333
	Standard Package	35	25	10
	Shipping Weight Std. Pkg. .	215 lbs.	150 lbs.	80 lbs.
	List Price, each	\$1.95	\$2.10	\$2.25






We will furnish accessories for use with Condulets of the PH series.
 For finishes and assortments, see note on page 89.
 Conduit reducers are listed on page 171.

(Cross Reference Page 84a)

**CONDULETS—PHM SERIES
TYPES PHM, PHMC, PHML, PHMT AND PHMX**

Take 3 to 4-inch Canopies

For Exposed Conduit Extensions from Concealed Wiring at Fixture Outlets
For Electroliners and Combination Gas and Electric Fixtures, also Abolite G403

	TYPE PHM CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number Standard Package Shipping Weight Std. Pkg. List Price, each	PHM1 35 100 lbs. \$1.05	PHM2 25 75 lbs. \$1.20	PHM3 10 45 lbs. \$1.35
	TYPE PHMC CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number Standard Package Shipping Weight Std. Pkg. List Price, each	PHMC11 35 100 lbs. \$1.20	PHMC22 25 75 lbs. \$1.35	PHMC33 10 45 lbs. \$1.50
	TYPE PHML CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number Standard Package Shipping Weight Std. Pkg. List Price, each	PHML11 35 100 lbs. \$1.20	PHML22 25 75 lbs. \$1.35	PHML33 10 45 lbs. \$1.50
	TYPE PHMT CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number Standard Package Shipping Weight Std. Pkg. List Price, each	PHMT111 35 125 lbs. \$1.40	PHMT222 25 90 lbs. \$1.55	PHMT333 10 50 lbs. \$1.70
	TYPE PHMX CONDULETS—Black Enamel Finish			
	Size in inches	½	¾	1
	Catalogue Number Standard Package Shipping Weight Std. Pkg. List Price, each	PHMX1111 35 150 lbs. \$1.65	PHMX2222 25 110 lbs. \$1.80	PHMX3333 10 60 lbs. \$1.95

We will furnish accessories for use with Condulets of the PHM series.
For finishes and assortments, see note on page 89.
Condulet reducers are listed on page 171.

(Cross Reference Page 86a)

CONDULETS—QH SERIES TYPES QHA AND QHB

Weather-Proof Condulets for Thumb Knob Snap Switches, Attachment Plug Receptacles and Crouse-Hinds Plug Receptacles RQH302 and RQH303

Furnished with Fastening Straps and Bolts for Fittings



Type QHC
Showing Switch Mounted and Padlock
(Broken-away View)



Type QHB
Showing Attachment Plug Receptacle Mounted
(Broken-away View)



Type QHO
Showing Crouse-Hinds Plug Receptacle RQH302 Mounted
(Door Open)

TYPE QHA CONDULETS—Black Enamel Finish



	Size in inches	1/2	3/4	1
Form 10	Catalogue Number.	QHA1510	QHA2510	QHA3510
	Standard Package..	35	25	15
	Weight Std. Pkg....	80 lbs.	60 lbs.	45 lbs.
	List Price, each	\$1.25	\$1.40	\$1.55
Form 20	Catalogue Number.	QHA120	QHA220	QHA320
	Standard Package..	35	25	15
	Weight Std. Pkg....	150 lbs.	110 lbs.	70 lbs.
	List Price, each	\$1.65	\$1.80	\$2.00

TYPE QHB CONDULETS—Black Enamel Finish



	Size in inches	1/2	3/4	1
Form 10	Catalogue Number.	QHB1510	QHB2510	QHB3510
	Standard Package..	35	25	15
	Weight Std. Pkg....	75 lbs.	60 lbs.	45 lbs.
	List Price, each	\$1.30	\$1.45	\$1.60
Form 20	Catalogue Number.	QHB120	QHB220	QHB320
	Standard Package..	35	25	15
	Weight Std. Pkg....	140 lbs.	100 lbs.	70 lbs.
	List Price, each	\$1.75	\$1.90	\$2.05

Fittings for use with Condulets of the QH series are not included in above list prices, but are enumerated on opposite page.

Padlock is not included in above list prices for Condulets of the QH series.

For finishes and assortments, see note on opposite page.

Crouse-Hinds plug receptacles RQH302 and RQH303, for use with Condulets of the QH series, are listed on page 91a.

Conduit reducers are listed on page 171.

Listings of the QH series of Condulets are continued on page 89.






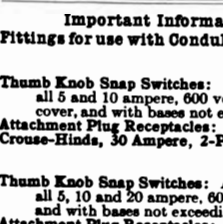
(Cross Reference Page 89)

CONDULETS—QH SERIES—Continued

TYPES QHC, QHL AND QHT

Weather-Proof Condulets for Thumb Knob Snap Switches, Attachment Plug Receptacles and Crouse-Hinds Plug Receptacles RQH302 and RQO303

Furnished with Fastening Straps and Bolts for Fittings

TYPE QHC CONDULETS—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
	Form 10	Catalogue Number.. QHC11510	QHC22510	QHC33510
		Standard Package... 35	25	15
		Weight Std. Pkg.... 120 lbs.	90 lbs.	60 lbs.
		List Price, each.... \$1.50	\$1.75	\$2.00
	Form 20	Catalogue Number.. QHC1120	QHC2220	QHC3320
		Standard Package... 35	25	15
		Weight Std. Pkg.... 180 lbs.	120 lbs.	80 lbs.
		List Price, each.... \$2.00	\$2.30	\$2.60
TYPE QHL CONDULETS—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
	Form 10	Catalogue Number.. QHL11510	QHL22510	QHL33510
		Standard Package... 35	25	15
		Weight Std. Pkg.... 90 lbs.	60 lbs.	50 lbs.
		List Price, each.... \$1.40	\$1.55	\$1.70
	Form 20	Catalogue Number.. QHL1120	QHL2220	QHL3320
		Standard Package... 35	25	15
		Weight Std. Pkg.... 150 lbs.	100 lbs.	70 lbs.
		List Price, each.... \$1.90	\$2.10	\$2.30
TYPE QHT CONDULETS—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
	Form 10	Catalogue Number.. QHT11510	QHT22510	QHT33510
		Standard Package... 35	25	15
		Weight Std. Pkg.... 120 lbs.	90 lbs.	60 lbs.
		List Price, each.... \$1.65	\$1.90	\$2.15
	Form 20	Catalogue Number.. QHT1120	QHT2220	QHT3320
		Standard Package... 35	25	15
		Weight Std. Pkg.... 160 lbs.	110 lbs.	90 lbs.
		List Price, each.... \$2.15	\$2.45	\$2.80

Important Information Concerning Condulets Listed on This and the Opposite Page
Fittings for use with Condulets of the QH series are not included in above list prices, but are as follows:

For Form 10

Thumb Knob Snap Switches: All 5, and 10 ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 5 and 10 ampere, 600 volt switches not over 2 3/8 inches deep over all, not over 1 1/8 inches deep to top of cover, and with bases not exceeding 2 1/2 inches in diameter, enumerated on the same pages.
Attachment Plug Receptacles: HUBBELL—5617, 5621, 5624, 5757. G. E. CO.—102700.
Crouse-Hinds, 30 Ampere, 2-Pole, Plug Receptacle—RQH302.

For Form 20

Thumb Knob Snap Switches: All 5, 10 and 20 ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 5, 10 and 20 ampere, 600 volt switches not over 3 inches deep over all, not over 2 5/8 inches deep to top of cover, and with bases not exceeding 3 3/8 inches in diameter, enumerated on the same pages.
Attachment Plug Receptacles: HUBBELL—5617, 5621, 5624, 5757. G. E. CO.—102700.
Crouse-Hinds, 30 Ampere, 3-Pole, Plug Receptacle—RQH303.

Padlock is not included in above list prices for Condulets of the QH series.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulets, plain and with special finishes, see page 182. For aluminum Condulets, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.
Crouse-Hinds plug receptacles RQH302 and RQH303, for use with Condulets of the QH series, are listed on page 91a.

Fastening straps are listed separately on page 175. Condulet reducers are listed on page 171.

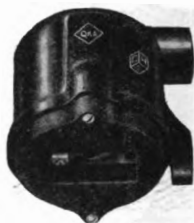
CONDULETS—QK SERIES TYPES QKA AND QKB

Weather-Proof Condulets for Standard Lock Snap Switches and Crouse-Hinds Plug Receptacles RQK302 and RQK303

Furnished with Covers, Fastening Straps and Bolts for Switches and all necessary Screws



Type QKC
Showing Lock Snap Switch Mounted
(Broken-away View)



Type QKA
Showing Crouse-Hinds Plug Receptacle
RQK302 Mounted

TYPE QKA CONDULETS—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
Form 10	Catalogue Number...	QKA1510	QKA2510	QKA3510
	Standard Package....	35	25	15
	Weight Std. Pkg.....	70 lbs.	55 lbs.	40 lbs.
	List Price, each.....	\$1.10	\$1.20	\$1.35
Form 20	Catalogue Number...	QKA120	QKA220	QKA320
	Standard Package....	35	25	15
	Weight Std. Pkg.....	120 lbs.	90 lbs.	60 lbs.
	List Price, each.....	\$1.45	\$1.60	\$1.80

TYPE QKB CONDULETS—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
Form 10	Catalogue Number...	QKB1510	QKB2510	QKB3510
	Standard Package....	35	25	15
	Weight Std. Pkg.....	70 lbs.	55 lbs.	40 lbs.
	List Price, each.....	\$1.15	\$1.25	\$1.40
Form 20	Catalogue Number...	QKB120	QKB220	QKB320
	Standard Package....	35	25	15
	Weight Std. Pkg.....	120 lbs.	90 lbs.	60 lbs.
	List Price, each.....	\$1.50	\$1.70	\$1.85

Important Information Concerning Condulets Listed on This Page

Fittings for use with Condulets of the QK series are not included in above list prices, but are enumerated on opposite page.

For finishes and assortments, see note on opposite page.

Crouse-Hinds plug receptacles RQK302 and RQK303, for use with Condulets of the QK series, are listed on page 91a.

Fastening straps are listed separately on page 175. Condulet reducers are listed on page 171.

Listings of the QK series of Condulets are continued on page 91.




(Cross Reference Page 90)

CONDULETS—QK SERIES—Continued

TYPES QKC, QKL AND QKT

**Weather-Proof Condulets for Standard Lock Snap Switches and
Crouse-Hinds Plug Receptacles RQK302 and RQK303**

Furnished with Covers, Fastening Straps and Bolts for Switches and all necessary Screws

		TYPE QKC CONDULETS—Black Enamel Finish			
	Form 10	Size in inches	1/2	3/4	1
		Catalogue No....	QKC11510	QKC22510	QKC33510
		Standard Package	35	25	15
		Weight Std. Pkg..	100 lbs.	70 lbs.	50 lbs.
		List Price, each..	\$1.30	\$1.50	\$1.70
	Form 20	Catalogue No....	QKC1120	QKC2220	QKC3320
		Standard Package	35	25	15
		Weight Std. Pkg..	160 lbs.	120 lbs.	80 lbs.
		List Price, each..	\$1.75	\$2.00	\$2.30
		TYPE QKL CONDULETS—Black Enamel Finish			
	Form 10	Size in inches	1/2	3/4	1
		Catalogue No....	QKL11510	QKL22510	QKL33510
		Standard Package	35	25	15
		Weight Std. Pkg..	90 lbs.	60 lbs.	45 lbs.
		List Price, each..	\$1.20	\$1.35	\$1.50
	Form 20	Catalogue No....	QKL1120	QKL2220	QKL3320
		Standard Package	35	25	15
		Weight Std. Pkg..	150 lbs.	110 lbs.	75 lbs.
		List Price, each..	\$1.70	\$1.85	\$2.05
		TYPE QKT CONDULETS—Black Enamel Finish			
	Form 10	Size in inches	1/2	3/4	1
		Catalogue No....	QKT111510	QKT222510	QKT333510
		Standard Package	35	25	15
		Weight Std. Pkg..	110 lbs.	80 lbs.	60 lbs.
		List Price, each..	\$1.40	\$1.60	\$1.90
	Form 20	Catalogue No....	QKT1120	QKT2220	QKT3320
		Standard Package	35	25	15
		Weight Std. Pkg..	170 lbs.	130 lbs.	85 lbs.
		List Price, each..	\$1.90	\$2.20	\$2.50

Important Information Concerning Condulets Listed on This and the Opposite Page
Fittings for use with Condulets of the QK series are not included in above list prices, but are as follows:

For Form 10

Lock Snap Switches: All 5 and 10-ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 5 and 10 ampere, 600 volt switches not over 1 5-8 inches deep to top of cover and with bases not exceeding 2 9-16 inches in diameter, enumerated on the same pages.

Crouse-Hinds, 30 Ampere, 3-pole, Plug Receptacle—RQK302.

For Form 20

Lock Snap Switches: All 5, 10 and 20 ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 5, 10 and 20 ampere, 600 volt switches not over 2 5-16 inches deep to top of cover and with bases not exceeding 3 7-16 inches in diameter, enumerated on the same pages.

Crouse-Hinds, 30 Ampere, 3-pole, Plug Receptacle—RQK303.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze Condulets, plain and with special finishes, see page 182. For aluminum Condulets, plain and with black enamel finish, see page 182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Crouse-Hinds plug receptacles RQK302 and RQK303, for use with Condulets of the QK series, are listed on page 168.

Fastening straps are listed separately on page 175. Condulet reducers are listed on page 171.

(Cross Reference Page 91)


CONDULETS—MP SERIES TYPES MP AND MPD


For Telephone Bell Boxes

Type MP takes Western Electric Telephone Bell Box 334A

Type MPD takes Stromberg-Carlson Telephone Bell Box 1131-F

Furnished with Fastening Screws for Bell Box

TYPE MP CONDULETS—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	MP1	MP2	MP3
	Standard Package.....	25	25	25
	Shipping Weight Std. Pkg.....	220 lbs.	220 lbs.	230 lbs.
	List Price, each.....	\$2.60	\$2.70	\$2.80

TYPE MPD CONDULETS—Black Enamel Finish				
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	MPD1	MPD2	MPD3
	Standard Package.....	25	25	25
	Shipping Weight Std. Pkg.....	150 lbs.	150 lbs.	150 lbs.
	List Price, each.....	\$2.60	\$2.70	\$2.80



RECEPTACLES AND PLUGS

TYPES RQH AND RQK RECEPTACLES AND TYPE RQ PLUGS



Two-Pole Types RQH and RQK Receptacles are for use with Form 10 Condulets of the QH and QK Series, respectively

Three-Pole Types RQH and RQK Receptacles are for use with Form 20 Condulets of the QH and QK Series, respectively



TYPE RQH RECEPTACLES—30 Ampere Capacity For Condulets of the QH Series

	2-Pole		3-Pole		
	For Form 10 Condulet		For Form 20 Condulet		
	RQH302*	Catalogue Number	RQH303*	Catalogue Number	
	25	Standard Package.	25	Standard Package.	
	30 lbs.	Weight Std. Pkg..	30 lbs.	Weight Std. Pkg..	
	\$2.00	..List Price, each..	\$3.00	..List Price, each..	

TYPE RQK RECEPTACLES—30 Ampere Capacity For Condulets of the QK Series

	3-Pole		3-Pole		
	For Form 10 Condulet		For Form 20 Condulet		
	RQK302†	Catalogue Number	RQK303*	Catalogue Number	
	25	Standard Package.	25	Standard Package.	
	30 lbs.	Weight Std. Pkg..	30 lbs.	Weight Std. Pkg..	
	\$2.00	List Price, each..	\$3.00	List Price, each..	

TYPE RQ PLUGS—30 Ampere Capacity For Types RQH, RQK and RYQ Receptacles

	2-Pole		3-Pole		
	RQ302	Catalogue Number	RQ303	Catalogue Number	
	25	Standard Package.	25	Standard Package.	
	60 lbs.	Weight Std. Pkg..	70 lbs.	Weight Std. Pkg..	
	\$3.50	List Price, each..	\$5.00	List Price, each..	






*To be mounted on fastening strap furnished with the Condulet. †Furnished with special mounting strap.

Condulets that take type RQH receptacles are listed on pages 88 and 89. Condulets that take RQK receptacles are listed on pages 90 and 91. Type RYQ receptacles, which take type RQ plugs, are listed on page 167.

(Cross Reference Page 91a)

**CONDULET BODIES—SE SERIES
TYPES SE, SEC, SEL, SET AND SEX**

**Take Key, Keyless or Pull Receptacles; Rosettes; Pull Switch Rosettes,
or Pull Switches Enumerated Below**

	TYPE SE CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	SE1	SE2	SE3
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	155 lbs.	115 lbs.	70 lbs.
	List Price, each	\$.80	\$.90	\$1.10
	TYPE SEC CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	SEC11	SEC22	SEC33
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	165 lbs.	125 lbs.	75 lbs.
	List Price, each	\$.95	\$1.05	\$1.25
With Receptacle Mounted Prices do not include Receptacle				
	TYPE SEL CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	SEL11	SEL22	SEL33
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	165 lbs.	125 lbs.	75 lbs.
	List Price, each	\$.95	\$1.05	\$1.25
	TYPE SET CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	SET111	SET222	SET333
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	180 lbs.	140 lbs.	80 lbs.
	List Price, each	\$1.05	\$1.15	\$1.35
	TYPE SEX CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	SEX1111	SEX2222	SEX3333
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	200 lbs.	155 lbs.	90 lbs.
	List Price, each	\$1.15	\$1.25	\$1.45

We will furnish fittings for condulet bodies listed above.

Condulet bodies listed above take the following:

Receptacles, Key: ARROW E—4045, 7513, 7513W, 7536, 7536W, 8044, 8044W, 8080, 8080W. BRYANT—4045, 4513, 4536, 7513, 7536, all BL and BN bases. G. E. CO.—GE052, GE278, GE281, GE418, GE483, GE495. HUBBELL—3070, 3156, 3316, 3752. PAISTE—5473, 5476, 5569, 5571. P. & S.—7, 46, 814.

Receptacles, Keyless: ARROW E—40, 41, 85, 109, 4046, 7514, 7537, 8045, 8081, 62357, 103704. BRYANT—4031, 4046, 7514, 7537, 62357, all BL and BN bases. G. E. CO.—GE055, GE096, GE155, GE279, GE484, GE496, 62357. HUBBELL—3071, 3754. PAISTE—5474, 5477, 5570, 5572. P. & S.—1, 4, 40, 41, 85, 109, 62357, 103704.

Receptacles, Pull: ARROW E—4047, 4515, 4537, 8522, 8537. BRYANT—4047, 4515, 4537, all BL and BN bases. G. E. CO.—GE280, 85904. HUBBELL—3069, 3083, 3750, 3841. PAISTE—5475, 5478, 5587, 5588, P. & S.—128.

Rosettes: ARROW E—368, 369, 457, 525, 8074, 8075. BRYANT—368, 369, 457, all BL and BN bases. P. & S.—113, 199, 723, 1172, 1174.

Rosettes, Pull Switch: ARROW E—176, 179, 8605, 8608. BRYANT—All BL and BN bases. HUBBELL—5906, 5926, 5996, 6007, P. & S.—700.

Switches, Pull: ARROW E—174, 175, 177, 178, 8603, 8604, 8606, 8607. BRYANT—All BL and BN bases.

(Cross Reference Page 91b)

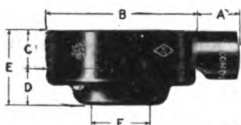
CONDULET BODIES—S SERIES
TYPES S, SA AND SC

For Pony Receptacles, Clamp Receptacles and Rosettes, and Hubbell Polarity Plug Receptacle 5757

Furnished with Fastening Straps for Fittings and all necessary Screws



Type SC
Showing Pony Receptacle Mounted
(Broken-away View)



Dimensional Drawing for S Series of Condulets



Type SC
Showing Crouse-Hinds Clamp Receptacle,
without Shade Holder Groove, Mounted
(Broken-away View)



Type SX
Showing Crouse-Hinds Clamp Cord
Rosette Mounted

- A—For $\frac{1}{2}$ -inch sizes, $1\frac{1}{2}$ inches
For $\frac{3}{4}$ -inch sizes, $1\frac{1}{2}$ inches
For 1-inch sizes, $1\frac{1}{2}$ inches
B—For all sizes, $3\frac{3}{4}$ inches
C—For all sizes, $1\frac{1}{2}$ inch
D—For all sizes, $1\frac{1}{2}$ inches
E—For all sizes, $1\frac{1}{2}$ inches
F—For type OO cover, $1\frac{1}{2}$ inches
For type OOK cover, $1\frac{1}{2}$ inches



Type SL
Showing Hubbell Polarity Plug Receptacle
5757 Mounted

TYPE S CONDULET BODIES—Black Enamel Finish


Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	S1	S2	S3
Standard Package	100	75	25
Shipping Weight Std. Pkg.	130 lbs.	110 lbs.	50 lbs.
List Price, each	\$.70	\$.75	\$.90

TYPE SA CONDULET BODIES—Black Enamel Finish


Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	SA1	SA2	SA3
Standard Package	100	75	25
Shipping Weight Std. Pkg.	130 lbs.	110 lbs.	50 lbs.
List Price, each	\$.70	\$.75	\$.90

TYPE SC CONDULET BODIES—Black Enamel Finish


Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number	SC11	SC22	SC33
Standard Package	100	75	25
Shipping Weight Std. Pkg.	160 lbs.	135 lbs.	65 lbs.
List Price, each	\$.80	\$.85	\$1.05

Fittings for use with Condulets of the S series are not included in above list prices, but are enumerated on opposite page.

For finishes and assortments, see note on page 91.

Conduletto clamp receptacles and rosettes, for use with Condulets of the S series, are listed on page 190.

Condulet reducers are listed on page 171.

Listings of the S series of Condulet bodies are continued on page 95.




(Cross Reference Page 94)

CONDULET BODIES—S SERIES—Continued



TYPES SL, ST AND SX

**For Pony Receptacles, Clamp Receptacles and Rosettes, and Hubbell Polarity Plug
Receptacle 5757**

Furnished with Fastening Straps for Fittings and all necessary Screws

TYPE SL CONDULET BODIES—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	SL11	SL22	SL33
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	160 lbs.	135 lbs.	65 lbs.
	List Price, each	\$.80	\$.85	\$1.05
TYPE ST CONDULET BODIES—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	ST111	ST222	ST333
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	170 lbs.	140 lbs.	70 lbs.
	List Price, each	\$.90	\$1.00	\$1.20
TYPE SX CONDULET BODIES—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	SX1111	SX2222	SX3333
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	210 lbs.	180 lbs.	80 lbs.
	List Price, each	\$1.00	\$1.10	\$1.35

**COVERS FOR TYPES S, SA, SC, SL, ST AND SX CONDULET BODIES—Black Enamel
Finish. For 1-2, 3-4 and 1-inch Condulet Bodies**

	For Receptacles and Rosettes		For Hubbell Plug 5757		Style of Cover	Blank Metal		
	Sheet Steel	Cast Iron	Sheet Steel	Cast Iron		Sheet Steel	Cast Iron	
	00	00g	00k	00kg	..Catalogue No..	00b	00bg	
	100	100	100	100	..Standard Pkg..	100	100	
	50 lbs.	50 lbs.	40 lbs.	40 lbs.	..Weight Std. Pkg.	70 lbs.	70 lbs.	
	\$.12	\$.35	\$.12	\$.35	..List Price, each..	\$.12	\$.35	

Fittings for use with Condulets of the S series are not included in above list prices, but are as follows:

Pony Receptacles: ARROW—E-28795, 50715. BRYANT—28795, 50715. G. E. CO.—11221, 28795, 50715. PAISTE—28795, 50715. P. & S.—61870.

Clamp Receptacles and Rosettes: CONDULETTO (Crouse-Hinds)—C337G, C337, C442, C448, C449. ARROW—E-8100, 89108. BRYANT—59108, 61988. FEDERAL—303, 304, 305. G. E. CO.—105001. PAISTE—59439, 61988. P. & S.—61877, 61988, 102703.

Polarity Plug Receptacle: HUBBELL—5757.

Types 00 and 00g covers have openings 1 1/4 inches in diameter. Types 00k and 00kg covers have openings 1 1/2 inches in diameter.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

For finishes, see note on page 91.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized covers of all three styles may be assorted to make up a standard package. No other assortments are allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity for those covers.

Conduletto clamp receptacles and rosettes, for use with Condulets of the S series, are listed on page 190. Condulet reducers are listed on page 171.

(Cross Reference Page 95)

CONDULETS—V SERIES
TYPES V, VA AND VC—Iron

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding $2\frac{3}{4} \times 5\frac{1}{4}$ Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard

For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the V series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.



Type V
(Padlock not included in list prices)

TYPE V CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	V189	V289	V389
	Standard Package	35	25	10
	Weight Std. Pkg.	230 lbs.	180 lbs.	100 lbs.
	List Price, each	\$4.50	\$4.55	\$4.60
Complete, except Globe and Guard	Catalogue Number	V1	V2	V3
	Standard Package	35	25	10
	Weight Std. Pkg.	125 lbs.	100 lbs.	50 lbs.
	List Price, each	\$1.90	\$1.95	\$2.00


TYPE VA CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VA189	VA289	VA389
	Standard Package	35	25	10
	Weight Std. Pkg.	230 lbs.	180 lbs.	100 lbs.
	List Price, each	\$4.50	\$4.55	\$4.60
Complete, except Globe and Guard	Catalogue Number	VA1	VA2	VA3
	Standard Package	35	25	10
	Weight Std. Pkg.	125 lbs.	100 lbs.	50 lbs.
	List Price, each	\$1.90	\$1.95	\$2.00


TYPE VC CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VC1189	VC2289	VC3389
	Standard Package	35	25	10
	Weight Std. Pkg.	250 lbs.	190 lbs.	110 lbs.
	List Price, each	\$4.60	\$4.70	\$4.80
Complete, except Globe and Guard	Catalogue Number	VC11	VC22	VC33
	Standard Package	35	25	10
	Weight Std. Pkg.	135 lbs.	110 lbs.	60 lbs.
	List Price, each	\$2.00	\$2.10	\$2.20

For finishes, assortments and other important information, see note on opposite page. Condulet reducers are listed on page 171.


Condulets of the V series are listed on pages 98 to 101, inclusive, and pages 106 to 109, inclusive.


(Cross Reference Page 98)


CONDULETS—V SERIES—Continued

TYPES VL, VT AND VX—Iron

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding $2\frac{3}{4} \times 5\frac{1}{4}$ Inches
Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard

TYPE VL CONDULETS—IRON—Black Enamel Finish					
	Complete	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
		Catalogue Number.....	VL1189	VL2289	VL3389
		Standard Package.....	35	25	10
		Weight Std. Pkg.....	250 lbs.	190 lbs.	110 lbs.
		List Price, each.....	\$4.60	\$4.70	\$4.80
	Complete, except Globe and Guard	Catalogue Number.....	VL11	VL22	VL33
		Standard Package.....	35	25	10
		Weight Std. Pkg.....	135 lbs.	110 lbs.	60 lbs.
		List Price, each.....	\$2.00	\$2.10	\$2.20

TYPE VT CONDULETS—IRON—Black Enamel Finish					
	Complete	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
		Catalogue Number.....	VT11189	VT22289	VT33389
		Standard Package.....	35	25	10
		Weight Std. Pkg.....	255 lbs.	195 lbs.	115 lbs.
		List Price, each.....	\$4.75	\$4.85	\$5.05
	Complete, except Globe and Guard	Catalogue Number.....	VT111	VT222	VT333
		Standard Package.....	35	25	10
		Weight Std. Pkg.....	140 lbs.	120 lbs.	70 lbs.
		List Price, each.....	\$2.15	\$2.25	\$2.45

TYPE VX CONDULETS—IRON—Black Enamel Finish					
	Complete	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
		Catalogue Number.....	VX111189	VX222289	VX333389
		Standard Package.....	35	25	10
		Weight Std. Pkg.....	265 lbs.	200 lbs.	120 lbs.
		List Price, each.....	\$4.85	\$5.05	\$5.20
	Complete, except Globe and Guard	Catalogue Number.....	VX1111	VX2222	VX3333
		Standard Package.....	35	25	10
		Weight Std. Pkg.....	150 lbs.	130 lbs.	80 lbs.
		List Price, each.....	\$2.25	\$2.45	\$2.60

Important Information Concerning Condulets Listed on This and the Opposite Page
Clear globes are regularly furnished on orders for complete Condulets.
Colored globes will be furnished with Condulets of the V series, if specifically ordered, at the following increases over list prices for complete Condulets: Opal, \$.30; green, blue or orange, \$.90; ruby, \$1.55.
Globes and guards for Condulets of the V series are made in one size only.
Padlock is not included in prices for Condulets of the V series, but is listed on page 175, and will be furnished, if specifically ordered.
Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast bronze Condulets, plain and with special finishes, see page 182. For aluminum Condulets, plain and with black enamel finish, see page 182. Prices for cast brass Condulets, marine finish, scheduled on page 182, do not apply to Condulets of the V and VH series. Prices for these Condulets in brass, marine finish, will be quoted upon request.
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.
Globes are listed separately on page 173. Guards are listed separately on page 173. Sealing plate is listed separately on page 173. Gaskets are listed separately on page 176. Condulet reducers are listed on page 171.
Condulets of the V series are listed on pages 98 to 101, inclusive.

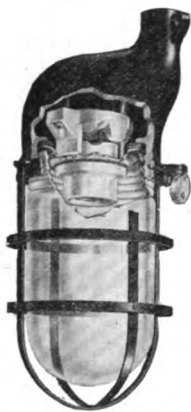
(Cross Reference Page 99)

CONDULETS—V SERIES—Continued

TYPES VE, VF AND VD—Iron

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding 2 3/4 x 5 1/4 Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard



Type VE
(Padlock not included in list prices)

For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the V series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.

TYPE VE CONDULETS—IRON—Black Enamel Finish

	Size in inches	1/2	3/4	1
Complete	Catalogue Number	VE189	VE289	VE389
	Standard Package	35	25	10
	Weight Std. Pkg.	250 lbs.	190 lbs.	100 lbs.
	List Price, each	\$4.75	\$4.85	\$4.95
Complete, except Globe and Guard	Catalogue Number	VE1	VE2	VE3
	Standard Package	35	25	10
	Weight Std. Pkg.	135 lbs.	110 lbs.	55 lbs.
	List Price, each	\$2.15	\$2.25	\$2.35



TYPE VF CONDULETS—IRON—Black Enamel Finish

	Size in inches	1/2	3/4	1
Complete	Catalogue Number	VF189	VF289	VF389
	Standard Package	35	25	10
	Weight Std. Pkg.	260 lbs.	200 lbs.	105 lbs.
	List Price, each	\$4.90	\$5.00	\$5.10
Complete, except Globe and Guard	Catalogue Number	VF1	VF2	VF3
	Standard Package	35	25	10
	Weight Std. Pkg.	145 lbs.	120 lbs.	55 lbs.
	List Price, each	\$2.30	\$2.40	\$2.50



TYPE VD CONDULETS—IRON—Black Enamel Finish

	Size in inches	1/2	3/4	1
Complete	Catalogue Number	VD1189	VD2283	VD3389
	Standard Package	35	25	10
	Weight Std. Pkg.	275 lbs.	210 lbs.	110 lbs.
	List Price, each	\$5.15	\$5.25	\$5.35
Complete, except Globe and Guard	Catalogue Number	VD11	VD22	VD33
	Standard Package	35	25	10
	Weight Std. Pkg.	160 lbs.	130 lbs.	60 lbs.
	List Price, each	\$2.55	\$2.65	\$2.75

For finishes, assortments and other important information, see note on opposite page. Condulet reducers are listed on page 171.

Condulets of the V series are listed on pages 98 to 101, inclusive.


(Cross Reference Page 100)


CONDULETS—V SERIES—Continued


TYPES VK, VP AND VJ—Iron

**Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt,
or any Lamp with Dimensions not Exceeding 2 3/4 x 5 1/4 Inches**

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary
Fastening Screws, and with or without Globe and Guard

TYPE VK CONDULETS—IRON—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	VK189	VK289	VK389
	Standard Package	35	25	10
	Shipping Weight Std. Pkg..	260 lbs.	200 lbs.	105 lbs.
	List Price, each	\$4.90	\$5.00	\$5.10
Complete, except Globe and Guard	Catalogue Number	VK1	VK2	VK3
	Standard Package	35	25	10
	Shipping Weight Std. Pkg..	145 lbs.	120 lbs.	55 lbs.
	List Price, each	\$2.30	\$2.40	\$2.50

TYPE VP CONDULETS—IRON—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	VP189	VP289	VP389
	Standard Package	35	25	10
	Shipping Weight Std. Pkg..	260 lbs.	200 lbs.	105 lbs.
	List Price, each	\$4.90	\$5.00	\$5.10
Complete, except Globe and Guard	Catalogue Number	VP1	VP2	VP3
	Standard Package	35	25	10
	Shipping Weight Std. Pkg..	145 lbs.	120 lbs.	55 lbs.
	List Price, each	\$2.30	\$2.40	\$2.50

TYPE VJ CONDULETS—IRON—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	VJ1189	VJ2289	VJ3389
	Standard Package	35	25	10
	Shipping Weight Std. Pkg..	280 lbs.	210 lbs.	110 lbs.
	List Price, each	\$5.15	\$5.25	\$5.35
Complete, except Globe and Guard	Catalogue Number	VJ11	VJ22	VJ33
	Standard Package	35	25	10
	Shipping Weight Std. Pkg..	165 lbs.	130 lbs.	60 lbs.
	List Price, each	\$2.55	\$2.65	\$2.75

Important Information Concerning Condulets Listed on This and the Opposite Page

Clear globes are regularly furnished on orders for complete Condulets.

Colored globes will be furnished with Condulets of the V series, if specifically ordered, at the following increases over list prices for complete Condulets: Opal, \$.30; green, blue or orange, \$.90; ruby, \$1.55

Globes and guards for Condulets of the V series are made in one size only.

Padlock is not included in prices for Condulets of the V series, but is listed on page 175, and will be furnished, if specifically ordered.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast bronze Condulets, plain and with special finishes, see page 182. For aluminum Condulets, plain and with black enamel finish, see page 182. Prices for cast brass Condulets, marine finish, scheduled on page 182, do not apply to Condulets of the V and VH series. Prices for these Condulets in brass, marine finish, will be quoted upon request.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Globes are listed separately on page 173. Guards are listed separately on page 173. Sealing plate is listed separately on page 173. Gaskets are listed separately on page 176. Condulet reducers are listed on page 171.

Condulets of the V series are listed on pages 98 to 101, inclusive.

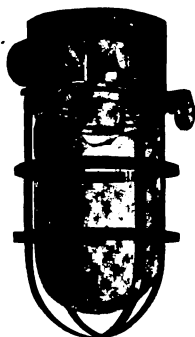
(Cross Reference Page 101)

CONDULETS—VH SERIES

TYPES VH, VHA AND VHC—Iron

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt, or any Lamp with Dimensions not Exceeding $3\frac{3}{4} \times 7\frac{3}{4}$ Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard



Type VH
(Padlock not included in list prices)

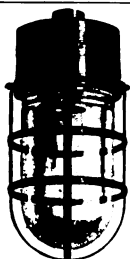
For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the VH series meet every requirement.

These condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.

TYPE VH CONDULETS—IRON—Black Enamel Finish

	Size in inches.	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VH189	VH289	VH389
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	285 lbs.	220 lbs.	120 lbs.
	List Price, each....	\$5. 40	\$5. 45	\$6. 50
Complete, except Globe and Guard	Catalogue Number	VH1	VH2	VH3
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	135 lbs.	110 lbs.	60 lbs.
	List Price, each....	\$2. 35	\$2. 40	\$2. 45



TYPE VHA CONDULETS—IRON—Black Enamel Finish

	Size in inches.	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHA189	VHA289	VHA389
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	285 lbs.	220 lbs.	120 lbs.
	List Price, each....	\$5. 40	\$5. 45	\$6. 50
Complete, except Globe and Guard	Catalogue Number	VHA1	VHA2	VHA3
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	135 lbs.	110 lbs.	60 lbs.
	List Price, each....	\$2. 35	\$2. 40	\$2. 45



TYPE VHC CONDULETS—IRON—Black Enamel Finish

	Size in inches.	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHC1189	VHC2289	VHC3389
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	295 lbs.	230 lbs.	125 lbs.
	List Price, each....	\$5. 50	\$5. 60	\$6. 65
Complete, except Globe and Guard	Catalogue Number	VHC11	VHC22	VHC33
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	145 lbs.	120 lbs.	65 lbs.
	List Price, each....	\$2. 45	\$2. 55	\$2. 60

For finishes, assortments and other important information, see note on opposite page.

Condulet reducers are listed on page 171.

Condulets of the VH series are listed on pages 102 to 105, inclusive, and pages 110 to 113, inclusive.

(Cross Reference Page 102)

**CONDULETS—VH SERIES—Continued
TYPES VHL, VHT AND VHX—Iron**

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt,
or any Lamp with Dimensions not Exceeding $3\frac{3}{4}$ x $7\frac{3}{4}$ Inches
Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary
Fastening Screws, and with or without Globe and Guard



TYPE VHL CONDULETS—IRON—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHL1189	VHL2289	VHL3389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg. . . .	295 lbs.	220 lbs.	120 lbs.
	List Price, each	\$5.50	\$5.60	\$5.65
Complete, except Globe and Guard	Catalogue Number	VHL11	VHL22	VHL33
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg. . . .	140 lbs.	110 lbs.	60 lbs.
	List Price, each	\$2.45	\$2.55	\$2.60



TYPE VHT CONDULETS—IRON—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHT11189	VHT22289	VHT33389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg. . . .	305 lbs.	230 lbs.	125 lbs.
	List Price, each	\$5.60	\$5.75	\$5.85
Complete, except Globe and Guard	Catalogue Number	VHT111	VHT222	VHT333
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg. . . .	150 lbs.	120 lbs.	65 lbs.
	List Price, each	\$2.55	\$2.70	\$2.80



TYPE VHX CONDULETS—IRON—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHX111189	VHX222289	VHX333389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg. . . .	310 lbs.	240 lbs.	130 lbs.
	List Price, each	\$5.70	\$5.90	\$6.05
Complete, except Globe and Guard	Catalogue Number	VHX1111	VHX2222	VHX3333
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg. . . .	160 lbs.	130 lbs.	70 lbs.
	List Price, each	\$2.65	\$2.85	\$3.00

Important Information Concerning Condulets Listed on This and the Opposite Page
Clear globes are regularly furnished on orders for complete Condulets.
Colored globes will be furnished with Condulets of the VH series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, \$.90; green, blue or orange, \$1.55; ruby, \$2.10.
Globes and guards for Condulets of the VH series are made in one size only.
Padlock is not included in prices for Condulets of the VH series, but is listed on page 175, and will be furnished, if specifically ordered.
Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast bronze Condulets, plain and with special finishes, see page 182. For aluminum Condulets, plain and with black enamel finish, see page 182. Prices for cast brass Condulets, marine finish, scheduled on page 182, do not apply to Condulets of the V and VH series. Prices for these Condulets in brass, marine finish, will be quoted upon request.
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.
Globes are listed separately on page 173. Guards are listed separately on page 173. Sealing plate is listed separately on page 173. Gaskets are listed separately on page 176. Condulet reducers are listed on page 171.
Condulets of the VH series are listed on pages 102 to 105, inclusive.

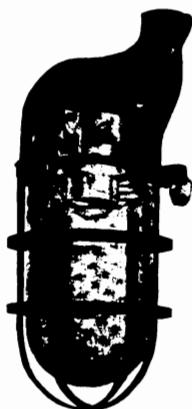
(Cross Reference Page 103)

CONDULETS—VH SERIES—Continued

TYPES VHE, VHF AND VHD—Iron

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt, or any Lamp with Dimensions not Exceeding $3\frac{3}{4}$ x $7\frac{3}{4}$ Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard



Type VHE
(Padlock not included in list prices)

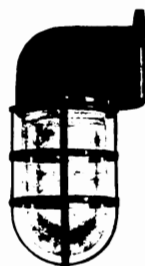
For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the VH series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.

TYPE VHE CONDULETS—IRON—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHE189	VHE289	VHE389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg.	335 lbs.	260 lbs.	130 lbs.
	List Price, each	\$5.50	\$5.60	\$6.70
Complete, except Globe and Guard	Catalogue Number	VHE1	VHE2	VHE3
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg.	185 lbs.	150 lbs.	70 lbs.
	List Price, each	\$2.45	\$2.55	\$2.65



TYPE VHF CONDULETS—IRON—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHF189	VHF289	VHF389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg.	335 lbs.	260 lbs.	130 lbs.
	List Price, each	\$5.75	\$5.85	\$6.95
Complete, except Globe and Guard	Catalogue Number	VHF1	VHF2	VHF3
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg.	185 lbs.	150 lbs.	70 lbs.
	List Price, each	\$2.70	\$2.80	\$2.90



TYPE VHD CONDULETS—IRON—Black Enamel Finish

	Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHD1189	VHD2289	VHD3389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg.	350 lbs.	270 lbs.	140 lbs.
	List Price, each	\$5.90	\$6.00	\$6.10
Complete, except Globe and Guard	Catalogue Number	VHD11	VHD22	VHD33
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg.	200 lbs.	160 lbs.	80 lbs.
	List Price, each	\$2.85	\$2.95	\$3.05

For finishes, assortments and other important information, see note on opposite page. Condulet reducers are listed on page 171.

Condulets of the VH series are listed on pages 102 to 105, inclusive.

(Cross Reference Page 104)


CONDULETS—VH SERIES—Continued

TYPES VHK, VHP AND VHJ—Iron

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt,
or any Lamp with Dimensions not Exceeding $3\frac{3}{4}$ x $7\frac{3}{4}$ Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening
Screws, and with or without Globe and Guard

TYPE VHK CONDULETS—IRON—Black Enamel Finish				
	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number ...	VHK189	VHK289	VHK389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg....	370 lbs.	290 lbs.	150 lbs.
	List Price, each.....	\$5.75	\$5.85	\$5.95
Complete, except Globe and Guard	Catalogue Number ...	VHK1	VHK2	VHK3
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg....	220 lbs.	180 lbs.	90 lbs.
	List Price, each.....	\$2.70	\$2.80	\$2.90

TYPE VHP CONDULETS—IRON—Black Enamel Finish				
	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number ...	VHP189	VHP289	VHP389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg....	370 lbs.	290 lbs.	150 lbs.
	List Price, each.....	\$5.75	\$5.85	\$5.95
Complete, except Globe and Guard	Catalogue Number ...	VHP1	VHP2	VHP3
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg....	220 lbs.	180 lbs.	90 lbs.
	List Price, each.....	\$2.70	\$2.80	\$2.90

TYPE VHJ CONDULETS—IRON—Black Enamel Finish				
	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
	Catalogue Number ...	VHJ1189	VHJ2289	VHJ3389
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg....	375 lbs.	295 lbs.	155 lbs.
	List Price, each.....	\$5.90	\$6.00	\$6.10
Complete, except Globe and Guard	Catalogue Number ...	VHJ11	VHJ22	VHJ33
	Standard Package	35	25	10
	Ship. Wt. Std. Pkg....	225 lbs.	185 lbs.	95 lbs.
	List Price, each.....	\$2.85	\$2.95	\$3.05

Clear globes are regularly furnished on orders for complete Condulets.

Colored globes will be furnished with Condulets of the VH series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, \$.90; green, blue or orange, \$1.55; ruby, \$2.10.

Globes and guards for Condulets of the VH series are made in one size only.

Padlock is not included in prices for Condulets of the VH series, but is listed on page 175.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish when the order specifies galvanized finish. For special plated finishes, see page 182. For cast bronze Condulets, plain and with special finishes, see page 182. For aluminum Condulets, plain and with black enamel finish, see page 182. Prices for cast brass Condulets, marine finish, scheduled on page 182, do not apply to Condulets of the V and VH series. Prices for these Condulets in brass, marine finish, will be quoted upon request.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Receptacle CCV337 is listed separately on page 194. Globes and Guards are listed separately on page 173.

Sealing plate is listed separately on page 173. Gaskets are listed separately on page 176. Padlock is listed on page 175. Condulet reducers are listed on page 171.

Condulets of the VH series are listed on pages 102 to 105, inclusive, and pages 110 to 113, inclusive.

(Cross Reference Page 105)

HAND LAMPS

TYPE VS—Aluminum

TYPE VS—Brass

Vapor, Gas and Dust-proof Portable Hand Lamp

Takes any Lamp with Dimensions not Exceeding $2\frac{1}{2} \times 5\frac{1}{4}$ Inches*

Furnished with Crouse-Hinds Receptacle C9514, Clear Globe, Guard and Gaskets

Type VS hand lamps are exceptionally well suited for use in garages, refineries, flour mills, for marine work, or wherever there is inflammable vapor, fine dust or moisture in the air.

Globes listed below can also be used on the V series of Condulets, and when so used take any lamp with dimensions not exceeding $2\frac{1}{2} \times 4\frac{1}{4}$ inches. These dimensions permit the use of any lamp having a bulb that is no larger than an S14 or G18 $\frac{1}{2}$.

The globes listed below are smaller than those listed in Condulet Catalogue No. 1000 and when used on Condulets of the V series require a correspondingly smaller guard than that listed in Condulet Catalogue No. 1000. This smaller guard is listed below.

Guards VS095 and VS950, listed below for use with type VS hand lamps, have a hook and are provided with a locking cam, which is held closed by a knurled screw. Guards V950 and V95, listed below for use with Condulets of the V series, have no hook and are provided with a locking cam, which is arranged to take a padlock.



Type VS Hand Lamp

TYPE VS HAND LAMP—Aluminum

Finish	Scratch Brush
Catalogue Number	VS100895
Standard Package	35
Shipping Weight Std. Pkg.	105 lbs.
List Price, each	\$6.15

TYPE VS HAND LAMP—Brass

Finish	Marine
Catalogue Number	VS10895
Standard Package	35
Shipping Weight Std. Pkg.	265 lbs.
List Price, each	\$9.00

GLOBES—5 Inches in Overall Length

For Type VS Hand Lamps and Condulets of the V Series**



Color	Clear	Opal	Green	Blue	Orange	Ruby
Catalogue No.	V85	V415	V425	V435	V445	V455
Standard Pkg.	35	35	35	35	35	35
Wt. Std. Pkg.	40 lbs.	40 lbs.	40 lbs.	40 lbs.	40 lbs.	40 lbs.
List Price, each	\$.80	\$1.10	\$1.70	\$1.70	\$1.70	\$2.35

GUARDS—Brass

For Globes Listed on this Page

For Type VS Hand Lamps

For Condulets of the V Series**



VS095

Galvan-ized	Marine
VS095	VS950
35	35
40 lbs.	40 lbs.
\$2.00	\$2.00

Finish	Marine	Black
Catalogue No..	V950	V95
Standard Pkg..	35	35
Wt. Std. Pkg..	40 lbs.	40 lbs.
List Price, each	\$1.80	\$1.80



VS






*These dimensions permit the use of any lamp having a bulb that is no larger than an S19 or G18 $\frac{1}{2}$.
 **The V series of Condulets are listed on pages 98 to 101, inclusive.

If specified on order, leather gaskets will be furnished with type VS hand lamp, instead of rubber gaskets, without extra charge.
 Gasket is listed separately on page 176.

(Cross Reference Page 105a)

**CONDULET BODIES—W SERIES
TYPES W, WC, WL, WT AND WX**

FOR PLUG RECEPTACLES—HUBBELL, 5624; GENERAL ELECTRIC CO., 102700

	TYPE W CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	W1	W2	W3
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	115 lbs.	90 lbs.	45 lbs.
	List Price, each	\$.50	\$.60	\$.70
	TYPE WC CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	WC11	WC22	WC33
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	140 lbs.	110 lbs.	55 lbs.
	List Price, each	\$.60	\$.65	\$.80
	TYPE WL CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	WL11	WL22	WL33
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	140 lbs.	110 lbs.	55 lbs.
	List Price, each	\$.60	\$.65	\$.80
	TYPE WT CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	WT111	WT222	WT333
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	150 lbs.	120 lbs.	60 lbs.
	List Price, each	\$.70	\$.80	\$1.00
	TYPE WX CONDULET BODIES—Black Enamel Finish			
	Size in inches	1/2	3/4	1
	Catalogue Number	WX1111	WX2222	WX3333
	Standard Package	100	75	25
	Shipping Weight Std. Pkg.	160 lbs.	150 lbs.	75 lbs.
	List Price, each	\$.80	\$.90	\$1.15

COVERS

For Types W, WC, WL, WT and WX Condulet Bodies—Black Enamel Finish
For 1-2, 3-4 and 1-Inch Condulet Bodies

For Attach. Plug		.....Style of Cover.....	Blank Metal	
Sheet Steel	Cast Iron		Sheet Steel	Cast Iron
0	0g	... Catalogue Number ...	0b	0bg
100	100	... Standard Package ...	100	100
30 lbs.	30 lbs.	... Weight Std. Pkg.	35 lbs.	35 lbs.
\$.10	\$.20	... List Price, each	\$.10	\$.20






Finishes: Black enamel is the standard finish for both Condulet bodies and metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies and all galvanized finish on covers will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes on Condulet bodies and covers, cast brass and cast bronze Condulet bodies and brass and bronze covers with plain and special finishes, aluminum Condulet bodies and covers with plain and black enamel finish, see page 182. Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment of Condulet bodies is allowed. Black enameled and galvanized covers of both styles for Condulet bodies of the W series may be assorted to make up a standard package.

We will furnish receptacles for above Condulet bodies.

(Cross Reference Page 115)


CONDULET BODIES—WD SERIES **TYPES WD, WDC, WDL, WDT AND WDX**

For Clamp Receptacles

TYPE WD CONDULET BODIES—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	WD1	WD2	WD3
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	90 lbs.	75 lbs.	50 lbs.
	List Price, each	\$.60	\$.70	\$.80
TYPE WDC CONDULET BODIES—Black Enamel Finish				
 Broken-away View, showing Receptacle and Cover Installed	Size in inches	1/2	3/4	1
	Catalogue Number	WDC11	WDC22	WDC33
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	105 lbs.	90 lbs.	60 lbs.
	List Price, each	\$.70	\$.75	\$.90
TYPE WDL CONDULET BODIES—Black Enamel Finish				
	Size in inches	1/2	3/4-1/2	3/4
	Catalogue Number	WDL11	WDL21	WDL22
	Standard Package	75	50	50
	Shipping Weight Std. Pkg.	105 lbs.	90 lbs.	90 lbs.
	List Price, each	\$.70	\$.75	\$.75
TYPE WDT CONDULET BODIES—Black Enamel Finish				
	Size in inches	1/2	3/4-1/2-3/4*	3/4
	Catalogue Number	WDT111	WDT212	WDT222
	Standard Package	75	50	50
	Shipping Weight Std. Pkg.	120 lbs.	100 lbs.	105 lbs.
	List Price, each	\$.80	\$.90	\$.90
TYPE WDX CONDULET BODIES—Black Enamel Finish				
	Size in inches	1/2	3/4	1
	Catalogue Number	WDX1111	WDX2222	WDX3333
	Standard Package	75	50	25
	Shipping Weight Std. Pkg.	140 lbs.	115 lbs.	75 lbs.
	List Price, each	\$.90	\$1.00	\$1.25

COVERS—For Condulet Bodies of the WD Series—Black Enamel Finish

Furnished with Fastening Screws

	Style of Cover	1 1/4" Opening†		1 1/2" Opening†		Black Metal	
		Sheet Steel	Cast Iron	Sheet Steel	Cast Iron	Sheet Steel	Cast Iron
		WD054	WD0054	WD048	WD0048	WD00	WD000
	Catalogue No.	75	75	75	75	75	75
	Standard Pkg.	25 lbs.	40 lbs.	25 lbs.	40 lbs.	25 lbs.	45 lbs.
	Wt. Std. Pkg.	25 lbs.	40 lbs.	25 lbs.	40 lbs.	25 lbs.	45 lbs.
	List, each	\$.15	\$.30	\$.15	\$.30	\$.15	\$.30

Prices for Condulet bodies do not include receptacles or covers.

*Center hub is the smallest one.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

We will furnish clamp receptacles for condulet bodies listed above.

Condulet bodies listed above take the following:

†Cover with 1 1/4-inch opening: **ARROW E**—80, 440. **BRYANT**—4014, 4057. **FEDERAL**—303, 304, 305. **P. & S.**—80, 440.

†Cover with 1 1/2-inch opening: **ARROW E**—427, 439, 61577, 61578, 61877, 61988. **BRYANT**—4035, 4036, 61988. **G. E. CO.**—GE001, GE000, GE070, GE118, GE153, GE267, GE280, GE271. **PAISTE**—47566, 59439, 61988. **P. & S.**—427, 436, 437, 439, 61577, 61578, 61877, 61988, 102703, 102704.

(Cross Reference Page 115a)

CONDULETS—Y SERIES—Continued


TYPE Y

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE Y CONDULETS—DEAD END—Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

	Style of Cut-out	Size in inches		1/2	3/4	1
	2-wire	Catalogue Number .	Y1302	Y2302	Y3302	
		Standard Package..	15	15	10	
		Weight Std. Pkg....	110 lbs.	120 lbs.	90 lbs.	
		List Price, each	\$1.45	\$1.55	\$1.65	
Style of Cut-out	Size in inches		1 1/4	1 1/2	2	
2-wire	Catalogue Number .	Y4302	Y5302	Y6302		
	Standard Package..	10	5	5		
	Weight Std. Pkg....	100 lbs.	60 lbs.	75 lbs.		
	List Price, each	\$1.85	\$1.95	\$2.15		

Style of Cut-out	Size in inches.	1/2	3/4	1	1 1/4	1 1/2
3-wire	Catalogue Number.	Y1303	Y2303	Y3303	Y4303	Y5303
	Standard Package.	15	15	10	10	5
	Weight Std. Pkg...	140 lbs.	150 lbs.	100 lbs.	110 lbs.	65 lbs.
	List Price, each...	\$1.95	\$2.05	\$2.15	\$2.30	\$2.45

For 60 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches.....	3/4	1	1 1/4	1 1/2	2
2-wire	Catalogue Number.	Y2602	Y3602	Y4602	Y5602	Y6602
	Standard Package.	15	10	10	5	5
	Weight Std. Pkg...	170 lbs.	120 lbs.	130 lbs.	75 lbs.	80 lbs.
	List Price, each...	\$2.40	\$2.55	\$2.75	\$2.90	\$3.00
Style of Cut-out	Size in inches.....	3/4	1	1 1/4	1 1/2	2
3-wire	Catalogue Number.	Y2603	Y3603	Y4603	Y5603	Y6603
	Standard Package.	15	10	10	5	5
	Weight Std. Pkg...	220 lbs.	150 lbs.	160 lbs.	90 lbs.	95 lbs.
	List Price, each...	\$3.15	\$3.25	\$3.55	\$3.70	\$3.85

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs

- 2-Wire:** BRYANT—(Cartridge) 1917, (Plug) 62965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34367, (Plug) 62965. NOARK—(Cartridge) 3327. PAISTE—(Cartridge) 72965, (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653, (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.
- 3-Wire:** BRYANT—(Cartridge) 1924, (Plug) 62165. D. & W.—(Cartridge) 91103. G. E. CO.—(Cartridge) 34372, (Plug) 62165. NOARK—(Cartridge) 3328. PAISTE—(Cartridge) 72165, (Plug) 2165. SHAWMUT—(Cartridge) 2079. TRUMBULL—(Cartridge) 21653, (Plug) 2165. WEBER—(Plug) 62165. UNION—(Cartridge) 2012.

60 Ampere, 250 Volt, Cut-outs

- 2-Wire:** BRYANT—(Cartridge) 1918. D. & W.—(Cartridge) 91108. G. E. CO.—(Cartridge) 34376. NOARK—(Cartridge) 3329. PAISTE—(Cartridge) 82965. SHAWMUT—(Cartridge) 2078. TRUMBULL—(Cartridge) 29656. UNION—(Cartridge) 2011.
- 3-Wire:** BRYANT—(Cartridge) 1925. D. & W.—(Cartridge) 91109. G. E. CO.—(Cartridge) 34377. NOARK—(Cartridge) 3330. PAISTE—(Cartridge) 82165. SHAWMUT—(Cartridge) 2080. TRUMBULL—(Cartridge) 21656. UNION—(Cartridge) 2013.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Listings of type Y Condulets are continued on page 120.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 119)

CONDULETS—Y SERIES—Continued
TYPES Y AND YC

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE Y CONDULETS—DEAD END—Black Enamel Finish—Continued

For 100 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches	1	1¼	1½	2	2½
2-wire	Catalogue Number	Y31002	Y41002	Y51002	Y61002	Y71002
	Standard Package	10	10	5	5	5
	Weight Std. Pkg.	220 lbs.	230 lbs.	120 lbs.	130 lbs.	140 lbs.
	List Price, each	\$5.20	\$5.50	\$5.65	\$5.75	\$5.85
Style of Cut-out	Size in inches	1	1¼	1½	2	2½
3-wire	Catalogue Number	Y31003	Y41003	Y51003	Y61003	Y71003
	Standard Package	10	10	5	5	5
	Weight Std. Pkg.	230 lbs.	240 lbs.	140 lbs.	150 lbs.	160 lbs.
	List Price, each	\$5.80	\$6.25	\$6.35	\$6.45	\$6.55

For 30 or 60 Ampere, 600 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches	½	¾	1	1¼	1½
1-wire	Catalogue Number	Y16016	Y26016	Y36016	Y46016	Y56016
	Standard Package	15	15	10	10	5
	Weight Std. Pkg.	175 lbs.	185 lbs.	125 lbs.	130 lbs.	70 lbs.
	List Price, each	\$3.15	\$3.25	\$3.35	\$3.45	\$3.55

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

100 Ampere, 250 Volt, Cut-outs


2-Wire: BRYANT—(Cartridge) 271. D. & W.—(Cartridge) 91119. G. E. CO.—(Cartridge) 36801. NOARK—(Cartridge) 3331. SHAWMUT—(Cartridge) 2101. UNION—(Cartridge) 2014.
 3-Wire: BRYANT—(Cartridge) 272. D. & W.—(Cartridge) 91120. G. E. CO.—(Cartridge) 36800. NOARK—(Cartridge) 3332. SHAWMUT—(Cartridge) 2102. UNION—(Cartridge) 2015.

30 and 60 Ampere, 600 Volt, Cut-outs

1-Wire, 30 Ampere: BRYANT—(Cartridge) 1937. D. & W.—(Cartridge) 28076. G. E. CO.—(Cartridge) 34901. NOARK—(Cartridge) 5600. SHAWMUT—(Cartridge) 20735. UNION—(Cartridge) 4003.
 1-Wire, 60 Ampere: BRYANT—(Cartridge) 1938. D. & W.—(Cartridge) 28077. G. E. CO.—(Cartridge) 35101. NOARK—(Cartridge) 5601. SHAWMUT—(Cartridge) 20745. UNION—(Cartridge) 4004.

TYPE YC CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished



Style of Cut-out	Size in inches	½ — ½	¾ — ¾	1 — 1
2-wire	Catalogue Number	YC11302	YC22302	YC33302
	Standard Package	15	15	10
	Weight Std. Pkg.	120 lbs.	130 lbs.	100 lbs.
	List Price, each	\$1.70	\$1.80	\$1.90
Style of Cut-out	Size in inches	1¼ — 1¼	1½ — 1½	2 — 2
2-wire	Catalogue Number	YC44302	YC55302	YC66302
	Standard Package	10	5	5
	Weight Std. Pkg.	110 lbs.	65 lbs.	70 lbs.
	List Price, each	\$2.10	\$2.20	\$2.40

We will furnish cut-outs for above type YC Condulets, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

2-Wire, 30 Ampere Cut-outs: BRYANT—(Cartridge) 1917. (Plug) 62965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34367. (Plug) 62965. NOARK—(Cartridge) 3327. PAISTE—(Cartridge) 72965. (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653. (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.

For finishes and assortments, see note on page 91. Condulet reducers are listed on page 171.

Listings of type YC Condulets are continued on opposite page.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 120)

CONDULETS—Y SERIES—Continued

TYPE YC—Continued

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YC CONDULETS—THROUGH FEED—Black Enamel Finish—Continued

For 30 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches....	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{3}{4}$	1 — 1	$1\frac{1}{4}$ — $1\frac{1}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$
3-wire	Catalogue No....	YC11303	YC22303	YC33303	YC44303	YC55303
	Standard Package.	15	15	10	10	5
	Weight Std. Pkg..	140 lbs.	145 lbs.	120 lbs.	130 lbs.	70 lbs.
	List Price, each...	\$2.15	\$2.25	\$2.35	\$2.60	\$2.70

For 60 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches....	$\frac{3}{4}$ — $\frac{3}{4}$	1 — 1	$1\frac{1}{4}$ — $1\frac{1}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$	2 — 2
2-wire	Catalogue No....	YC22602	YC33602	YC44602	YC55602	YC66602
	Standard Package.	15	10	10	5	5
	Weight Std. Pkg..	210 lbs.	145 lbs.	150 lbs.	85 lbs.	90 lbs.
	List Price, each...	\$2.65	\$2.75	\$2.85	\$3.15	\$3.25

Style of Cut-out	Size in inches....	$\frac{3}{4}$ — $\frac{3}{4}$	1 — 1	$1\frac{1}{4}$ — $1\frac{1}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$	2 — 2
3-wire	Catalogue No....	YC22603	YC33603	YC44603	YC55603	YC66603
	Standard Package.	15	10	10	5	5
	Weight Std. Pkg..	260 lbs.	170 lbs.	180 lbs.	100 lbs.	105 lbs.
	List Price, each...	\$3.40	\$3.50	\$3.60	\$3.95	\$4.10

For 100 Ampere, 250 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches....	1 — 1	$1\frac{1}{4}$ — $1\frac{1}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$	2 — 2	$2\frac{1}{2}$ — $2\frac{1}{2}$
2-wire	Catalogue No....	YC331002	YC441002	YC551002	YC661002	YC771002
	Standard Package.	10	10	5	5	5
	Weight Std. Pkg..	270 lbs.	280 lbs.	140 lbs.	150 lbs.	160 lbs.
	List Price, each...	\$5.45	\$5.80	\$5.90	\$6.10	\$6.20

Style of Cut-out	Size in inches....	1 — 1	$1\frac{1}{4}$ — $1\frac{1}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$	2 — 2	$2\frac{1}{2}$ — $2\frac{1}{2}$
3-wire	Catalogue No....	YC331003	YC441003	YC551003	YC661003	YC771003
	Standard Package.	10	10	5	5	5
	Weight Std. Pkg..	280 lbs.	290 lbs.	145 lbs.	150 lbs.	160 lbs.
	List Price, each...	\$6.10	\$6.50	\$6.65	\$6.75	\$6.90

For 30 or 60 Ampere, 600 Volt, N. E. C. Main Line Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches....	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{3}{4}$	1 — 1	$1\frac{1}{4}$ — $1\frac{1}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$
1-wire	Catalogue No....	YC116016	YC226016	YC336016	YC446016	YC556016
	Standard Package.	15	15	10	10	5
	Weight Std. Pkg..	180 lbs.	190 lbs.	130 lbs.	140 lbs.	80 lbs.
	List Price, each...	\$3.30	\$3.45	\$3.60	\$3.60	\$3.90

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
3-Wire: BRYANT—(Cartridge) 1924. (Plug) 62165. D. & W.—(Cartridge) 91103. G. E. CO.—(Cartridge) 34372. (Plug) 62165. NOARK—(Cartridge) 3328. PAISTE—(Cartridge) 72165. (Plug) 2165. SHAWMUT—(Cartridge) 2079. TRUMBULL—(Cartridge) 21653. (Plug) 2165. WEBER—(Plug) 62165. UNION—(Cartridge) 2012.

60 Ampere, 250 Volt, Cut-outs
2-Wire: BRYANT—(Cartridge) 1918. D. & W.—(Cartridge) 91108. G. E. CO.—(Cartridge) 34376. NOARK—(Cartridge) 3329. PAISTE—(Cartridge) 82965. SHAWMUT—(Cartridge) 2078. TRUMBULL—(Cartridge) 20656. UNION—(Cartridge) 2011.

3-Wire: BRYANT—(Cartridge) 1925. D. & W.—(Cartridge) 91109. G. E. CO.—(Cartridge) 34377. NOARK—(Cartridge) 3330. PAISTE—(Cartridge) 82165. SHAWMUT—(Cartridge) 2080. TRUMBULL—(Cartridge) 21656. UNION—(Cartridge) 2013.

3-Wire, 100 Ampere and 3-Wire, 100 Ampere, 250 Volt, Cut-outs } See enumeration of cut-outs under type Y
1-Wire, 30 Ampere and 1-Wire, 60 Ampere, 600 Volt, Cut-outs } Condulets on opposite page.

For finishes and assortments, see note on page 91.

Condulet reducers are listed on page 171.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 121)

CONDULETS—Y SERIES—Continued

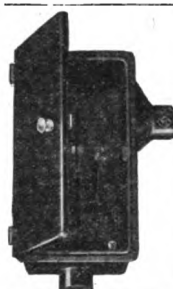





TYPE YL

For Cartridge or Plug Fuse Cut-outs





Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YL CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Main Line or Single Branch Cut-outs—Cut-outs not Furnished

	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ 	$\frac{3}{4}$ 	1 
	2-wire	Catalogue Number....	YL11302	YL22302	YL33302
		Standard Package.....	15	15	10
		Weight Std. Pkg.....	140 lbs.	150 lbs.	100 lbs.
		List Price, each.....	\$1.75	\$1.85	\$1.95
	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ 	$\frac{3}{4}$ 	1 
	3-wire	Catalogue Number....	YL11303	YL22303	YL33303
		Standard Package.....	15	15	10
		Weight Std. Pkg.....	170 lbs.	175 lbs.	120 lbs.
		List Price, each.....	\$2.55	\$2.75	\$2.85

For 60 Ampere, 250 Volt, N. E. C. Main Line or Single Branch Cut-outs—Cut-outs not Furnished

Style of Cut-out	$\frac{3}{4}$ 	1	....Size in inches....	Style of Cut-out	$\frac{3}{4}$ 	1 
2-wire	YL22602 15 200 lbs. \$2.60	YL33602 10 140 lbs. \$2.70	..Catalogue Number.. ..Standard Package.. ..Weight Std. Pkg.. ..List Price, each..	3-wire	YL22603 15 260 lbs. \$4.20	YL33603 10 190 lbs. \$4.30

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Main Line Cut-outs
 2-Wire: BRYANT—(Cartridge) 1917, (Plug) 82965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34367, (Plug) 62965. NOARK—(Cartridge) 3327. PAISTE—(Cartridge) 72965, (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653, (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.

3-Wire: BRYANT—(Cartridge) 1924, (Plug) 62165. D. & W.—(Cartridge) 91103. G. E. CO.—(Cartridge) 34372, (Plug) 62165. NOARK—(Cartridge) 3328. PAISTE—(Cartridge) 72165, (Plug) 2165. SHAWMUT—(Cartridge) 2079. TRUMBULL—(Cartridge) 21653, (Plug) 2165. WEBER—(Plug) 62165. UNION—(Cartridge) 2012.

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Single Branch Cut-outs
 2 to 2-Wire: BRYANT—(Cartridge) 1919, (Plug) 61935. D. & W.—(Cartridge) 91104. G. E. CO.—(Cartridge) 34368, (Plug) 61935. NOARK—(Cartridge) 3345. PAISTE—(Cartridge) 71935, (Plug) 1935. SHAWMUT—(Cartridge) 2081. TRUMBULL—(Cartridge) 19353, (Plug) 1935. WEBER—(Plug) 61935. UNION—(Cartridge) 2020.

3 to 3-Wire: BRYANT—(Cartridge) 1926, (Plug) 8042. D. & W.—(Cartridge) 91105. G. E. CO.—(Cartridge) 34373, (Plug) 8042. NOARK—(Cartridge) 3346. PAISTE—(Cartridge) 78042, (Plug) 8042. SHAWMUT—(Cartridge) 2083. TRUMBULL—(Cartridge) 80423, (Plug) 8042. WEBER—(Plug) 8042. UNION—(Cartridge) 2022.

60 Ampere, 250 Volt, Main Line Cut-outs

2-Wire: BRYANT—(Cartridge) 1918. D. & W.—(Cartridge) 91108. G. E. CO.—(Cartridge) 34376. NOARK—(Cartridge) 3329. PAISTE—(Cartridge) 82965. SHAWMUT—(Cartridge) 2078. TRUMBULL—(Cartridge) 29656. UNION—(Cartridge) 2011.

3-Wire: BRYANT—(Cartridge) 1927. D. & W.—(Cartridge) 91109. G. E. CO.—(Cartridge) 34377. NOARK—(Cartridge) 3330. PAISTE—(Cartridge) 82165. SHAWMUT—(Cartridge) 2080. TRUMBULL—(Cartridge) 21656. UNION—(Cartridge) 2013.

60 Ampere, 250 Volt, Single Branch Cut-outs

2 to 2-Wire: BRYANT—(Cartridge) 1920. D. & W.—(Cartridge) 91110. G. E. CO.—(Cartridge) 34378. NOARK—(Cartridge) 3347. PAISTE—(Cartridge) 81935. SHAWMUT—(Cartridge) 2082. TRUMBULL—(Cartridge) 19356. UNION—(Cartridge) 2021.

3 to 3-Wire: BRYANT—(Cartridge) 1927. D. & W.—(Cartridge) 91111. G. E. CO.—(Cartridge) 34379. NOARK—(Cartridge) 3348. PAISTE—(Cartridge) 88042. SHAWMUT—(Cartridge) 2084. TRUMBULL—(Cartridge) 80426. UNION—(Cartridge) 2023.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 122)

CONDULETS—Y SERIES—Continued

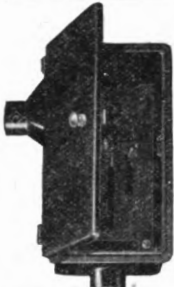
TYPE YR

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YR CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Main Line or Single Branch Cut-outs—Cut-outs not Furnished

	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ $\frac{3}{4}$ 1		
	2-wire	Catalogue Number....	YR11302	YR22302	YR33302
		Standard Package.....	15	15	10
		Weight Std. Pkg.....	140 lbs.	150 lbs.	100 lbs.
		List Price, each.....	\$1.75	\$1.85	\$1.95
	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ $\frac{3}{4}$ 1		
	3-wire	Catalogue Number....	YR11303	YR22303	YR33303
		Standard Package.....	15	15	10
		Weight Std. Pkg.....	170 lbs.	175 lbs.	120 lbs.
		List Price, each.....	\$2.55	\$2.75	\$2.85

For 60 Ampere, 250 Volt, N. E. C. Main Line or Single Branch Cut-outs—Cut-outs not Furnished

Style of Cut-out	$\frac{3}{4}$ 1	...Size in inches...	Style of Cut-out	$\frac{3}{4}$ 1
2-wire	YR22602 15 200 lbs. \$2.60	YR33602 10 140 lbs. \$2.70	3-wire	YR22603 15 260 lbs. \$4.20
		..Catalogue Number..		YR33603
		..Standard Package..		10
		..Weight Std. Pkg...		190 lbs.
		..List Price, each...		\$4.30

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Main Line Cut-outs

2-Wire: BRYANT—(Cartridge) 1917, (Plug) 62965. **D. & W.**—(Cartridge) 91102. **G. E. CO.**—(Cartridge) 34367, (Plug) 62965. **NOARK**—(Cartridge) 3327. **PAISTE**—(Cartridge) 72965, (Plug) 2965. **SHAWMUT**—(Cartridge) 2077. **TRUMBULL**—(Cartridge) 29653, (Plug) 2965. **WEBER**—(Plug) 62965. **UNION**—(Cartridge) 2010.

3-Wire: BRYANT—(Cartridge) 1924, (Plug) 62165. **D. & W.**—(Cartridge) 91103. **G. E. CO.**—(Cartridge) 34372, (Plug) 62165. **NOARK**—(Cartridge) 3328. **PAISTE**—(Cartridge) 72165, (Plug) 2165. **SHAWMUT**—(Cartridge) 2079. **TRUMBULL**—(Cartridge) 21653, (Plug) 2165. **WEBER**—(Plug) 62165. **UNION**—(Cartridge) 2012.

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Single Branch Cut-outs

2 to 2-Wire: BRYANT—(Cartridge) 1919, (Plug) 61935. **D. & W.**—(Cartridge) 91104. **G. E. CO.**—(Cartridge) 34368, (Plug) 61935. **NOARK**—(Cartridge) 3345. **PAISTE**—(Cartridge) 71935, (Plug) 1935. **SHAWMUT**—(Cartridge) 2081. **TRUMBULL**—(Cartridge) 19353, (Plug) 1935. **WEBER**—(Plug) 61935. **UNION**—(Cartridge) 2020.

3 to 3-Wire: BRYANT—(Cartridge) 1926, (Plug) 8042. **D. & W.**—(Cartridge) 91105. **G. E. CO.**—(Cartridge) 34373, (Plug) 8042. **NOARK**—(Cartridge) 3346. **PAISTE**—(Cartridge) 78042, (Plug) 8042. **SHAWMUT**—(Cartridge) 2083. **TRUMBULL**—(Cartridge) 80423, (Plug) 8042. **WEBER**—(Plug) 8042. **UNION**—(Cartridge) 2022.

60 Ampere, 250 Volt, Main Line Cut-outs

2-Wire: BRYANT—(Cartridge) 1918. **D. & W.**—(Cartridge) 91108. **G. E. CO.**—(Cartridge) 34376. **NOARK**—(Cartridge) 3329. **PAISTE**—(Cartridge) 82965. **SHAWMUT**—(Cartridge) 2078. **TRUMBULL**—(Cartridge) 29656. **UNION**—(Cartridge) 2011.

3-Wire: BRYANT—(Cartridge) 1925. **D. & W.**—(Cartridge) 91109. **G. E. CO.**—(Cartridge) 34377. **NOARK**—(Cartridge) 3330. **PAISTE**—(Cartridge) 82165. **SHAWMUT**—(Cartridge) 2080. **TRUMBULL**—(Cartridge) 21656. **UNION**—(Cartridge) 2013.

60 Ampere, 250 Volt, Single Branch Cut-outs

2 to 2-Wire: BRYANT—(Cartridge) 1920. **D. & W.**—(Cartridge) 91110. **G. E. CO.**—(Cartridge) 34378. **NOARK**—(Cartridge) 3347. **PAISTE**—(Cartridge) 81935. **SHAWMUT**—(Cartridge) 2082. **TRUMBULL**—(Cartridge) 19356. **UNION**—(Cartridge) 2021.

3 to 3-Wire: BRYANT—(Cartridge) 1927. **D. & W.**—(Cartridge) 91111. **G. E. CO.**—(Cartridge) 34379. **NOARK**—(Cartridge) 3348. **PAISTE**—(Cartridge) 88042. **SHAWMUT**—(Cartridge) 2084. **TRUMBULL**—(Cartridge) 80426. **UNION**—(Cartridge) 2023.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 123)

CONDULETS—Y SERIES—Continued


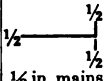

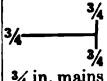

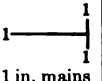
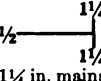
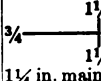
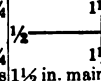
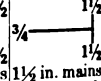
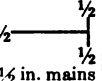
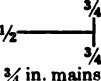
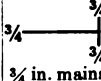
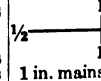
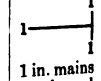
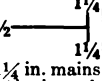
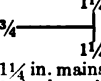
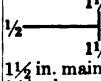
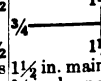
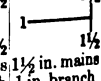
TYPE YS

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YS CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Single Branch Cut-outs—Cut-outs not furnished

	Style of Cut-out	Size in inches.....				
	2 to 2-wire	Catalogue Number Standard Package Shipping Weight Std. Pkg... List Price, each	YS111302 15 150 lbs. \$2.00	YS212302 15 150 lbs. \$2.10		
	Style of Cut-out	Size in inches.....				
	2 to 2-wire	Catalogue Number Standard Package Shipping Weight Std. Pkg... List Price, each	YS222302 15 160 lbs. \$2.10	YS313302 10 100 lbs. \$2.15		
Style of Cut-out	Size in inches					
		1 in. mains 1 in. branch	1 1/4 in. mains 1/2 in. branch	1 1/2 in. mains 3/4 in. branch	1 3/4 in. mains 1/2 in. branch	2 in. mains 1 in. branch
2 to 2-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	YS333302 10 100 lbs. \$2.30	YS414302 10 105 lbs. \$2.60	YS424302 10 110 lbs. \$2.70	YS515302 5 70 lbs. \$2.85	YS525302 5 75 lbs. \$2.90
Style of Cut-out	Size in inches					
		1/2 in. mains 1/2 in. branch	3/4 in. mains 1/2 in. branch	3/4 in. mains 3/4 in. branch	1 in. mains 1/2 in. branch	1 in. mains 1 in. branch
3 to 3-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	YS111303 15 210 lbs. \$2.80	YS212303 15 220 lbs. \$2.90	YS222303 15 230 lbs. \$2.90	YS313303 10 130 lbs. \$3.00	YS333303 10 135 lbs. \$3.15
Style of Cut-out	Size in inches					
		1 1/4 in. mains 1/2 in. branch	1 1/4 in. mains 3/4 in. branch	1 1/2 in. mains 1/2 in. branch	1 1/2 in. mains 3/4 in. branch	2 in. mains 1 in. branch
3 to 3-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	YS414303 10 130 lbs. \$3.35	YS424303 10 140 lbs. \$3.45	YS515303 5 85 lbs. \$3.55	YS525303 5 90 lbs. \$3.65	YS535303 5 95 lbs. \$3.75

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished, take 30 ampere cut-outs enumerated on opposite page. For finishes and assortments, see note on page 91.

Condulet reducers are listed on page 171.

Listings of type YS Condulets are continued on opposite page.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 124)

CONDULETS—Y SERIES—Continued

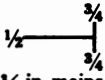
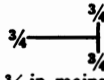
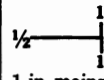
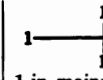
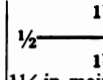
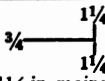
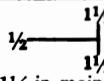
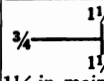
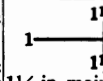
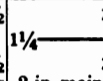
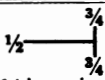
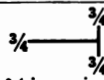
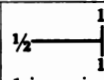
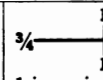
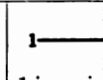
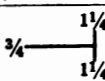
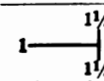
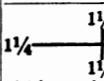
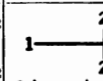
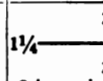
TYPE YS—Continued

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YS CONDULETS—THROUGH FEED—Black Enamel Finish—Continued

For 60 Ampere, 250 Volt, N. E. C. Single Branch Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches					
		1/2 in. mains 3/4 in. branch	3/4 in. mains 3/4 in. branch	1 in. mains 1/2 in. branch	1 in. mains 1 in. branch	1 1/4 in. mains 1/2 in. branch
2 to 2-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	YS212602 15 210 lbs. \$2.85	YS222602 15 220 lbs. \$2.90	YS313602 10 150 lbs. \$2.95	YS333602 10 155 lbs. \$2.95	YS414602 10 160 lbs. \$3.00
Style of Cut-out	Size in inches					
		3/4 in. mains 1 1/4 in. branch	1/2 in. mains 1 1/2 in. branch	3/4 in. mains 1 1/2 in. branch	1 in. mains 1 1/2 in. branch	1 1/4 in. mains 2 in. branch
2 to 2-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	YS424602 10 165 lbs. \$3.10	YS515602 5 90 lbs. \$3.40	YS525602 5 95 lbs. \$3.50	YS535602 5 100 lbs. \$3.60	YS646602 5 115 lbs. \$3.70
Style of Cut-out	Size in inches					
		1/2 in. mains 3/4 in. branch	3/4 in. mains 3/4 in. branch	1 in. mains 1/2 in. branch	1 in. mains 3/4 in. branch	1 in. mains 1 in. branch
3 to 3-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	YS212603 15 300 lbs. \$4.40	YS222603 15 310 lbs. \$4.45	YS313603 10 220 lbs. \$4.60	YS323603 10 225 lbs. \$4.60	YS333603 10 230 lbs. \$4.75
Style of Cut-out	Size in inches					
		3/4 in. mains 1 1/4 in. branch	1 in. mains 1 in. branch	1 1/4 in. mains 1 1/2 in. branch	2 in. mains 1 in. branch	2 in. mains 1 1/4 in. branch
3 to 3-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	YS424603 10 220 lbs. \$5.00	YS434603 10 230 lbs. \$5.15	YS456603 5 130 lbs. \$5.30	YS636603 5 140 lbs. \$5.40	YS646603 5 150 lbs. \$5.50

We will furnish cut-outs for Condulets listed on this and the opposite page, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
 2 to 2-Wire: BRYANT—(Cartridge) 1919, (Plug) 61935. D. & W.—(Cartridge) 91104. G. E. CO.—(Cartridge) 34368, (Plug) 61935. NOARK—(Cartridge) 3345. PAISTE—(Cartridge) 71935, (Plug) 1935. SHAWMUT—(Cartridge) 2081. TRUMBULL—(Cartridge) 19353, (Plug) 1935. WEBER—(Plug) 61935. UNION—(Cartridge) 2020.
 3 to 3-Wire: BRYANT—(Cartridge) 1926, (Plug) 8042. D. & W.—(Cartridge) 91105. G. E. CO.—(Cartridge) 34373, (Plug) 8042. NOARK—(Cartridge) 3346. PAISTE—(Cartridge) 78042, (Plug) 8042. SHAWMUT—(Cartridge) 2083. TRUMBULL—(Cartridge) 80423, (Plug) 8042. WEBER—(Plug) 8042. UNION—(Cartridge) 2022.

60 Ampere, 250 Volt, Cut-outs

2 to 2-Wire: BRYANT—(Cartridge) 1920. D. & W.—(Cartridge) 91110. G. E. CO.—(Cartridge) 34378. NOARK—(Cartridge) 3347. PAISTE—(Cartridge) 81935. SHAWMUT—(Cartridge) 2082. TRUMBULL—(Cartridge) 19356. UNION—(Cartridge) 2021.
 3 to 3-Wire: BRYANT—(Cartridge) 1927. D. & W.—(Cartridge) 91111. G. E. CO.—(Cartridge) 34379. NOARK—(Cartridge) 3348. PAISTE—(Cartridge) 88042. SHAWMUT—(Cartridge) 2084. TRUMBULL—(Cartridge) 80426. UNION—(Cartridge) 2023.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 125)


CONDULETS—Y SERIES—Continued
TYPE YD

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YD CONDULETS—DEAD END—Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Double Branch Cut-outs—Cut-outs not furnished

	Style of Cut-out	Size in inches.	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{3}{4}$ main $\frac{1}{2}$ branches			
	2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YD111302 15 150 lbs. \$2.85	YD121302 15 160 lbs. \$2.95			
	Style of Cut-out	Size in inches.	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches			
	2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YD222302 15 160 lbs. \$3.00	YD131302 10 110 lbs. \$3.00			
Style of Cut-out	Size in inches.	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches		
2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YD232302 10 160 lbs. \$3.10	YD141302 10 170 lbs. \$3.40	YD242302 10 175 lbs. \$3.50	YD151302 5 85 lbs. \$3.55	YD353302 5 90 lbs. \$3.70	YD262302 5 95 lbs. \$3.75
Style of Cut-out	Size in inches.	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{3}{4}$ main $\frac{1}{2}$ branches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches
3 to 3-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YD121303 15 270 lbs. \$4.15	YD222303 15 280 lbs. \$4.25	YD131303 10 210 lbs. \$4.25	YD232303 10 220 lbs. \$4.35	YD141303 10 230 lbs. \$4.70	YD242303 10 235 lbs. \$4.75
Style of Cut-out	Size in inches.	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ main $\frac{1}{2}$ branches
3 to 3-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YD343303 10 235 lbs. \$4.80	YD151303 5 120 lbs. \$4.80	YD353303 5 130 lbs. \$4.85	YD262303 5 135 lbs. \$4.90	YD363303 5 140 lbs. \$5.00	YD464303 5 145 lbs. \$5.10

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished, take 30 ampere cut-outs enumerated on opposite page. For finishes and assortments, see note on page 91. Condulet reducers are listed on page 171.

Listings of type YD Condulets are continued on opposite page.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 126)

CONDULETS—Y SERIES—Continued

TYPE YD—Continued

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YD CONDULETS—DEAD END—Black Enamel Finish—Continued

For 60 Ampere, 250 Volt, N. E. C. Double Branch Cut-outs—Cut-outs not furnished

Style of Cut-out	Size in inches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{3}{4}$ $\frac{3}{4}$ in. main $\frac{1}{2}$ in. branches	$\frac{1}{2}$ — $\frac{1}{2}$ 1 $\frac{1}{2}$ in. main $\frac{1}{2}$ in. branches	$\frac{3}{4}$ — $\frac{3}{4}$ 1 1 in. main $\frac{1}{2}$ in. branches	1 — 1 $\frac{1}{4}$ $\frac{1}{4}$ in. main 1 in. branches
2 to 2-wire or 3 to 2-wire	Catalogue Number	YD121602	YD131602	YD232602	YD343602
	Standard Package	15	10	10	10
	Shipping Weight Std. Pkg.	360 lbs.	280 lbs.	290 lbs.	290 lbs.
	List Price, each	\$6.25	\$6.35	\$6.40	\$7.00
Style of Cut-out	Size in inches	1 — 1 $\frac{1}{2}$ $\frac{1}{2}$ in. main 1 in. branches	$\frac{1}{4}$ — $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ in. main $\frac{1}{2}$ in. branches	$\frac{1}{4}$ — $\frac{1}{4}$ 2 2 in. main $\frac{1}{2}$ in. branches	$\frac{1}{2}$ — $\frac{1}{2}$ 2 2 in. main $\frac{1}{2}$ in. branches
2 to 2-wire or 3 to 2-wire	Catalogue Number	YD353602	YD454602	YD464602	YD565602
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.	170 lbs.	180 lbs.	190 lbs.	200 lbs.
	List Price, each	\$7.05	\$7.10	\$7.15	\$7.20
Style of Cut-out	Size in inches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{3}{4}$ $\frac{3}{4}$ in. main $\frac{3}{4}$ in. branches	$\frac{3}{4}$ — $\frac{3}{4}$ 1 $\frac{1}{2}$ in. main $\frac{1}{2}$ in. branches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ in. main $\frac{1}{2}$ in. branches	1 — 1 $\frac{1}{4}$ $\frac{1}{4}$ in. main 1 in. branches
3 to 3-wire	Catalogue Number	YD222603	YD232603	YD242603	YD343603
	Standard Package	15	10	10	10
	Shipping Weight Std. Pkg.	520 lbs.	360 lbs.	370 lbs.	375 lbs.
	List Price, each	\$8.30	\$8.35	\$8.90	\$9.05
Style of Cut-out	Size in inches	1 — 1 $\frac{1}{2}$ $\frac{1}{2}$ in. main 1 in. branches	$\frac{1}{4}$ — $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ in. main $\frac{1}{2}$ in. branches	1 — 1 2 2 in. main 1 in. branches	$\frac{1}{2}$ — $\frac{1}{2}$ 2 2 in. main $\frac{1}{2}$ in. branches
3 to 3-wire	Catalogue Number	YD353603	YD454603	YD363603	YD565603
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.	200 lbs.	210 lbs.	210 lbs.	220 lbs.
	List Price, each	\$9.25	\$9.30	\$9.50	\$9.60

We will furnish cut-outs for Condulets listed on this and the opposite page, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs

2 to 2-Wire: BRYANT—(Cartridge) 1922, (Plug) 62587. D. & W.—(Cartridge) 91106. G. E. CO.—(Cartridge) 34369. (Plug) 62587. NOARK—(Cartridge) 3349. PAISTE—(Cartridge) 72587, (Plug) 2587. SHAWMUT—(Cartridge) 2085. TRUMBULL—(Cartridge) 25873, (Plug) 2587. WEBER—(Plug) 62587. UNION—(Cartridge) 2025.
3 to 2-Wire: BRYANT—(Cartridge) 1923, (Plug) 62199. D. & W.—(Cartridge) 91121. G. E. CO.—(Cartridge) 34370. (Plug) 62199. NOARK—(Cartridge) 3351. PAISTE—(Cartridge) 72199, (Plug) 2199. SHAWMUT—(Cartridge) 2087. TRUMBULL—(Cartridge) 21993, (Plug) 2199. WEBER—(Plug) 62199. UNION—(Cartridge) 2027.
3 to 3-Wire: BRYANT—(Cartridge) 1928, (Plug) 62135. D. & W.—(Cartridge) 91100. G. E. CO.—(Cartridge) 34374. (Plug) 62135. NOARK—(Cartridge) 3353. PAISTE—(Cartridge) 72135, (Plug) 2135. SHAWMUT—(Cartridge) 20635. TRUMBULL—(Cartridge) 21353, (Plug) 2135. WEBER—(Plug) 62135. UNION—(Cartridge) 2029.

60 Ampere, 250 Volt, Cartridge Fuse Cut-outs

2 to 2-Wire: BRYANT—(Cartridge) 1996. D. & W.—(Cartridge) 91113. G. E. CO.—(Cartridge) 36806. NOARK—(Cartridge) 3350. PAISTE—(Cartridge) 82587. SHAWMUT—(Cartridge) 2086. TRUMBULL—(Cartridge) 25876. UNION—(Cartridge) 2026.
3 to 2-Wire: BRYANT—(Cartridge) 1997. G. E. CO.—(Cartridge) 36805. NOARK—(Cartridge) 3352. SHAWMUT—(Cartridge) 2088. TRUMBULL—(Cartridge) 21996. UNION—(Cartridge) 2028.
3 to 3-Wire: BRYANT—(Cartridge) 1998. G. E. CO.—(Cartridge) 36804. NOARK—(Cartridge) 3354. SHAWMUT—(Cartridge) 20845. TRUMBULL—(Cartridge) 21356. UNION—(Cartridge) 2030.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference Page 127)

CONDULETS—Y SERIES—Continued

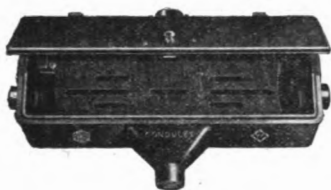
TYPE YX

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YX CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Amperes, 250 Volt, N. E. C. Double Branch Cut-outs—Cut-outs not furnished



Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{3}{4} \\ \hline \frac{3}{4} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{3}{4} \\ \hline \frac{3}{4} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{3}{4} \\ \hline \frac{3}{4} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{3}{4} \\ \hline \frac{3}{4} \end{array}$	
2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX1111302	15	170 lbs.	\$3.00	YX2111302	15	180 lbs.	\$3.15
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{3}{4} \\ \hline \frac{3}{4} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{3}{4} \\ \hline \frac{3}{4} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX2222302	15	170 lbs.	\$3.30	YX3111302	10	120 lbs.	\$3.30
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX3223302	10	160 lbs.	\$3.40	YX4114302	10	165 lbs.	\$3.70
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX4224302	10	170 lbs.	\$3.75	YX5115302	5	110 lbs.	\$3.80
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
2 to 2-wire or 3 to 2-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX5335302	5	120 lbs.	\$3.85	YX6226302	5	125 lbs.	\$4.00
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
3 to 3-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX2112303	15	290 lbs.	\$4.35	YX3222303	15	300 lbs.	\$4.45
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
3 to 3-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX3113303	10	220 lbs.	\$4.45	YX4224303	10	240 lbs.	\$4.85
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
3 to 3-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX5115303	5	130 lbs.	\$5.00	YX6226303	5	150 lbs.	\$5.20
Style of Cut-out	Size in inches	$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$		$\begin{array}{c} \frac{1}{2} \\ \hline \frac{1}{2} \end{array}$	
3 to 3-wire	Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, ea.	YX7117303	5	150 lbs.	\$5.30	YX8228303	5	155 lbs.	\$5.30

We will furnish cut-outs for above Condulets, and the universal cut-out fastening plates, furnished, take 30 ampere cut-outs enumerated on opposite page. For finishes and assortments, see note on page 91.

Listings of type YX Condulets are continued on opposite page. Condulet reducers are listed on page 171.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

(Cross Reference page 128)

CONDULETS—Y SERIES—Continued

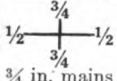
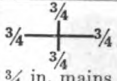
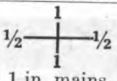
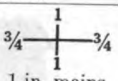
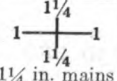
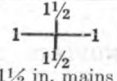
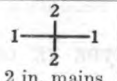
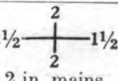
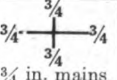
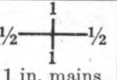
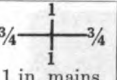
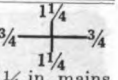
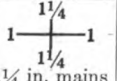
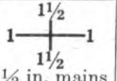
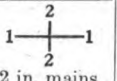
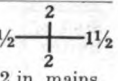
TYPE YX—Continued

For Cartridge or Plug Fuse Cut-outs

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

TYPE YX CONDULETS—THROUGH FEED—Black Enamel Finish—Continued

For 60 Ampere, 250 Volt, N. E. C. Double Branch Cut-outs—Cut-outs not Furnished

Style of Cut-out	Size in inches				
		$\frac{1}{2}$ in. mains $\frac{3}{4}$ in. branches	$\frac{3}{4}$ in. mains $\frac{3}{4}$ in. branches	1 in. mains $\frac{1}{2}$ in. branches	1 in. mains $\frac{3}{4}$ in. branches
2 to 2-wire or 3 to 2-wire	Catalogue Number.... Standard Package.... Weight Std. Pkg..... List Price, each	YX2112602 15 380 lbs. \$6.45	YX2222602 15 390 lbs. \$6.55	YX3113602 10 290 lbs. \$6.55	YX3223602 10 300 lbs. \$6.75
Style of Cut-out	Size in inches				
		$1\frac{1}{4}$ in. mains 1 in. branches	$1\frac{1}{2}$ in. mains 1 in. branches	2 in. mains 1 in. branches	2 in. mains $1\frac{1}{2}$ in. branches
2 to 2-wire or 3 to 2-wire	Catalogue Number.... Standard Package.... Weight Std. Pkg..... List Price, each	YX4334602 10 290 lbs. \$7.25	YX5335602 5 200 lbs. \$7.45	YX6336602 5 210 lbs. \$7.55	YX6556602 5 220 lbs. \$7.70
Style of Cut-out	Size in inches				
		$\frac{3}{4}$ in. mains $\frac{3}{4}$ in. branches	1 in. mains $\frac{1}{2}$ in. branches	1 in. mains $\frac{3}{4}$ in. branches	$1\frac{1}{4}$ in. mains $\frac{3}{4}$ in. branches
3 to 3-wire	Catalogue Number.... Standard Package.... Weight Std. Pkg..... List Price, each	YX2222603 15 530 lbs. \$8.45	YX3113603 10 380 lbs. \$8.45	YX3223603 10 390 lbs. \$8.65	YX4224603 10 400 lbs. \$8.90
Style of Cut-out	Size in inches				
		$1\frac{1}{4}$ in. mains 1 in. branches	$1\frac{1}{2}$ in. mains 1 in. branches	2 in. mains 1 in. branches	2 in. mains $1\frac{1}{2}$ in. branches
3 to 3-wire	Catalogue Number.... Standard Package.... Weight Std. Pkg..... List Price, each	YX4334603 10 390 lbs. \$9.45	YX5335603 5 220 lbs. \$9.55	YX6336603 5 230 lbs. \$9.60	YX6556603 5 240 lbs. \$9.70

We will furnish cut-outs for Condulets listed on this and the opposite page, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

- 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
- 2 to 2-Wire: BRYANT—(Cartridge) 1922, (Plug) 62587. D. & W.—(Cartridge) 91109, G. E. CO.—(Cartridge) 34369, (Plug) 62587. NOARK—(Cartridge) 3349, PAISTE—(Cartridge) 72587, (Plug) 2587. SHAWMUT—(Cartridge) 2085, TRUMBULL—(Cartridge) 25873, (Plug) 2587. WEBER—(Plug) 62587. UNION—(Cartridge) 2025.
- 3 to 2-Wire: BRYANT—(Cartridge) 1923, (Plug) 62199. D. & W.—(Cartridge) 91121, G. E. CO.—(Cartridge) 34370, (Plug) 62199. NOARK—(Cartridge) 3351, PAISTE—(Cartridge) 72199, (Plug) 2199. SHAWMUT—(Cartridge) 2087, TRUMBULL—(Cartridge) 21993, (Plug) 2199. WEBER—(Plug) 62199. UNION—(Cartridge) 2027.
- 3 to 3-Wire: BRYANT—(Cartridge) 1928, (Plug) 62135. D. & W.—(Cartridge) 91109, G. E. CO.—(Cartridge) 34374, (Plug) 62135. NOARK—(Cartridge) 3353, PAISTE—(Cartridge) 72135, (Plug) 2135. SHAWMUT—(Cartridge) 20835, TRUMBULL—(Cartridge) 21353, (Plug) 2135. WEBER—(Plug) 62135. UNION—(Cartridge) 2029.

60 Ampere, 250 Volt, Cartridge Fuse Cut-outs

- 2 to 2-Wire: BRYANT—(Cartridge) 1996, D. & W.—(Cartridge) 91113, G. E. CO.—(Cartridge) 36806, NOARK—(Cartridge) 3350, PAISTE—(Cartridge) 82587, SHAWMUT—(Cartridge) 2086, TRUMBULL—(Cartridge) 25876, UNION—(Cartridge) 2026.
- 3 to 2-Wire: BRYANT—(Cartridge) 1997, G. E. CO.—(Cartridge) 36805, NOARK—(Cartridge) 3352, SHAWMUT—(Cartridge) 2088, TRUMBULL—(Cartridge) 21996, UNION—(Cartridge) 2028.
- 3 to 3-Wire: BRYANT—(Cartridge) 1998, G. E. CO.—(Cartridge) 36804, NOARK—(Cartridge) 3354, SHAWMUT—(Cartridge) 20845, TRUMBULL—(Cartridge) 21356, UNION—(Cartridge) 2030.

For finishes, see note on page 81.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Y series are listed on pages 119 to 129, inclusive.

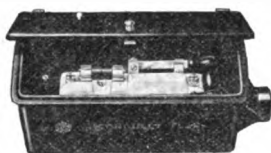
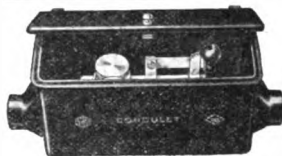
(Cross Reference Page 129)

CONDULETS—YK SERIES

TYPE YK

For Knife Switches Arranged for Cartridge or Plug Fuses

Furnished with Universal Fastening Plate and all necessary Bolts and Screws

Type YK with Type YKK
Switches InstalledType YKC with Knife Switch,
arranged for Plug Fuses, Installed

TYPE YK CONDULETS—DEAD END—Black Enamel Finish

For Knife Switches arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or 30 Ampere,
125 Volt, Plug Fuses

Style of Switch	Size in inches	1/2	3/4	1
2-pole	Catalogue Number	YK1302	YK2302	YK3302
	Standard Package	10	10	10
	Ship. Weight, Std. Pkg.	120 lbs.	125 lbs.	130 lbs.
	List Price, each	\$2.80	\$2.95	\$3.15
Style of Switch	Size in inches	1 1/4	1 1/2	2
2-pole	Catalogue Number	YK4302	YK5302	YK6302
	Standard Package	10	10	10
	Ship. Weight, Std. Pkg.	140 lbs.	145 lbs.	160 lbs.
	List Price, each	\$3.35	\$3.45	\$3.60

Style of Switch	Size in inches	1/2	3/4	1	1 1/4	1 1/2
3-pole	Catalogue Number	YK1303	YK2303	YK3303	YK4303	YK5303
	Standard Package	10	10	10	10	10
	Shipping Weight, Std. Pkg.	130 lbs.	135 lbs.	140 lbs.	150 lbs.	155 lbs.
	List Price, each	\$3.70	\$3.85	\$4.00	\$4.15	\$4.30

For Knife Switches arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches	3/4	1	1 1/4	1 1/2	2
2-pole	Catalogue Number	YK2602	YK3602	YK4602	YK5602	YK6602
	Standard Package	10	10	10	10	10
	Shipping Weight, Std. Pkg.	170 lbs.	175 lbs.	180 lbs.	190 lbs.	200 lbs.
	List Price, each	\$4.40	\$4.60	\$4.75	\$5.05	\$5.25
Style of Switch	Size in inches	3/4	1	1 1/4	1 1/2	2
3-pole	Catalogue Number	YK2603	YK3603	YK4603	YK5603	YK6603
	Standard Package	10	10	10	10	10
	Shipping Weight, Std. Pkg.	230 lbs.	235 lbs.	240 lbs.	250 lbs.	260 lbs.
	List Price, each	\$5.90	\$6.10	\$6.45	\$6.65	\$6.95

Switches are not included in above list prices, but the universal fastening plates, furnished with above Condulets, take Crouse-Hinds type YKK knife switches or the knife switches of other manufacturers, enumerated on opposite page.

Crouse-Hinds type YKK knife switches arranged for cartridge fuses are listed on page 135.

We will furnish fuses.

For finishes and assortments, see note on page 91. Condulet reducers are listed on page 171.

Condulets of the YK series are listed on this and the opposite page.

(Cross Reference Page 130)

CONDULETS—YK SERIES—Continued

TYPE YKC

**For Knife Switches Arranged for Cartridge or Plug Fuses
Furnished with Universal Fastening Plate and all necessary Bolts and Screws**

TYPE YKC CONDULETS—THROUGH FEED—Black Enamel Finish

For Knife Switches arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuses

		Style of Switch	Size in inches ...	1/2	3/4	1
		2-pole	Catalogue No. ...	YKC11302	YKC22302	YKC33302
			Standard Pkg. ...	10	10	10
			Weight Std. Pkg. ...	125 lbs.	130 lbs.	135 lbs.
		List Price, each.	\$2.90	\$3.05	\$3.25	
		Style of Switch	Size in inches ...	1 1/4	1 1/2	2
		2-pole	Catalogue No. ...	YKC44302	YKC55302	YKC66302
			Standard Pkg. ...	10	10	10
			Weight Std. Pkg. ...	140 lbs.	150 lbs.	160 lbs.
		List Price, each.	\$3.45	\$3.60	\$3.80	
Style of Switch	Size in inches ...	1/2	3/4	1	1 1/4	1 1/2
3-pole	Catalogue No.	YKC11303	YKC22303	YKC33303	YKC44303	YKC55303
	Standard Pkg.	10	10	10	10	10
	Weight Std. Pkg.	140 lbs.	145 lbs.	150 lbs.	160 lbs.	170 lbs.
	List Price, each ..	\$3.85	\$4.00	\$4.15	\$4.30	\$4.60

For Knife Switches arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches ...	3/4	1	1 1/4	1 1/2	2
2-pole	Catalogue No.	YKC22602	YKC33602	YKC44602	YKC55602	YKC66602
	Standard Pkg.	10	10	10	10	10
	Weight Std. Pkg.	180 lbs.	190 lbs.	200 lbs.	210 lbs.	220 lbs.
	List Price, each ..	\$4.50	\$4.70	\$4.90	\$5.15	\$5.45
Style of Switch	Size in inches ...	3/4	1	1 1/4	1 1/2	2
3-pole	Catalogue No.	YKC22603	YKC33603	YKC44603	YKC55603	YKC66603
	Standard Pkg.	10	10	10	10	10
	Weight Std. Pkg.	230 lbs.	240 lbs.	250 lbs.	300 lbs.	310 lbs.
	List Price, each ..	\$6.05	\$6.25	\$6.60	\$6.85	\$7.15

Important Information Concerning Condulets Listed on This and the Opposite Page
Switches are not included in above list prices, but the universal fastening plates, furnished with Condulets of the YK series, take Crouse-Hinds type YKK knife switches or the knife switches of other manufacturers, as follows:

Switches Arranged for 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuses
2-Pole: CROUSE-HINDS—(Cartridge) YKK302. BRYANT—(Plug) 1605, 1981. CONN. ELEC.—(Plug) 01502. D. & W.—(Plug) 25028. G. E. CO.—(Plug) 42869. PAISTE—(Plug) 4014, 4016. TRUMBULL—(Cartridge) 704, 724, (Plug) 701, 721.
3-Pole: CROUSE-HINDS—(Cartridge) YKK303. BRYANT—(Plug) 1986. PAISTE—(Cartridge) 4033, (Plug) 4025, 4029. TRUMBULL—(Cartridge) 725, (Plug) 723.

Switches Arranged for 60 Ampere, 250 Volt, Cartridge Fuses
2-Pole: CROUSE-HINDS—(Cartridge) YKK602. PAISTE—(Cartridge) 5151.
3-Pole: CROUSE-HINDS—(Cartridge) YKK603. PAISTE—(Cartridge) 5153.
Crouse-Hinds type YKK knife switches arranged for cartridge fuses are listed on page 135.
We will furnish fuses.
For finishes, see page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

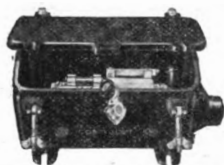
Condulets of the YK series are listed on this and the opposite page.

(Cross Reference Page 131)

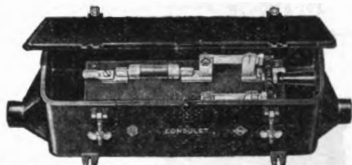
CONDULETS—YKW SERIES

TYPE YKW

Water-Tight—For Knife Switches Arranged for Cartridge or Plug Fuses
Furnished with Universal Fastening Plate, Gasket and all necessary Bolts and Screws



Type YKW with Type YKK Switch Installed



Type YKW with Type B Switch, Arranged for Cartridge Fuses, Installed

TYPE YKW CONDULETS—DEAD END—Black Enamel Finish

For Knife Switches Arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or
30 Ampere, 125 Volt, Plug Fuses



<div> <div>Style of Switch</div> <div>2-pole</div> <div>Style of Switch</div> <div>2-pole</div> </div>	Size in inches.....	1/2		3/4		1
	Catalogue Number...	YKW1302		YKW2302		YKW3302
	Standard Package....	10		10		10
	Weight Std. Pkg.....	180 lbs.		185 lbs.		190 lbs.
	List Price, each.....	\$6.60		\$6.70		\$6.80
<div> <div>Style of Switch</div> <div>2-pole</div> <div>Style of Switch</div> <div>2-pole</div> </div>	Size in inches.....	1 1/4		1 1/2		2
	Catalogue Number...	YKW4302		YKW5302		YKW6302
	Standard Package....	10		10		10
	Weight Std. Pkg.....	195 lbs.		200 lbs.		210 lbs.
	List Price, each.....	\$6.90		\$7.00		\$7.10
Style of Switch	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
3-pole	Catalogue Number.....	YKW1303	YKW2303	YKW3303	YKW4303	YKW5303
	Standard Package....	10	10	10	10	10
	Shipping Weight Std. Pkg.	240 lbs.	245 lbs.	250 lbs.	260 lbs.	265 lbs.
	List Price, each.....	\$8.50	\$8.60	\$8.70	\$8.80	\$8.90

For Knife Switches Arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches.....	¾	1	1¼	1½	2
	Catalogue Number..... Standard Package..... Shipping Weight Std. Pkg. List Price, each.....	YKW2602 10 270 lbs. \$8.80	YKW3602 10 275 lbs. \$8.90	YKW4602 10 280 lbs. \$9.00	YKW5602 10 290 lbs. \$9.10	YKW6602 10 300 lbs. \$9.20
Style of Switch	Size in inches.....	¾	1	1¼	1½	2
3-pole	Catalogue Number..... Standard Package..... Shipping Weight Std. Pkg. List Price, each.....	YKW2603 10 300 lbs. \$9.40	YKW3603 10 305 lbs. \$9.50	YKW4603 10 310 lbs. \$9.60	YKW5603 10 315 lbs. \$9.70	YKW6603 10 320 lbs. \$9.80

Switches are not included in above list prices, but the universal fastening plates, furnished with above Condulets, take Crouse-Hinds type YKK knife switches or the knife switches of other manufacturers, enumerated on opposite page.

Crouse-Hinds type YKK knife switches arranged for cartridge fuses are listed on page 135.

Padlock is not included in above list prices. Condulet reducers are listed on page 171.

For finishes and assortments, see note on page 91.

We will furnish fuses.

Listings of type YKW Condulets are continued on opposite page.

Condulets of the YKW series are listed on pages 132 to 135, inclusive.

(Cross Reference Page 132)

CONDULETS—YKW SERIES—Continued

TYPE YKW—Continued

Water-Tight—For Knife Switches Arranged for Cartridge Fuses

Condulets Listed Below are not arranged for Universal Fastening Plates, but are furnished with all necessary Screws to Fasten Switches direct to Condulets

TYPE YKW CONDULETS—DEAD END—Black Enamel Finish

For Knife Switches arranged for 100 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches.....	1	1¼	1½	2
2-pole	Catalogue Number	YKW31002	YKW41002	YKW51002	YKW61002
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.	250 lbs.	255 lbs.	260 lbs.	270 lbs.
	List Price, each.....	\$16.60	\$16.80	\$17.00	\$17.20
Style of Switch	Size in inches.....	1¼	1½	2	2½
3-pole	Catalogue Number	YKW41003	YKW51003	YKW61003	YKW71003
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.	340 lbs.	345 lbs.	350 lbs.	355 lbs.
	List Price, each.....	\$20.60	\$20.80	\$21.00	\$21.20

For Knife Switches arranged for 200 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches.....	1½	2	2½	3
2-pole	Catalogue Number	YKW52002	YKW62002	YKW72002	YKW82002
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.	360 lbs.	365 lbs.	375 lbs.	380 lbs.
	List Price, each.....	\$24.00	\$24.40	\$24.80	\$25.20
Style of Switch	Size in inches.....	1½	2	2½	3
3-pole	Catalogue Number	YKW52003	YKW62003	YKW72003	YKW82003
	Standard Package	5	5	5	5
	Shipping Weight Std. Pkg.	500 lbs.	510 lbs.	520 lbs.	530 lbs.
	List Price, each.....	\$30.80	\$31.20	\$31.60	\$32.00

Important Information Concerning Condulets Listed on This and the Opposite Page

The universal fastening plates, furnished with Condulets listed on the opposite page, take Crouse-Hinds type YKK knife switches or knife switches of other manufacturers, as follows:

Switches Arranged for 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuses

2-Pole: CROUSE-HINDS—(Cartridge) YKK302. BRYANT—(Plug) 1695, 1981. CONN. ELEC.—(Plug) 01502, D. & W.—(Plug) 25028. G. E. CO.—(Plug) 42869. PAISTE—(Plug) 4014, 4016. TRUMBULL—(Cartridge) 704, 724, (Plug) 701, 721.
3-Pole: CROUSE-HINDS—(Cartridge) YKK303. BRYANT—(Plug) 1986. PAISTE—(Cartridge) 4033, (Plug) 4025, 4029. TRUMBULL—(Cartridge) 725, (Plug) 723.

Switches Arranged for 60 Ampere, 250 Volt, Cartridge Fuses

2-Pole: CROUSE-HINDS—(Cartridge) YKK602. PAISTE—(Cartridge) 5151.
3-Pole: CROUSE-HINDS—(Cartridge) YKK603. PAISTE—(Cartridge) 5153.

Switches are not included in list prices on this page, but Condulets listed on this page take 100 or 200 ampere, Crouse-Hinds type B knife switches with high clips or knife switches of other manufacturers, as follows:

Switches Arranged for 100 Ampere, 250 Volt, Cartridge Fuses

2-Pole: CROUSE-HINDS—(Cartridge) 31364—Specify high clips. OTHER MANUFACTURERS—(Cartridge) Switches conforming with dimensions given on page 135.
3-Pole: CROUSE-HINDS—(Cartridge) 31484—Specify high clips. OTHER MANUFACTURERS—(Cartridge) Switches conforming with dimensions given on page 135.

Switches Arranged for 200 Ampere, 250 Volt, Cartridge Fuses

2-Pole: CROUSE-HINDS—(Cartridge) 31366—Specify high clips. OTHER MANUFACTURERS—(Cartridge) Switches conforming with dimensions given on page 135.
3-Pole: CROUSE-HINDS—(Cartridge) 31486—Specify high clips. OTHER MANUFACTURERS—(Cartridge) Switches conforming with dimensions given on page 135.

Crouse-Hinds type YKK knife switches arranged for cartridge fuses are listed on page 135. Crouse-Hinds type B knife switches with high clips arranged for cartridge fuses are enumerated on page 135 and listed in Crouse-Hinds Knife Switch Bulletin. Padlock is not included in above list prices, but will be furnished extra, if specified.

For finishes and assortments, see note on page 91.

Condulet reducers are listed on page 171. We will furnish fuses.

Condulets of the YKW series are listed on pages 132 to 135, inclusive.

(Cross Reference Page 133)

CONDULETS—YKW SERIES—Continued


TYPE YKWC

Water-Tight—For Knife Switches Arranged for Cartridge or Plug Fuses

Furnished with Universal Fastening Plate, Gasket and all necessary Bolts and Screws

TYPE YKWC CONDULETS—THROUGH FEED—Black Enamel Finish

For Knife Switches arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuses

	Style of Switch	Size in inches...	1/2	3/4	1
	2-pole	Catalogue No...	YKWC11302	YKWC22302	YKWC33302
		Standard Pkg...	10	10	10
		Weight Std. Pkg...	190 lbs.	195 lbs.	200 lbs.
		List Price, each...	\$6.75	\$6.85	\$6.95
	Style of Switch	Size in inches...	1 1/4	1 1/2	2
	2-pole	Catalogue No...	YKWC44302	YKWC55302	YKWC66302
		Standard Pkg...	10	10	10
		Weight Std. Pkg...	205 lbs.	210 lbs.	215 lbs.
		List Price, each...	\$7.05	\$7.15	\$7.25

Style of Switch	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
3-pole	Catalogue Number.	YKWC11303	YKWC22303	YKWC33303	YKWC44303	YKWC55303
	Standard Package...	10	10	10	10	10
	Weight Std. Pkg...	240 lbs.	245 lbs.	250 lbs.	255 lbs.	260 lbs.
	List Price, each....	\$8.60	\$8.70	\$8.80	\$8.90	\$9.00

For Knife Switches arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches.....	3/4	1	1 1/4	1 1/2	2
2-pole	Catalogue Number.	YKWC22602	YKWC33602	YKWC44602	YKWC55602	YKWC66602
	Standard Package...	10	10	10	10	10
	Weight Std. Pkg...	260 lbs.	265 lbs.	270 lbs.	275 lbs.	280 lbs.
	List Price, each....	\$9.00	\$9.10	\$9.20	\$9.30	\$9.40
Style of Switch	Size in inches.....	3/4	1	1 1/4	1 1/2	2
3-pole	Catalogue Number.	YKWC22603	YKWC33603	YKWC44603	YKWC55603	YKWC66603
	Standard Package...	10	10	10	10	10
	Weight Std. Pkg...	285 lbs.	290 lbs.	295 lbs.	300 lbs.	305 lbs.
	List Price, each....	\$9.60	\$9.70	\$9.80	\$9.90	\$10.00

Important Information Concerning Condulets Listed on This Page

Switches are not included in above list prices, but the universal fastening plates, furnished with above Condulets, take Crouse-Hinds type YKK knife switches or knife switches of other manufacturers, as follows:

- Switches Arranged for 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuses
- 2-Pole: CROUSE-HINDS—(Cartridge) YKK302. BRYANT—(Plug) 1695, 1981. CONN. ELEC.—(Plug) 01502. D. & W.—(Plug) 25028. G. E. CO.—(Plug) 42869. PAISTE—(Plug) 4014, 4016. TRUMBULL—(Cartridge) 704, 724, (Plug) 701, 721.
- 3-Pole: CROUSE-HINDS—(Cartridge) YKK303. BRYANT—(Plug) 1986. PAISTE—(Cartridge) 4033, (Plug) 4025, 4029. TRUMBULL—(Cartridge) 725, (Plug) 723.

Switches Arranged for 60 Ampere, 250 Volt, Cartridge Fuses

- 2-Pole: CROUSE-HINDS—(Cartridge) YKK602. PAISTE—(Cartridge) 5151.
- 3-Pole: CROUSE-HINDS—(Cartridge) YKK603. PAISTE—(Cartridge) 5153.
- Crouse-Hinds type YKK knife switches arranged for cartridge fuses are listed on page 135. We will furnish fuses.

Padlock is not included in above list prices.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the YKW series are listed on pages 132 to 135, inclusive.

(Cross Reference Page 134)

CONDULETS—YKW—SERIES—Continued

TYPE YKWC—Continued

Water-Tight—For Knife Switches Arranged for Cartridge Fuses

Condulets Listed Below are not arranged for Universal Fastening Plates, but are furnished with Gasket and all necessary Screws to Fasten Switches direct to Condulets

TYPE YKWC CONDULETS—THROUGH FEED—Black Enamel Finish

For Knife Switches arranged for 100 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches..	1	1¼	1½	2
2-pole	Catalogue No..	YKWC331002	YKWC441002	YKWC551002	YKWC661002
	Standard Pkg..	5	5	5	5
	Wt. Std. Pkg..	260 lbs.	265 lbs.	270 lbs.	285 lbs.
	List Price, ea..	\$17.00	\$17.40	\$17.80	\$18.20
Style of Switch	Size in inches..	1¼	1½	2	2½
3-pole	Catalogue No..	YKWC441003	YKWC551003	YKWC661003	YKWC771003
	Standard Pkg..	5	5	5	5
	Wt. Std. Pkg..	340 lbs.	345 lbs.	360 lbs.	375 lbs.
	List Price, ea..	\$21.50	\$21.90	\$22.30	\$22.70

For Knife Switches arranged for 200 Ampere, 250 Volt, N. E. C. Fuses

Style of Switch	Size in inches..	1½	2	2½	3
2-pole	Catalogue No..	YKWC552002	YKWC662002	YKWC772002	YKWC882002
	Standard Pkg..	5	5	5	5
	Wt. Std. Pkg..	375 lbs.	385 lbs.	395 lbs.	410 lbs.
	List Price, ea..	\$25.00	\$25.50	\$26.00	\$26.50
Style of Switch	Size in inches..	1½	2	2½	3
3-pole	Catalogue No..	YKWC552003	YKWC662003	YKWC772003	YKWC882003
	Standard Pkg..	5	5	5	5
	Wt. Std. Pkg..	490 lbs.	500 lbs.	510 lbs.	520 lbs.
	List Price, ea..	\$32.50	\$33.00	\$33.50	\$34.00

Switches are not included in list prices, but Condulets listed on this page take Crouse-Hinds type B knife switches with high clips enumerated below, or other switches that conform with dimensions specified below

KNIFE SWITCHES FOR CONDULETS OF THE YK AND YKW SERIES

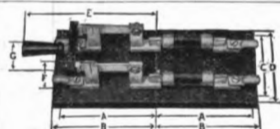
Arranged for N. E. C. Cartridge Fuses—250 Volts



Type YK Switch



Type B Switch



Dimensional Drawing

Crouse-Hinds Type YKK Knife Switches

	30 Amp.	60 Amp.	Capacity		30 Amp.	60 Amp.
2-pole	YKK302	YKK602	Cat. No.	3-pole	YKK303	YKK603
	10	10	Std. Pkg.		10	10
	\$2.25	\$3.50	Price, ea.		\$3.75	\$5.25

Crouse-Hinds Type B Knife Switches

	100Amp.	200Amp.	Capacity		100Amp.	200Amp.
2-pole	31364*	31366*	Cat. No.	3-pole	31484*	31486*
			Std. Pkg.			
			Price, ea.			

*Specify high clips when ordering.

For finishes and assortments of Condulets, see note on page 91.

We will furnish fuses.

Condulets of the YKW series are listed on pages 132 to 135, inclusive.

Switches of Other Manufacturers

Style	2-Pole		3-Pole	
Capacity	100 Amp.	200 Amp.	100 Amp.	200 Amp.
A (Fixed)	7½"	8½"	7½"	8½"
B (Max.)	9½"	10½"	9½"	10½"
C (Fixed)	5½"	5½"	8½"	9½"
D (Max.)	6½"	7"	10"	11"
E (Max.)	10½"	11½"	10½"	11½"
F (Max.)	4½"	6½"	4½"	6½"
G (Max.)	5½"	6½"	5½"	6½"

†From bottom of slate base to highest point of clip.
‡From bottom of slate base to highest point of handle.

Any switch with dimensions not exceeding those specified "maximum" and with dimensions the same as those specified "fixed," in above schedule, will fit Condulets of corresponding classification in the YKW series.

MOTOR STARTING SWITCH CONDULETS TYPE MF

Furnished Complete with Fusible Switch, but without Fuses

Crouse-Hinds Motor Starting Switch Condulet is a substantial, iron-clad, fool-proof switch, designed for starting small three-phase motors. The switch is of the double-throw knife-blade type; its running side is arranged for fuses, but its starting side is without provision for fuse protection.

The mechanism is so designed that the switch cannot be thrown from "off" to "running" position, without first being thrown to "starting" position. After it has been thrown to "starting" position and the operator has released the handle, a spring automatically and quickly carries the switch to "running" position. This action prevents the motor from slowing down perceptibly during the operation of the switch. Padlocks can be used to lock the switch in either the "off" or the "running" position, and also to lock the door shut.

As regularly furnished, the door of the switch is rabbetted, making a joint that is, for all practical purposes, dustproof. A special, gasketed door will be furnished at an advance of \$2.00 in the list price. When furnished with this gasketed door, the Condulet is not only dust-proof, but is also water-tight.

The switch will be arranged with Star-Delta starting connections without extra charge, if the specifications read "With Star-Delta Starting Connections." When used with this connection, it is necessary to install a separate main line switch ahead of the motor starting switch condulet.



TYPE MF CONDULETS—Black Enamel Finish



One Hub at
Bottom

30 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MF3303	MF5303	MF6303
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.00	\$55.20	\$55.30

60 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MF3603	MF5603	MF6603
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.00	\$55.20	\$55.30

30 Amperes, 500 Volts, A. C.

Size in inches	1	1½	2
Catalogue Number	MF33035	MF53035	MF63035
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$57.00	\$57.20	\$57.30

Prices for 30 ampere, 60 volt Motor Starting Switch Condulets will be furnished upon request. Listings of Motor Starting Switch Condulets are continued on the two following pages.

(Cross Reference Page 135a)

MOTOR STARTING SWITCH CONDULETS—Continued

TYPES MFB, MFC AND MFD

Furnished Complete with Fusible Switch, but without Fuses



**One Hub
at Top**

TYPE MFB—Black Enamel Finish

30 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MFB3303	MFB5303	MFB6303
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.00	\$55.20	\$55.30

60 Amperes, 250 Volts

Catalogue Number	MFB3603	MFB5603	MFB6603
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.00	\$55.20	\$55.30

30 Amperes, 500 Volts, A. C.

Catalogue Number	MFB33035	MFB53035	MFB63035
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$57.00	\$57.20	\$57.30

TYPE MFC—Black Enamel Finish

30 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MFC3303	MFC5303	MFC6303
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.35	\$55.55	\$55.65

60 Amperes, 250 Volts

Catalogue Number	MFC3603	MFC5603	MFC6603
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.35	\$55.55	\$55.65

30 Amperes, 500 Volts, A. C.

Catalogue Number	MFC33035	MFC53035	MFC63035
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$57.35	\$57.55	\$57.65



**One Hub at Top
One Hub at Bottom**

TYPE MFD—Black Enamel Finish

30 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MFD3303	MFD5303	MFD6303
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.35	\$55.55	\$55.65

60 Amperes, 250 Volts

Catalogue Number	MFD3603	MFD5603	MFD6603
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.35	\$55.55	\$55.65

30 Amperes, 500 Volts, A. C.

Catalogue Number	MFD33035	MFD53035	MFD63035
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$57.35	\$57.55	\$57.65



**Two Hubs
at Bottom**

Motor Starting Switch Condulets are listed on pages 135a, 135b and 135c.

(Cross Reference Page 135b)

MOTOR STARTING SWITCH CONDULETS—Continued **TYPES MFE, MFH AND MFJ**

Furnished Complete with Fusible Switch, but without Fuses



Two Hubs
at Top

TYPE MFE—Black Enamel Finish

30 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MFE33303	MFE55303	MFE66303
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.35	\$55.55	\$55.65

60 Amperes, 250 Volts

Catalogue Number	MFE33603	MFE55603	MFE66603
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.35	\$55.55	\$55.65

30 Amperes, 500 Volts, A. C.

Catalogue Number	MFE333035	MFE553035	MFE663035
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$57.35	\$57.55	\$57.65

TYPE MFH—Black Enamel Finish

30 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MFH333303	MFH555303	MFH666303
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.70	\$55.90	\$56.00

60 Amperes, 250 Volts

Catalogue Number	MFH333603	MFH555603	MFH666603
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.70	\$55.90	\$56.00

30 Amperes, 500 Volts A. C.

Catalogue Number	MFH3333035	MFH5553035	MFH6663035
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$57.70	\$57.90	\$58.00



One Hub at Top
Two Hubs at Bottom

TYPE MFJ—Black Enamel Finish

30 Amperes, 250 Volts

Size in inches	1	1½	2
Catalogue Number	MFJ333303	MFJ555303	MFJ666303
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.70	\$55.90	\$56.00

60 Amperes, 250 Volts

Catalogue Number	MFJ333603	MFJ555603	MFJ666603
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$55.70	\$55.90	\$56.00

30 Amperes, 500 Volts, A. C.

Catalogue Number	MFJ3333035	MFJ5553035	MFJ6663035
Standard Package	1	1	1
Shipping Weight Std. Pkg.	80 lbs.	80 lbs.	80 lbs.
List Price, each	\$57.70	\$57.90	\$58.00



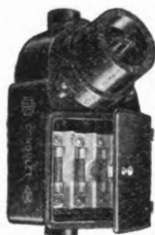
Two Hubs at Top
One Hub at Bottom

Motor Starting Switch Condulets are listed on pages 135a, 135b and 135c.

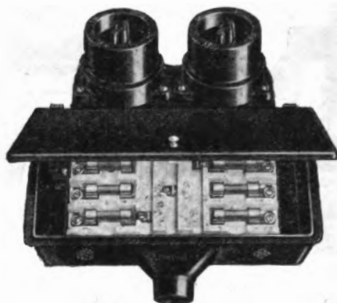
(Cross Reference Page 135c)

CONDULETS—ZG SERIES TYPES ZGC AND ZGU

**For Cartridge or Plug Fuse Cut-outs and General Electric 2 H. P., 250-Volt, Three-phase, Snap Switch 151394 with Protective Cover for Textile Mill Installations
Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws**




Type ZGC Conduit
Showing Snap Switch and Cartridge Fuse
Cut-out Installed



Type ZGU Conduit
Showing Snap Switches and Cartridge Fuse
Cut-out Installed

TYPE ZGC CONDULETS—THROUGH FEED—Black Enamel Finish

**For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line
Cut-outs and G. E. Switch 151394—Cut-out and Switch not Furnished**

	Style of Cut-out	Size in inches	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{3}{4}$	1—1
	3-wire	Cat. No. Std. Pkg. Wt. Std. Pkg. List Price, ea.	ZGC11303 15 155 lbs. \$3. 60	ZGC22303 15 160 lbs. \$3. 70	ZGC33303 10 110 lbs. \$3. 80

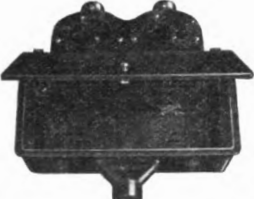
We will furnish cut-outs for Type ZGC Condulets.

The universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
3-Wire: BRYANT—(Cartridge) 1924, (Plug) 62165. D. & W.—(Cartridge) 91103. G. E. CO.—(Cartridge) 34372, (Plug) 62165. NOARK—(Cartridge) 3328. PAISTE—(Cartridge) 72165, (Plug) 2165. SHAWMUT—(Cartridge) 2079. TRUMBULL—(Cartridge) 21653, (Plug) 2165. WEBER—(Plug) 62165. UNION—(Cartridge) 2012.

TYPE ZGU CONDULETS—Black Enamel Finish

**For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Double Branch
Cut-outs and G. E. Switch 151394—Cut-out and Switches not Furnished**

	Style of Cut-out	Size in inches	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{3}{4}$	$\frac{1}{2}$ $\frac{1}{2}$ 1	$\frac{1}{2}$ $\frac{1}{2}$ $1\frac{1}{4}$
	3 to 3-wire	Cat. No. Std. Pkg. Wt. Std. Pkg. List Price, ea.	$\frac{3}{4}$ " main $\frac{1}{2}$ " branches ZGU121303 15 225 lbs. \$6. 40	1" main $\frac{1}{2}$ " branches ZGU131303 10 110 lbs. \$6. 50	$1\frac{1}{4}$ " main $\frac{1}{2}$ " branches ZGU141303 10 165 lbs. \$6. 90

We will furnish cut-outs for Type ZGU Condulets.

The universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
3 to 3-Wire: BRYANT—(Cartridge) 1928, (Plug) 62135. D. & W.—(Cartridge) 91100. G. E. CO.—(Cartridge) 34374, (Plug) 62135. NOARK—(Cartridge) 3353. PAISTE—(Cartridge) 72135, (Plug) 2135. SHAWMUT—(Cartridge) 20835. TRUMBULL—(Cartridge) 21353, (Plug) 2135. WEBER—(Plug) 62135. UNION—(Cartridge) 2029.

We will furnish snap switch for Condulets listed on this page.

(Cross Reference Page 135d)

CONDULETS—Z SERIES
TYPES Z, ZC, ZL, ZR, ZS, ZU, ZD, AND ZX
For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches
Furnished with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Rings for Switches and all necessary Bolts and Screws


Type ZL
With Snap Switch and Plug Fuse
Cut-out Installed



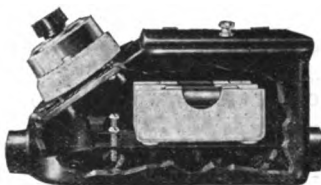
Type ZU
With Snap Switches and Cartridge Fuse Cut-out Installed



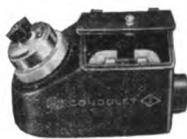
Type ZR
With Snap Switch and Cartridge Fuse
Cut-out Installed



Type ZS
With Snap Switch and Plug Fuse
Cut-out Installed



Type ZC
With Snap Switch and Cartridge Fuse Cut-out Installed
(Broken-away View, Showing Cut-out)



Type Z
With Snap Switch and Cartridge Fuse
Cut-out Installed




Type ZD
With Snap Switches and Cartridge Fuse Cut-out Installed



Type ZX
With Snap Switches and Plug Fuse Cut-out Installed

TYPE Z CONDULETS—DEAD END—Black Enamel Finish
For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line Cut-outs and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished

	Style of Cut-out	Size in inches	1/2	3/4	1
	2-wire	Catalogue Number....	Z1302	Z2302	Z3302
		Standard Package	15	15	10
		Ship. Wt. Std. Pkg.	120 lbs.	125 lbs.	85 lbs.
		List Price, each.	\$2.55	\$2.65	\$2.75
	Style of Cut-out	Size in inches	1/2	3/4	1
	3-wire	Catalogue Number....	Z1303	Z2303	Z3303
		Standard Package	15	15	10
		Ship. Wt. Std. Pkg.	145 lbs.	150 lbs.	105 lbs.
		List Price, each.	\$3.00	\$3.10	\$3.20

For important information concerning Condulets listed above, see notes on page 105. Condulet reducers are listed on page 171.
Listings of type Z Condulets are continued on opposite page.
Condulets of the Z series are listed on pages 136 to 143, inclusive.

(Cross Reference Page 136)

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches
Furnished with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Rings
for Switches and all necessary Bolts and Screws

For 30 Ampere, 600 Volt, N. E. C. Main Line Cut-outs and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished

A vintage Kodak camera, likely a Super 8 model, shown with its lens cap removed and a flash attachment. The camera is black and has the 'KODAK' logo visible on the front.

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line Cut-outs and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished

For 30 Ampere, 600 Volt, N. E. C. Main Line Cut-outs and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished

Style of Cut-out	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$
1-wire	ZC113016 15 230 lbs. \$4.60	ZC113016 15 230 lbs. \$4.60

We will furnish switches for Condulets listed on this and the opposite page, and the adjustable bar, furnished with each Condulet, permits the proper mounting of any snap or pull switch enumerated on page 62 or 63.

Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch.

We will furnish cut-outs for Condulets listed on this and the opposite page, but the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Out-outs

2-Wire: BRYANT—(Cartridge) 1917, (Plug) 62965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34387, (Plug) 62965. NOARK—(Cartridge) 3327. PAISTE—(Cartridge) 72965, (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653, (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.

3-Wire: **BRYANT**—(Cartridge) 1924, (Plug) 62165. **D. & W.**—(Cartridge) 91103. **G. E. CO.**—(Cartridge) 34372, (Plug) 62165. **NOARK**—(Cartridge) 3328. **PAISTE**—(Cartridge) 72165, (Plug) 2165. **SHAWMUT**—(Cartridge) 2079. **TRUMBULL**—(Cartridge) 21653, (Plug) 2165. **WEBER**—(Plug) 62165. **UNION**—(Cartridge) 2012.

30 Ampere, 600 Volt, Cartridge Fuse Cut-outs

1-Wire: BRYANT—(Cartridge) 1937. D. & W.—(Cartridge) 28076. G. E. CO.—(Cartridge) 34991. NOARK—(Cartridge) 5600. SHAWMUT—(Cartridge) 20735. UNION—(Cartridge) 4003.

3-Wire: Mount three 1-wire cut-outs, side by side.
For finishes and assortments, see note on page 91.

Condulet reducers are listed on page 171.

Condulets of the Z series are listed on pages 136 to 143, inclusive.

(Cross Reference Page 137)

CONDULETS—Z SERIES—Continued

TYPES ZL AND ZR

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches
Furnished with Universal Out-cut Fastening Plate, Adjustable Bar and Adapting Ring
for Switches and all necessary Bolts and Screws

TYPE ZL CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line
or Single Branch Cut-outs and 5, 10 or 20 Ampere Switches—
Cut-outs and Switches not Furnished

	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ 	$\frac{3}{4}$ 	1 
	2-wire	Catalogue Number..	ZL11302	ZL22302	ZL33302
		Standard Package ..	15	15	10
		Weight Std. Pkg....	150 lbs.	155 lbs.	110 lbs.
		List Price, each.....	\$3.15	\$3.25	\$3.35
	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ 	$\frac{3}{4}$ 	1 
	3-wire	Catalogue Number..	ZL11303	ZL22303	ZL33303
		Standard Package ..	15	15	10
		Weight Std. Pkg....	170 lbs.	175 lbs.	125 lbs.
		List Price, each.....	\$3.65	\$3.75	\$3.85

TYPE ZR CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line
or Single Branch Cut-outs and 5, 10 or 20 Ampere Switches—
Cut-outs and Switches not Furnished

	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ 	$\frac{3}{4}$ 	1 
	2-wire	Catalogue Number..	ZR11302	ZR22302	ZR33302
		Standard Package ..	15	15	10
		Weight Std. Pkg....	150 lbs.	155 lbs.	110 lbs.
		List Price, each.....	\$3.15	\$3.25	\$3.35
	Style of Cut-out	Size in inches.....	$\frac{1}{2}$ 	$\frac{3}{4}$ 	1 
	3-wire	Catalogue Number..	ZR11303	ZR22303	ZR33303
		Standard Package ..	15	15	10
		Weight Std. Pkg....	170 lbs.	175 lbs.	125 lbs.
		List Price, each.....	\$3.65	\$3.75	\$3.85

We will furnish switches for Condulets listed above, and the adjustable bar, furnished with each Condulet, permits the mounting of any snap or pull switch enumerated on page 62 or 63. Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch. We will furnish cut-outs for Condulets listed above, and the universal out-cut fastening plates, furnished with the Condulets, take the following cut-outs:

- 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Main Line Cut-outs
2-Wire: BRYANT—(Cartridge) 1917, (Plug) 62965, D. & W.—(Cartridge) 91102, G. E. CO.—(Cartridge) 34367, (Plug) 62965, NOARK—(Cartridge) 3327, PAISTE—(Cartridge) 72965, (Plug) 2965, SHAWMUT—(Cartridge) 2077, TRUMBULL—(Cartridge) 29653, (Plug) 2965, WEBER—(Plug) 62965, UNION—(Cartridge) 2010.
3-Wire: BRYANT—(Cartridge) 1924, (Plug) 62165, D. & W.—(Cartridge) 91103, G. E. CO.—(Cartridge) 34372, (Plug) 62165, NOARK—(Cartridge) 3328, PAISTE—(Cartridge) 72165, (Plug) 2165, SHAWMUT—(Cartridge) 2079, TRUMBULL—(Cartridge) 21653, (Plug) 2165, WEBER—(Plug) 62165, UNION—(Cartridge) 2012.
30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Single Branch Cut-outs
2 to 2-Wire: BRYANT—(Cartridge) 1919, (Plug) 61935, D. & W.—(Cartridge) 91104, G. E. CO.—(Cartridge) 34368, (Plug) 61935, NOARK—(Cartridge) 3345, PAISTE—(Cartridge) 71935, (Plug) 1935, SHAWMUT—(Cartridge) 2081, TRUMBULL—(Cartridge) 19353, (Plug) 1935, WEBER—(Plug) 61935, UNION—(Cartridge) 2020.
3 to 3-Wire: BRYANT—(Cartridge) 1926, (Plug) 8042, D. & W.—(Cartridge) 91105, G. E. CO.—(Cartridge) 34373, (Plug) 8042, NOARK—(Cartridge) 3346, PAISTE—(Cartridge) 78042, (Plug) 8042, SHAWMUT—(Cartridge) 2083, TRUMBULL—(Cartridge) 80423, (Plug) 8042, WEBER—(Plug) 8042, UNION—(Cartridge) 2022.

For finishes, see page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Z series are listed on pages 136 to 143, inclusive.

(Cross Reference Page 138)

CONDULETS—Z SERIES—Continued


TYPE ZS

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches

Furnished with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Ring for Switches and all necessary Bolts and Screws

TYPE ZS CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Single Branch Cut-outs and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished

	Style of Cut-out	Size in inches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$ in. mains $\frac{1}{2}$ in. branch		$\frac{1}{2}$ — $\frac{3}{4}$ $\frac{1}{2}$ in. mains $\frac{3}{4}$ in. branch		$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{3}{4}$ in. mains $\frac{3}{4}$ in. branch	
			Catalogue Number . . .	ZS111302	ZS212302	ZS222302		
2 to 2-wire	Style of Cut-out	Size in inches	Standard Package . . .	15	15	15		
			Weight Std. Pkg. . . .	160 lbs.	165 lbs.	170 lbs.		
2 to 2-wire	Style of Cut-out	Size in inches	List Price, each	\$3.35	\$3.45	\$3.50		
2 to 2-wire	Style of Cut-out	Size in inches	Catalogue No.	ZS313302	ZS333302	ZS414302	ZS424302	ZS515302
			Standard Pkg.	10	10	10	5	5
2 to 2-wire	Style of Cut-out	Size in inches	Weight Std. Pkg. . . .	120 lbs.	125 lbs.	130 lbs.	135 lbs.	75 lbs.
			List Price, each. . . .	\$3.55	\$3.60	\$3.65	\$3.75	\$3.85
3 to 3-wire	Style of Cut-out	Size in inches	Catalogue No.	ZS111303	ZS212303	ZS222303	ZS313303	ZS323303
			Standard Pkg.	15	15	15	10	10
3 to 3-wire	Style of Cut-out	Size in inches	Weight Std. Pkg. . . .	180 lbs.	185 lbs.	190 lbs.	135 lbs.	140 lbs.
			List Price, each. . . .	\$3.70	\$3.75	\$3.80	\$3.85	\$3.90
3 to 3-wire	Style of Cut-out	Size in inches	Catalogue No.	ZS414303	ZS424303	ZS515303	ZS525303	ZS626303
			Standard Pkg.	10	10	5	5	5
3 to 3-wire	Style of Cut-out	Size in inches	Weight Std. Pkg. . . .	150 lbs.	155 lbs.	80 lbs.	80 lbs.	85 lbs.
			List Price, each. . . .	\$4.00	\$4.10	\$4.25	\$4.35	\$4.45
3 to 3-wire	Style of Cut-out	Size in inches	Catalogue No.	ZS414303	ZS424303	ZS515303	ZS525303	ZS626303
			Standard Pkg.	10	10	5	5	5
3 to 3-wire	Style of Cut-out	Size in inches	Weight Std. Pkg. . . .	150 lbs.	155 lbs.	80 lbs.	80 lbs.	85 lbs.
			List Price, each. . . .	\$4.00	\$4.10	\$4.25	\$4.35	\$4.45

We will furnish switches for Condulets listed above, and the adjustable bar, furnished with each Condulet, permits the mounting of any snap or pull switch enumerated on page 62 or 63. Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch. We will furnish cut-outs for Condulets listed above, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs

2 to 2-Wire: **BRYANT**—(Cartridge) 1919, (Plug) 61935. **D. & W.**—(Cartridge) 91104. **G. E. CO.**—(Cartridge) 34368, (Plug) 61935. **NOARK**—(Cartridge) 3345. **PAISTE**—(Cartridge) 71935, (Plug) 1935. **SHAWMUT**—(Cartridge) 2081. **TRUMBULL**—(Cartridge) 19353, (Plug) 1935. **WEBER**—(Plug) 61935. **UNION**—(Cartridge) 2020.

3 to 3-Wire: **BRYANT**—(Cartridge) 1926, (Plug) 8042. **D. & W.**—(Cartridge) 91105. **G. E. CO.**—(Cartridge) 34373, (Plug) 8042. **NOARK**—(Cartridge) 3346. **PAISTE**—(Cartridge) 78042, (Plug) 8042. **SHAWMUT**—(Cartridge) 2083. **TRUMBULL**—(Cartridge) 80423, (Plug) 8042. **WEBER**—(Plug) 8042. **UNION**—(Cartridge) 2022.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Z series are listed on pages 136 to 143, inclusive.

(Cross Reference Page 139)

CONDULETS—Z SERIES—Continued

TYPE ZU*

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches
Furnished with Universal Out-cut Fastening Plate, Adjustable Bars and Adapting
Rings for Switches and all necessary Bolts and Screws

TYPE ZU CONDULETS—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug N. E. C. Double Branch Cut-outs and
5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished

	Style of Cut-out	Size in inches				
	2 to 2-wire or 3 to 2-wire	Catalogue Number Standard Package Shipping Weight Std. Pkg. List Price, each	ZU111302 15 200 lbs. \$4.70	ZU121302 15 205 lbs. \$4.80		
	Style of Cut-out	Size in inches				
	2 to 2-wire or 3 to 2-wire	Catalogue Number Standard Package Shipping Weight Std. Pkg. List Price, each	ZU222302 15 210 lbs. \$4.90	ZU131302 10 105 lbs. \$5.00		
Style of Cut-out	Size in inches.....					
	2 to 2-wire or 3 to 2-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each...	ZU232302 10 110 lbs. \$5.10	ZU141302 10 110 lbs. \$5.20	ZU242302 10 115 lbs. \$5.30	ZU343302 10 120 lbs. \$5.40	ZU151302 5 90 lbs. $5.50
Style of Cut-out	Size in inches.....					
	2 to 2-wire or 3 to 2-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each...	ZU252302 5 125 lbs. \$5.60	ZU353302 5 130 lbs. \$5.70	ZU161302 5 130 lbs. \$5.80	ZU262302 5 135 lbs. \$5.90	ZU363302 5 140 lbs. $6.00

*These Condulets can be furnished with covers hinged on side opposite switches, and then have the letter E inserted after U in catalogue number, as ZUE111302.

Important Information Concerning Condulets Listed on This Page

We will furnish switches for Condulets listed above, and the adjustable bars, furnished with each Condulet, permit the proper mounting of any snap or pull switch enumerated on page 93 or 94. Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No We will furnish cut-outs for Condulets listed above, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs.

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
2 to 2-Wire: BRYANT—(Cartridge) 1922, (Plug) 62587. D. & W.—(Cartridge) 91106. G. E. CO.—(Cartridge) 34369, (Plug) 62587. NOARK—(Cartridge) 3349. PAISTE—(Cartridge) 72587, (Plug) 2587. SHAWMUT—(Cartridge) 2085. TRUMBULL—(Cartridge) 25873, (Plug) 2587. WEBER—(Plug) 62587. UNION—(Cartridge) 2025.
3 to 2-Wire: BRYANT—(Cartridge) 1923, (Plug) 62199. D. & W.—(Cartridge) 91121. G. E. CO.—(Cartridge) 34370, (Plug) 62199. NOARK—(Cartridge) 3351. PAISTE—(Cartridge) 72199, (Plug) 2199. SHAWMUT—(Cartridge) 2087. TRUMBULL—(Cartridge) 21993, (Plug) 2199. WEBER—(Plug) 63199. UNION—(Cartridge) 2027.

For finishes and assortments, see note on page 91.

Condulet reducers are listed on page 171.

Listings of type ZU Condulets are continued on opposite page.

Condulets of the Z series are listed on pages 136 to 143, inclusive.

(Cross Reference Page 140)

CONDULETS—Z SERIES—Continued

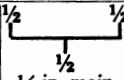
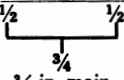
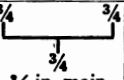
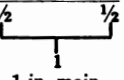
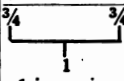
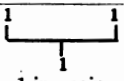
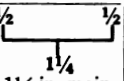
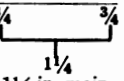
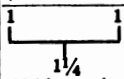
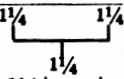
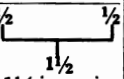
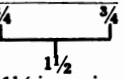
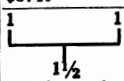
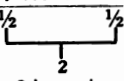
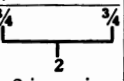
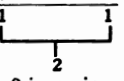
TYPE ZU*—Continued

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches

**Furnished with Universal Cut-out Fastening Plate, Adjustable Bars and Adapting
Rings for Switches and all necessary Bolts and Screws**

TYPE ZU CONDULETS—Black Enamel Finish—Continued

**For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Double Branch Cut-outs
and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished**

Style of Cut-out	Size in inches.....				
		1/2 in. main 1/2 in. branches	3/4 in. main 1/2 in. branches	3/4 in. main 3/4 in. branches	1 in. main 1/2 in. branches
3 to 3-wire	Catalogue Number..... Standard Package..... Shipping Weight Std. Pkg. List Price, each.....	ZU111303 15 210 lbs. \$5.70	ZU121303 15 215 lbs. \$5.80	ZU222303 15 220 lbs. \$5.90	ZU131303 10 155 lbs. \$6.00
Style of Cut-out	Size in inches.....				
		1 in. main 3/4 in. branches	1 in. main 1 in. branches	1 1/4 in. main 1/2 in. branches	1 1/4 in. main 3/4 in. branches
3 to 3-wire	Catalogue Number..... Standard Package..... Shipping Weight Std. Pkg. List Price, each.....	ZU232303 10 160 lbs. \$6.10	ZU333303 10 165 lbs. \$6.15	ZU141303 10 160 lbs. \$6.20	ZU242303 10 170 lbs. \$6.30
Style of Cut-out	Size in inches.....				
		1 1/4 in. main 1 in. branches	1 1/4 in. main 1 1/4 in. branches	1 1/2 in. main 1/2 in. branches	1 1/2 in. main 3/4 in. branches
3 to 3-wire	Catalogue Number..... Standard Package..... Shipping Weight Std. Pkg. List Price, each.....	ZU343303 10 170 lbs. \$6.40	ZU444303 10 170 lbs. \$6.50	ZU151303 5 95 lbs. \$6.55	ZU252303 5 95 lbs. \$6.60
Style of Cut-out	Size in inches.....				
		1 1/2 in. main 1 in. branches	2 in. main 1/2 in. branches	2 in. main 3/4 in. branches	2 in. main 1 in. branches
3 to 3-wire	Catalogue Number..... Standard Package..... Shipping Weight Std. Pkg. List Price, each.....	ZU353303 5 100 lbs. \$6.70	ZU161303 5 105 lbs. \$6.80	ZU262303 5 100 lbs. \$6.90	ZU363303 5 105 lbs. \$7.00

*These Condulets can be furnished with covers hinged on side opposite switches, and then have the letter E inserted after U in catalogue number, as ZUE111303.

We will furnish switches for Condulets listed above, and the adjustable bars, furnished with each Condulet, permit the proper mounting of any snap or pull switch enumerated on page 62 or 63.

Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch.

We will furnish cut-outs for Condulets listed above, and the universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs

3 to 3-Wire: BRYANT—(Cartridge) 1928, (Plug) 62135. D. & W.—(Cartridge) 91100. G. E. CO.—(Cartridge) 34374, (Plug) 62135. NOARK—(Cartridge) 3353. PAISTE—(Cartridge) 72135, (Plug) 2135. SHAWMUT—(Cartridge) 20835. TRUMBULL—(Cartridge) 21353, (Plug) 2135. WEBER—(Plug) 62135. UNION—(Cartridge) 2029.

For finishes, see note on page 91.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet reducers are listed on page 171.

Condulets of the Z series are listed on pages 136 to 143, inclusive.

(Cross Reference Page 141)

CONDULETS—Z SERIES—Continued

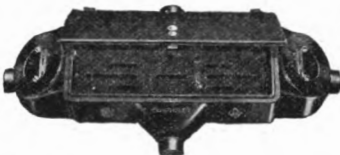
TYPE ZX

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches

Furnished with Universal Cut-out Fastening Plate, Adjustable Bars and Adapting Rings for Switches and all necessary Bolts and Screws

TYPE ZX CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Double Branch Cut-outs and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished

	Style of Cut-out	Size in inches...	$\frac{1}{2} \begin{array}{c} \frac{1}{2} \\ | \\ \frac{1}{2} \end{array} \frac{1}{2}$	$\frac{1}{2} \begin{array}{c} \frac{3}{4} \\ | \\ \frac{3}{4} \end{array} \frac{1}{2}$		
	2 to 2-wire or 3 to 2-wire	Catalogue No... Standard Pkg... Wt. Std. Pkg... List Price, each.	ZX1111302 15 225 lbs. \$5.10	ZX2112302 15 230 lbs. \$5.20		
	Style of Cut-out	Size in inches...	$\frac{3}{4} \begin{array}{c} \frac{3}{4} \\ | \\ \frac{3}{4} \end{array} \frac{3}{4}$	$\frac{1}{2} \begin{array}{c} 1 \\ | \\ 1 \end{array} \frac{1}{2}$		
	2 to 2-wire or 3 to 2-wire	Catalogue No... Standard Pkg... Wt. Std. Pkg... List Price, each.	ZX2222302 15 235 lbs. \$5.30	ZX3113302 10 160 lbs. \$5.40		
Style of Cut-out	Size in inches....	$\frac{3}{4} \begin{array}{c} 1 \\ | \\ 1 \end{array} \frac{3}{4}$	$\frac{1}{2} \begin{array}{c} \frac{1}{4} \\ | \\ \frac{1}{4} \end{array} \frac{1}{2}$	$\frac{3}{4} \begin{array}{c} \frac{1}{4} \\ | \\ \frac{1}{4} \end{array} \frac{3}{4}$	$\frac{1}{2} \begin{array}{c} \frac{1}{2} \\ | \\ \frac{1}{2} \end{array} \frac{1}{2}$	$\frac{3}{4} \begin{array}{c} \frac{1}{2} \\ | \\ \frac{1}{2} \end{array} \frac{3}{4}$
2 to 2-wire or 3 to 2-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each...	ZX3223302 10 160 lbs. \$5.45	ZX4114302 10 165 lbs. \$5.55	ZX4224302 10 165 lbs. \$5.60	ZX5115302 5 100 lbs. \$5.75	ZX5225302 5 100 lbs. \$5.85
Style of Cut-out	Size in inches....	$\frac{1}{2} \begin{array}{c} \frac{3}{4} \\ | \\ \frac{3}{4} \end{array} \frac{1}{2}$	$\frac{3}{4} \begin{array}{c} \frac{3}{4} \\ | \\ \frac{3}{4} \end{array} \frac{3}{4}$	$\frac{1}{2} \begin{array}{c} 1 \\ | \\ 1 \end{array} \frac{1}{2}$	$\frac{3}{4} \begin{array}{c} 1 \\ | \\ 1 \end{array} \frac{3}{4}$	$\frac{1}{2} \begin{array}{c} \frac{1}{4} \\ | \\ \frac{1}{4} \end{array} \frac{1}{2}$
3 to 3-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each ..	ZX2112303 15 230 lbs. \$6.10	ZX2222303 15 235 lbs. \$6.20	ZX3113303 10 180 lbs. \$6.30	ZX3223303 10 180 lbs. \$6.35	ZX4114303 10 190 lbs. \$6.45
Style of Cut-out	Size in inches....	$\frac{3}{4} \begin{array}{c} \frac{1}{4} \\ | \\ \frac{1}{4} \end{array} \frac{3}{4}$	$\frac{1}{2} \begin{array}{c} \frac{1}{2} \\ | \\ \frac{1}{2} \end{array} \frac{1}{2}$	$\frac{3}{4} \begin{array}{c} \frac{1}{2} \\ | \\ \frac{1}{2} \end{array} \frac{3}{4}$	$\frac{3}{4} \begin{array}{c} 2 \\ | \\ 2 \end{array} \frac{3}{4}$	$\frac{1}{4} \begin{array}{c} 2 \\ | \\ 2 \end{array} \frac{1}{4}$
3 to 3-wire	Catalogue No.... Standard Package Weight Std. Pkg.. List Price, each...	ZX4224303 10 190 lbs. \$6.50	ZX5115303 5 105 lbs. \$6.65	ZX5225303 5 105 lbs. \$6.75	ZX6226303 5 120 lbs. \$6.85	ZX6446303 5 120 lbs. \$7.00

We will furnish switches for Condulets listed above, and the adjustable bars, furnished with each Condulet, permit the mounting of any snap or pull switch enumerated on page 62 or 63.

Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch.

We will furnish cut-outs for Condulets listed above, and the universal cut-out fastening plates, furnished with the Condulets, take cut-outs enumerated on opposite page.

For finishes and assortments, see note on page 91.

Condulet reducers are listed on page 171.

Condulets of the Z series are listed on pages 136 to 143, inclusive.

(Cross Reference Page 143)

CONDULETS—PR SERIES
TYPES PRC, PRT AND PRXInside Dimensions—Diameter, 6 $\frac{1}{8}$ Inches; Depth, 2 $\frac{3}{8}$ Inches
Furnished with Cast Cover, Gasket and Cap Screws for Cover

Condulets of the PR series are for use where durable, water-tight junction boxes of medium size are required, as in railroad yards and shops. They are also suitable for underneath or overhead car wiring installations.

The hubs on these Condulets are so designed as to insure a clearance of at least three-quarters of an inch between the surface wired over and the conduit.

These Condulets, when used on car roofs, give no opportunity for the accumulation of cinders—a feature which prevents the otherwise rapid deterioration of the roof covering along the conduit and around the Condulet.

The cover overhangs the Condulet body and is held in place by four heavy brass cap screws. The joint is made water-tight by a gasket.

The bottom of the Condulet is reinforced at the center, to allow drilling and tapping for an extra conduit or for the suspension of a center lamp fixture of pedestal design.



TYPE PRC CONDULETS—Black Enamel Finish

Size in inches...	1—1	1 $\frac{1}{4}$ —1 $\frac{1}{4}$	1 $\frac{1}{2}$ —1 $\frac{1}{2}$	2—2
Catalogue No....	PRC33	PRC44	PRC55	PRC66
Standard Pkg....	15	15	10	5
Wt. Std. Pkg....	175 lbs.	180 lbs.	125 lbs.	130 lbs.
List Price, each..	\$4.75	\$4.95	\$5.15	\$5.55



TYPE PRT CONDULETS—Black Enamel Finish

Size in inches...	1—1 1" mains 1" branches	1 $\frac{1}{4}$ —1 $\frac{1}{4}$ 1 $\frac{1}{4}$ " mains 1 $\frac{1}{4}$ " branches	1 $\frac{1}{2}$ —1 $\frac{1}{2}$ 1 $\frac{1}{2}$ " mains 1 $\frac{1}{2}$ " branches	2—2 2" mains 1 $\frac{1}{2}$ " branches
Catalogue No....	PRT333	PRT444	PRT545	PRT656
Standard Pkg....	15	15	10	5
Wt. Std. Pkg....	150 lbs.	160 lbs.	105 lbs.	70 lbs.
List Price, each..	\$4.85	\$5.05	\$5.20	\$6.45



TYPE PRX CONDULETS—Black Enamel Finish

Size in inches...	1—1 1" mains 1" branches	1 $\frac{1}{4}$ —1 $\frac{1}{4}$ 1 $\frac{1}{4}$ " mains 1" branches	1—1 1" mains 1" branches	1 $\frac{1}{2}$ —1 $\frac{1}{2}$ 1 $\frac{1}{2}$ " mains 1" branches
Catalogue No....	PRX3113	PRX3223	PRX3333	PRX4114
Standard Pkg....	15	15	15	15
Wt. Std. Pkg....	210 lbs.	215 lbs.	220 lbs.	225 lbs.
List Price, each..	\$4.95	\$5.05	\$5.10	\$5.15

Size in inches.....	1 $\frac{1}{4}$ —1 $\frac{1}{4}$ 1 $\frac{1}{4}$ " mains 1" branches	1 $\frac{1}{4}$ —1 $\frac{1}{4}$ 1 $\frac{1}{4}$ " mains 1" branches	1 $\frac{1}{2}$ —1 $\frac{1}{2}$ 1 $\frac{1}{2}$ " mains 1" branches	1 $\frac{1}{2}$ —1 $\frac{1}{2}$ 1 $\frac{1}{2}$ " mains 1" branches	2—2 2" mains 1" branches	2—2 2" mains 1" branches
Catalogue Number	PRX4224	PRX4444	PRX5115	PRX5225	PRX6116	PRX6336
Standard Package	15	15	10	10	5	5
Ship. Wt. Std. Pkg.....	230 lbs.	235 lbs.	160 lbs.	165 lbs.	90 lbs.	95 lbs.
List Price, each.....	\$5.25	\$5.35	\$5.45	\$5.55	\$5.75	\$5.85

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

Gasket is listed separately on page 177. Condulet reducers are listed on page 171. Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

(Cross Reference Page 144)

CONDULET BODIES—RS SERIES

TYPES RS ($8\frac{1}{2} \times 8\frac{1}{2} \times 4$), RSM ($8\frac{1}{2} \times 4\frac{1}{2} \times 4$) AND RSS ($4\frac{1}{2} \times 4\frac{1}{2} \times 4$)

Furnished with Cast Cover, Cover Gasket and Fastening Screws for Cover



Type RS Body with Cover

CONDULET BODIES—Black Enamel Finish

Types	RS	RSM	RSS
Inside Dimen., inches	$8\frac{1}{2} \times 8\frac{1}{2} \times 4$	$8\frac{1}{2} \times 4\frac{1}{2} \times 4$	$4\frac{1}{2} \times 4\frac{1}{2} \times 4$
Catalogue Number...	RS1	RSM1	RSS1
Standard Package...	10	10	10
Ship. Wt. Std. Pkg...	190 lbs.	120 lbs.	105 lbs.
List Price, each.....	\$6.00	\$4.25	\$3.75

CAST SIDE PLATES FOR TYPES RS, RSM, AND RSS CONDULET BODIES

Black Enamel Finish

Furnished with Gaskets and Fastening Screws



One Hub



Blank
Reverse Side, Showing Gasket



Blank
Reverse Side, Showing Gasket



One Hub



Two Hubs

Side Plates for $8\frac{1}{2} \times 4$ -inch Sides of Types RS and RSM Condulet Bodies

Style of Plate	Size hub	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
1-Hub	Cat. No.	RSP1	RSP2	RSP3	RSP4	RSP5	RSP6	RSP7
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	120 lbs.	125 lbs.	130 lbs.	140 lbs.	145 lbs.	150 lbs.	155 lbs.
	List, each	\$1.85	\$1.90	\$1.95	\$2.00	\$2.05	\$2.10	\$2.25
2-Hub	Size hubs	$\frac{1}{2}-\frac{1}{2}$	$\frac{3}{4}-\frac{3}{4}$	$1-\frac{1}{2}$	$1-1$	$1\frac{1}{4}-\frac{3}{4}$	$1\frac{1}{4}-1$	$1\frac{1}{4}-1\frac{1}{4}$
	Cat. No.	RSP11	RSP22	RSP31	RSP33	RSP42	RSP43	RSP44
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	125 lbs.	140 lbs.	145 lbs.	150 lbs.	155 lbs.	160 lbs.	165 lbs.
	List, each	\$1.95	\$2.05	\$2.15	\$2.15	\$2.25	\$2.25	\$2.25
	Size hubs	$1\frac{1}{2}-1$	$1\frac{1}{2}-1\frac{1}{4}$	$1\frac{1}{2}-1\frac{1}{2}$	$2-\frac{3}{4}$	$2-1$	$2-1\frac{1}{2}$	$2-2$
	Cat. No.	RSP53	RSP54	RSP55	RSP62	RSP63	RSP65	RSP66
	Std. Pkg.	40	40	40	40	40	40	40
3-Hub	Wt. Pkg.	165 lbs.	165 lbs.	170 lbs.	175 lbs.	175 lbs.	180 lbs.	185 lbs.
	List, each	\$2.40	\$2.40	\$2.40	\$2.60	\$2.60	\$2.60	\$2.60
	Size hubs	$\frac{1}{2}-\frac{1}{2}-\frac{1}{2}$	$\frac{3}{4}-\frac{3}{4}-\frac{3}{4}$	$1-1-1$	$1\frac{1}{4}-1\frac{1}{4}-\frac{3}{4}$	$1\frac{1}{4}-1\frac{1}{4}-1\frac{1}{4}$	$1\frac{1}{2}-1\frac{1}{2}-1$	$1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}$
	Cat. No.	RSP111	RSP222	RSP333	RSP442	RSP444	RSP553	RSP555
1-Hub	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	145 lbs.	160 lbs.	155 lbs.	160 lbs.	165 lbs.	170 lbs.	185 lbs.
	List, each	\$2.05	\$2.20	\$2.35	\$2.50	\$2.50	\$2.75	\$2.75

Side Plates for $4\frac{1}{2} \times 4$ -inch Sides of Types RSM and RSS Condulet Bodies

Style of Plate	Size hub	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
1-Hub	Cat. No.	RSMP1	RSMP2	RSMP3	RSMP4	RSMP5	RSMP6	RSMP7
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	60 lbs.	65 lbs.	70 lbs.	70 lbs.	75 lbs.	80 lbs.	85 lbs.
	List, each	\$1.25	\$1.30	\$1.35	\$1.40	\$1.45	\$1.50	\$1.65

Cast Covers—with Gasket

For Condulet Bodies	RS	RSM	RSS
Catalogue Number..	RSP8800	RSP8400	RSP4400
Std. Pkg. (not ass't'd)	10	10	10
Ship. Wt. Std. Pkg.	75 lbs.	45 lbs.	35 lbs.
List Price, each.....	\$2.00	\$1.25	\$.90








Cast Blank Side Plates

Dimensions in inches	$8\frac{1}{2} \times 4$	$4\frac{1}{2} \times 4$
Catalogue Number..	ISP84400	RSP44400
Std. Pkg.	40	40
Ship. Wt. Std. Pkg.	120 lbs.	60 lbs.
List Price, each.....	\$1.80	\$1.20

For finishes and assortments of Condulet bodies, see page 144. Above side plates with black enameled or galvanized finish may be assorted to make up a standard package, regardless of style of plates. Gaskets are listed separately on page 177. Condulet reducers are listed on page 171.

CONDULET BODIES—LO SERIES
TYPES LO, LOA, LOC, LOL, LOCA, LOT AND LOX
For Ceiling Lamp Outlets

Take Fittings or Fixtures Enumerated on Opposite Page







	TYPE LO CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LO1	LO2	LO3
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	120 lbs.	100 lbs.	80 lbs.
	List Price, each.....	\$1.15	\$1.25	\$1.35
	TYPE LOA CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOA1	LOA2	LOA3
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.25	\$1.35	\$1.45
	TYPE LOC CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOC11	LOC22	LOC33
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.25	\$1.35	\$1.45
	TYPE LOL CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOL11	LOL22	LOL33
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.25	\$1.35	\$1.45
	TYPE LOCA CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOCA111	LOCA222	LOCA333
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	90 lbs.
	List Price, each.....	\$1.35	\$1.45	\$1.55
	TYPE LOT CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOT111	LOT222	LOT333
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
	List Price, each.....	\$1.30	\$1.40	\$1.50
	TYPE LOX CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	LOX1111	LOX2222	LOX3333
	Standard Package.....	50	35	25
	Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	90 lbs.
	List Price, each.....	\$1.40	\$1.50	\$1.60

Fixture fastening screw holes are drilled and tapped for 10-30 screws.
 For important information, see notes on page 150.

(Cross Reference Page 149)

CONDULET BODIES—CL SERIES
TYPES CL, CLA, CLC, CLL, CLT AND CLX

For Ceiling Lamp Outlets
Take Fittings or Fixtures Enumerated Below

	TYPE CL CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CL1	CL2	CL3
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	200 lbs.	140 lbs.	110 lbs.
	List Price, each.....	\$1.60	\$1.70	\$1.80
	TYPE CLA CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLA1	CLA2	CLA3
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	200 lbs.	140 lbs.	110 lbs.
	List Price, each.....	\$1.70	\$1.80	\$1.90
	TYPE CLC CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLC11	CLC22	CLC33
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	210 lbs.	145 lbs.	115 lbs.
	List Price, each.....	\$1.70	\$1.80	\$1.90
	TYPE CLL CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLL11	CLL22	CLL33
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	210 lbs.	145 lbs.	115 lbs.
	List Price, each.....	\$1.70	\$1.80	\$1.90
	TYPE CLT CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLT111	CLT222	CLT333
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	215 lbs.	150 lbs.	120 lbs.
	List Price, each.....	\$1.75	\$1.85	\$1.95
	TYPE CLX CONDULET BODIES—Black Enamel Finish			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLX1111	CLX2222	CLX3333
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	220 lbs.	155 lbs.	125 lbs.
	List Price, each.....	\$1.85	\$1.95	\$2.05

Fixture fastening screw holes are drilled and tapped for 10-30 screws.

Condulet bodies of the CL series take the following fittings or fixtures:

CROUSE-HINDS—Combination reflector holder and socket equipment CRSE1, listed on page 160. Vapor, gas and dust-proof equipments VGDE1 and VGDE2, listed on page 160. Reflector and receptacle holder SRH2, listed on page 160; reflector SH25, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 180. Receptacle mounting plate RMP1, listed on page 160, and Norbitt Conduletto clamp receptacle C337, listed on page 180. Terminal block CF101, listed on page 160. Blank covers, listed on page 151. Gaskets for blank covers LOB00 and LOB000 are listed separately on page 177.

ADAMS & WESTLAKE CO.—Fixtures S-912, 17080 and 18010.
SAFETY CAR HEATING AND LIGHTING CO.—Pendant 8294.

For finishes and assortments, see note on page 144. Condulet reducers are listed on page 171.

We will furnish fittings or fixtures of other manufacturers for above Condulet bodies.

(Cross Reference Page 150)

CONDULET BODIES **TYPES LP, LPC AND LPT**

Take Fittings or Fixtures Enumerated on Preceding Page



Showing Reflector Holder,
Reflector and Receptacle Installed
Not included in prices for Condulet Body

TYPE LP CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	LP1	LP2	LP3
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	100 lbs.	80 lbs.	60 lbs.
List Price, each.....	\$1.15	\$1.25	\$1.35



TYPE LPC CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	LPC11	LPC22	LPC33
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	110 lbs.	90 lbs.	65 lbs.
List Price, each.....	\$1.25	\$1.35	\$1.45



TYPE LPT CONDULET BODIES—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	LPT111	LPT222	LPT333
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	120 lbs.	100 lbs.	75 lbs.
List Price, each.....	\$1.30	\$1.40	\$1.50



BLANK COVERS FOR LO, LP AND CL SERIES OF CONDULET BODIES

Furnished with Cover Fastening Screws and Gasket

Style	Cast	Sheet Metal	
Catalogue Number	LOB00	LOB000	
Standard Package	100	100	
Shipping Weight Std. Pkg.	90 lbs.	65 lbs.	
List Price, each	\$.50	\$.30	

TYPE QPB CONDULETS

Take Plug Receptacles Enumerated Below



Type QPB
(Broken-away View)
Showing Plug Receptacle Mounted
(Receptacle not included in List Price)

Condulets of this series are both weatherproof and dustproof, making them equally serviceable for outdoor or indoor installations. The door is held closed by a strong spring, when the plug is not inserted in receptacle.

TYPE QPB CONDULETS—Black Enamel Finish

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	QPB1	QPB2	QPB3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.	180 lbs.	135 lbs.	105 lbs.
List Price, each	\$1.90	\$2.00	\$2.20



Type QPB Condulets take the following plug receptacles:
CUTLER-HAMMER—7618 (6 Amp.). G. E. CO.—49489, 102700 (10 Amp.). HUBBELL—5617, 5624 (10 Amp.), 5621 (20 Amp., Polarity).

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Gray lead finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies gray lead finish. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

Black enameled, gray lead and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

(Cross Reference Page 151)

CONDULET EQUIPMENTS AND ATTACHMENTS

CROUSE-HINDS VAPOR, GAS, AND DUST- PROOF EQUIPMENTS			HOLDERS FOR GLOBE, GUARD AND RECEPTACLE		
VGDE1 and VGDE2 Consist of Guard, Globe, Receptacle, Holder and Gaskets				For VGDE1	For VGDE2
			Furnished with Fastening Screws		
VGDE1	VGDE2	...Cat. No...	CRSH1	CRSH2	
35	35	...Std. Pkg...	35	35	
145 lbs.	180 lbs.	Wt. Std. Pkg.	60 lbs.	75 lbs.	
\$4.05	\$4.70	List Price, ea.	\$1.10	\$1.30	



Equipment VGDE1 takes any lamp with dimensions not exceeding $2\frac{3}{4} \times 5\frac{1}{4}$ inches. Equipment VGDE2 takes any lamp with dimensions not exceeding $3\frac{3}{4} \times 7\frac{3}{4}$ inches.

Guards for equipments VGDE1 and VGDE2 are listed separately on page 173. Globes for equipments VGDE1 and VGDE2 are listed separately on page 173.



Norbitt Conduletto clamp receptacle C337 for equipments VGDE1 or VGDE2 is listed separately on page 190.

Gaskets for equipments VGDE1 and VGDE2 are listed separately on page 177. VGDE1 is for the BLM, DSO, DSP, CL, LO and LP Series of Condulet Bodies and types JRRH, JRRV, MOH and MOV Side Bracket Hoods. VGDE2 is for the BLM, CL, LO and LP Series of Condulet Bodies.

COMBINATION REFLECTOR HOLDER AND SOCKET EQUIPMENT—Bronze	REFLECTOR AND RECEPTACLE HOLDER
For the BLM, DSO, DSP, CL, LO and LP Series of Condulet Bodies and Types JRRH, JRRV, MOH and MOV Side Bracket Hoods	



Furnished Complete with Socket and necessary Fastening Screws		Furnished with necessary Fastening Screws	
	CRSE1	...Catalogue Number...	SRH2
	20	...Standard Package...	50
	70 lbs.	...Ship. Wt. Std. Pkg...	45 lbs.
	\$6.00	...List Price, each....	\$.50
			

Norbitt Conduletto clamp receptacle C337 for Crouse-Hinds reflector and receptacle holder SRH2, is listed on page 190.

REFLECTOR FOR HOLDERS SRH2, SRH3 Porcelain Enamel Finish		REFLECTOR HOLDER For Types JRY, KRY and KRYA Condulet Bodies	
Furnished with necessary Fastening Screws			
	SH25	...Catalogue Number...	SRH3
	50	...Standard Package...	50
	55 lbs.	...Ship. Wt. Std. Pkg...	60 lbs.
	\$1.50	...List Price, each....	\$.75
			

TERMINAL BLOCK
For the DSO, DSP, CL, LO, LP and SO Series of Condulet Bodies and Types JRR, KRR, JRM, KRM, JRS, KRS, JRY, KRY, KRYA and MOC Condulet Bodies

RECEPTACLE MOUNTING PLATE
For the DSO, DSP, CL, LO and LP Series of Condulet Bodies and Types JRRH, JRRV, MOH and MOV Side Bracket Hoods

Furnished with necessary Fastening Screws			
	CF101	...Catalogue Number...	RMP1
	50	...Standard Package...	50
	25 lbs.	...Ship. Wt. Std. Pkg...	30 lbs.
	\$.50	...List Price, each....	\$.25
			

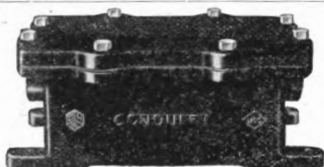
Norbitt Conduletto clamp receptacle C337 for Crouse-Hinds receptacle mounting plate RMP1, is listed on page 190.

	BEZEL—Brass—For Reflector SH25	
	... Catalogue Number...	Bezel 1
	... Standard Package...	50
	... Ship. Wt. Std. Pkg. ...	50 lbs.
	... List Price, each....	\$1.00

CONDULET BODIES

TYPES UGC AND UGX

Inside Dimensions: 6 $\frac{1}{8}$ x6 $\frac{7}{8}$ x3 Inches



Type UGC Condulet Body with Blank Cover CX00 Attached

Types UGC and UGX Condulets, being extra heavy, are particularly suited for use in railroad yards, manholes, subways, around coast defense fortifications and wherever a rugged water-tight Condulet is desired.

They can be used in combination with the yard charging Condulets, illustrated and listed on pages 163 and 164 of Condulet Catalog No. 1000, either for surface or underground conduit installations.

The cover is firmly held in place by brass cap screws, and a heavy gasket of high grade rubber securely seals the opening. The use of brass cap screws and a high grade rubber gasket makes it easy to take off and replace the cover.



TYPE UGC CONDULET BODIES—For Two Conduits

Size in inches.....	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Catalogue Number..	UGC33	UGC44	UGC55	UGC66
Standard Package...	5	5	5	5
Weight Std. Pkg.....	110 lbs.	115 lbs.	120 lbs.	125 lbs.
List Price, each.....	\$5.60	\$6.00	\$6.40	\$6.80



TYPE UGX CONDULET BODIES—For Four Conduits

Size in inches.....	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Catalogue Number..	UGX3333	UGX4444	UGX5555	UGX6666
Standard Package...	5	5	5	5
Weight Std. Pkg.....	115 lbs.	120 lbs.	125 lbs.	130 lbs.
List Price, each.....	\$5.80	\$6.20	\$6.60	\$7.00

BLANK CAST COVER

EXTENSION COVER—For Two-Inch Conduit Stem

FOR TYPES UGC AND UGX CONDULET BODIES



Furnished with Gasket and Fastening Screws

CX00	Catalogue Number..	CX6
5	Standard Package...	5
45 lbs.	Ship. Wt. Std. Pkg.	50 lbs.
\$3.25	List Price, each...	\$4.00



DOUBLE RECEPTACLE HOUSING
For use with Types UGC and UGX Condulet Bodies
Complete with Two 100 Ampere Rectangular
Receptacles BR100, Spring Doors, Gasket
and Fastening Screws. See note below.*

EXTENSION PLATE
For Two-Inch Conduit Stem
For Receptacle Housing CHXS100



CHXS100	....Cat. No.	CXH6
5	....Std. Pkg.	5
140 lbs.	Ship. Wt. Std. Pkg.	65 lbs.
\$29.00	List Price, each..	\$3.00



*Receptacle housing listed above is regularly furnished with two rectangular receptacles BR100, requiring the use of rectangular plugs BPF100 or BPB100, but if specifically ordered, two round receptacles BRA100, requiring the use of round plugs BPFA100 or M. C. B. standard plugs, will be furnished, at an advance of \$5.50 in the list price. Spring doors are regularly furnished on receptacle housings, but if specifically ordered, removable doors will be furnished at the same price.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package.

TYPE YQ CONDULETS

For 2 or 3-Pole Plug Receptacles and 2 or 3-Wire Cartridge or Plug Fuse Cut-outs

**Furnished Complete with Crouse-Hinds Plug Receptacle and Crouse-Hinds Cut-out,
but without Plug or Fuses**



Type YQ

(Broken-away View)

Showing Cut-out PE52E and Receptacle RYQ303 Mounted, also
Plug RQ303 and Padlock.
Plug and Padlock are not included in List Prices for Condulets

These Condulets provide a housing for a combination of plug receptacle and cut-out.

They are particularly suited for use in shops having portable tools, also in garages, laundries, railroad yards, etc. They are weather-proof and, therefore, can be installed either indoors or outdoors.

Two types of N. E. C. cut-outs are furnished—cartridge and plug. The cartridge type can be used on circuits up to 30 amperes, 250 volts, and the plug type on circuits up to 30 amperes, 125 volts.

The door over the cut-out is provided with a spring catch and can be locked with a padlock if desired. The door covering the plug opening is rabbetted and is kept closed by a plunger spring, when the plug is not in place, thus preventing the entrance of dust, moisture and insects.

TYPE YQ CONDULETS—Black Enamel Finish—

Complete with		Crouse-Hinds Plug Receptacle and 30 Amp., 250 Volt N. E. C. Cartridge Fuse Cut-out, but without Fuses			Crouse-Hinds Plug Receptacle and 30 Amp., 125 Volt N. E. C. Plug Fuse Cut-out, but without Fuses		
Style of Cut-out	Size in inches ..	1/2	3/4	1	1/2	3/4	1
2-wire	Catalogue No...	YQ1302E	YQ2302E	YQ3302E	YQ1302P	YQ2302P	YQ3302P
	Std. Pkg.	10	10	10	10	10	10
	Wt. Std. Pkg...	260 lbs.	265 lbs.	270 lbs.	275 lbs.	280 lbs.	290 lbs.
	List Price, each.	\$15.85	\$16.00	\$16.15	\$15.85	\$16.00	\$16.15
3-wire	Catalogue No...	YQ1303E	YQ2303E	YQ3303E	YQ1303P	YQ2303P	YQ3303P
	Std. Pkg.	10	10	10	10	10	10
	Wt. Std. Pkg...	300 lbs.	305 lbs.	310 lbs.	315 lbs.	320 lbs.	325 lbs.
	List Price, each.	\$18.75	\$19.00	\$19.25	\$18.75	\$19.00	\$19.25

N. E. C. CUT-OUTS FOR TYPE YQ CONDULETS



For 30 Ampere, 250 Volt Cartridge Fuses			For 30 Ampere, 125 Volt Plug Fuses		
2-wire	3-wire	.. Style of Cut-out.	2-wire	3-wire	
PE52E	PE53E	.. Catalogue No..	PE52P	PE53P	
10	10	Standard Package	10	10	
25 lbs.	30 lbs.	Weight Std. Pkg.	30 lbs.	35 lbs.	
\$2.85	\$3.85	List Price, each.	\$2.85	\$3.85	



TYPE RYQ PLUG RECEPTACLES—30 Amp. Capacity



For Type YQ Condulets		
2-pole	250 Volts	3-pole
RYQ302	.. Catalogue No..	RYQ303
10	Standard Package	10
20 lbs.	Weight Std. Pkg.	25 lbs.
\$2.50	List Price, each.	\$3.50



TYPE RQ PLUGS—30 Ampere Capacity

For Types RQH, RQK and RYQ Receptacles



2-Pole	3-Pole
RQ302	RQ303
25	25
60 lbs.	70 lbs.
\$3.50	\$5.00





We will furnish fuses.


(Cross Reference Page 167)

SHADE HOLDERS, CONDULET ELBOWS AND CONDULET COUPLINGS


SHADE HOLDERS—Brass, Dipped Finish—For Crouse-Hinds Porcelain Receptacles

Size	For 2¼-inch Shades	For 3¼-inch Shades	For 2¼-inch Shades H Position	
 NRS2¼	Catalogue Number..... NRS2¼	NRS3¼	NRH2¼	 NRE2¼
	Standard Package..... 200	200	200	
	Shipping Weight Std. Pkg. 40 lbs.	60 lbs.	50 lbs.	
	List Price, each..... \$.15	\$.30	\$.30	


CONDULET ELBOWS—45 Degrees—Black Enamel Finish

Size in inches.....	½	¾	1	1¼	1½
	Catalogue Number..... EL1	EL2	EL3	EL4	EL5
	Standard Package..... 200	100	50	20	10
	Shipping Weight Std. Pkg. 100 lbs.	80 lbs.	70 lbs.	55 lbs.	65 lbs.
	List Price, each..... \$.22	\$.30	\$.35	\$.65	\$.70
Size in inches.....	2	2½	3	3½	4
	Catalogue Number..... EL6	EL7	EL8	EL9	EL10
	Standard Package..... 5	5	5	5	5
	Shipping Weight Std. Pkg. 35 lbs.	70 lbs.	80 lbs.	110 lbs.	125 lbs.
	List Price, each..... \$1.15	\$2.60	\$3.00	\$4.25	\$5.30

COUPLINGS FOR TYPE F CONDULETS—Black Enamel Finish

Size in inches.....	½	¾	1	1¼	1½
	Catalogue Number..... Coup 1	Coup 2	Coup 3	Coup 4	Coup 5
	Standard Package..... 100	100	50	20	10
	Shipping Weight Std. Pkg. 30 lbs.	35 lbs.	35 lbs.	20 lbs.	15 lbs.
	List Price, each..... \$.25	\$.30	\$.35	\$.50	\$.60
Size in inches.....	2	2½	3	3½	4
	Catalogue Number..... Coup 6	Coup 7	Coup 8	Coup 9	Coup 10
	Standard Package..... 5	5	5	5	5
	Shipping Weight Std. Pkg. 15 lbs.	25 lbs.	30 lbs.	50 lbs.	55 lbs.
	List Price, each..... \$.80	\$1.50	\$2.50	\$4.80	\$5.50

CONDULET COUPLINGS—Black Enamel Finish—With Gasket

Size in inches...	½-½	¾-¾	1-1	1¼-1¼	1½-1½	2-2
	Cat. No..... Coup 11	Coup 22	Coup 33	Coup 44	Coup 55	Coup 66
	Std. Pkg..... 50	50	25	25	10	10
	Wt. Std. Pkg... 50 lbs.	60 lbs.	30 lbs.	35 lbs.	25 lbs.	30 lbs.
	List Price, each. \$.65	\$.75	\$.85	\$.95	\$1.05	\$1.25

Finishes: Black enamel is the standard finish for Condulet elbows and Condulet couplings listed above, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, see page 182. For cast brass and cast bronze elbows and couplings, plain and with special finishes, see page 182. For aluminum elbows and couplings, plain and with black enamel finish, see page 182. Above Condulet elbows or couplings of the same size with black enamel or galvanized finish may be assorted to make up a standard package. No other assortment is allowed.

Dipped brass is the standard finish for shade holders, but polished or brush brass finish will be furnished at same price, if specifically ordered. No assortment of shade holders is allowed in making up a standard package.

(Cross Reference Page 170)

CONDULET REDUCERS, CONDULET UNIONS AND CORD CLAMP

CONDULET REDUCERS

Standard Pkg. Assorted*	50	50	50	50	25	25	25	10	10
Ship. Wt. Std. Pkg.	60 lbs.	65 lbs.	70 lbs.	75 lbs.	45 lbs.	65 lbs.	105 lbs.	80 lbs.	100 lbs.
Size in inches.	3/4-1/2	1-1/2	1 1/4-1/2	1 1/2-1/2	2-1/2	2 1/2-1/2	3-1/2	3 1/2-1/2	4-1/2
Catalogue Number.	RE21	RE31	RE41	RE51	RE61	RE71	RE81	RE91	RE101
List Price, each.	\$.15	\$.20	\$.30	\$.40	\$.50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches.	1-3/4	1 1/4-3/4	1 1/2-3/4	2-3/4	2 1/2-3/4	3-3/4	3 1/2-3/4	4-3/4
Catalogue Number.	RE32	RE42	RE52	RE62	RE72	RE82	RE92	RE102
List Price, each.	\$.20	\$.30	\$.40	\$.50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches.	1 1/4-1	1 1/2-1	2-1	2 1/2-1	3-1	3 1/2-1	4-1
Catalogue Number.	RE43	RE53	RE63	RE73	RE83	RE93	RE103
List Price, each.	\$.30	\$.40	\$.50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches.	1 1/2-1 1/4	2-1 1/4	2 1/2-1 1/4	3-1 1/4	3 1/2-1 1/4	4-1 1/4
Catalogue Number.	RE54	RE64	RE74	RE84	RE94	RE104
List Price, each.	\$.40	\$.50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches.	2-1 1/2	2 1/2-1 1/2	3-1 1/2	3 1/2-1 1/2	4-1 1/2
Catalogue Number.	RE65	RE75	RE85	RE95	RE105
List Price, each.	\$.50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches.	2 1/2-2	3-2	3 1/2-2	4-2
Catalogue Number.	RE76	RE86	RE96	RE106
List Price, each.	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches.	3-2 1/2	3 1/2-2 1/2	4-2 1/2
Catalogue Number.	RE87	RE97	RE107
List Price, each.	\$1.35	\$2.00	\$2.75

Size in inches.	3 1/2-3	4-3
Catalogue Number.	RE98	RE108
List Price, each.	\$2.00	\$2.75

Size in inches.	4-3 1/2
Catalogue Number.	RE109
List Price, each.	\$2.75



Condulet Reducer



Condulet Union (Exploded View)



Condulet Union

CONDULET UNIONS

CORD CLAMP—Black Enamel Finish



Illustrating use of Cord Clamp



For
1/2, 3/4 and
1-inch
Conduit

Clamp 1
50
20 lbs.
\$.40

PORCELAIN BUSHING—For Type FF Condulets


Description	For 30-60 Amp. Condulets	For 100 Amp. Condulets
Catalogue No.	PE35	PE36
Standard Pkg.	50	50
Wt. Std. Pkg.	15 lbs.	30 lbs.
List Price, each	\$.15	\$.25



*Reducers listed in the same vertical column may be assorted to make up a standard package.
Finishes: Reducers are furnished with galvanized finish only.
 Black enamel is the standard finish for unions, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at the same price as black enamel finish. For special plated finishes, see page 182. For cast brass and cast bronze reducers and unions, see page 182.
 Black enameled and galvanized unions of the same size may be assorted to make up a standard package.

ARC LAMP HOOKS

For Arc Lamps, Ceiling Fans and Similar Installations

Hooks Arranged for Guy Wire					Plain Hooks		
Size	For 1/2-inch Conduit	For 3/4-inch Conduit	For 1-inch Conduit		Size	For 1 1/2-inch Conduit	For 1-inch Conduit
Cat. No.	GAH1	GAH2	GAH3		Cat. No.	PAH2	PAH3
Std. Pkg.	50	50	50		Std. Pkg.	50	50
Wt. Std. Pkg.	50 lbs.	25 lbs.	25 lbs.		Wt. Std. Pkg.	25 lbs.	13 lbs.
List, each ...	\$.45	\$.45	\$.50		List, each ...	\$.20	\$.20

DIAMETER OF WIRE HOLES IN CONDULET COVERS

Obround Covers—Porcelain and Composition

Style	Size of Cover ...	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5 or 6
1-wire Std.*	Catalogue No. ...	11	21	31	41	51	61	71	81	91	101	1401
	Diameter Hole. ...	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4	3 1/4
1-wire Spec.	Catalogue No. ...	11S	21S	31S	41S	51S	61S	71S	81S	91S	101S	Not made
	Diameter Hole. ...	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4	3 1/4
2-wire	Catalogue No. ...	12	22	32	42	52	62	72	82	92	102	1402
	Diameter Holes. ...	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4	3 1/4
3-wire	Catalogue No. ...	13	23	33	43	53	63	73	83	93	103	1403
	Diameter Holes. ...	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4	3 1/4
4-wire	Catalogue No. ...	1400	2400	3400	4400	5400	6400	7400	8400	9400	10400	14400
	Diameter Holes. ...	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4	3 1/4
5-wire	Catalogue No. ...	Not made	2500	3500	4500	5500	6500	7500	8500	9500	10500	14500
	Diameter Holes. ...	Not made	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4	3 1/4
6-wire	Catalogue No. ...	Not made	2600	3600	4600	5600	6600	7600	8600	9600	10600	14600
	Diameter Holes. ...	Not made	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4	3 1/4
7-wire	Catalogue No. ...	Not made	Not made	3700	4700	5700	6700	7700	8700	9700	10700	14700
	Diameter Holes. ...	Not made	Not made	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4
8-wire	Catalogue No. ...	Not made	Not made	3800	4800	5800	6800	7800	8800	9800	10800	14800
	Diameter Holes. ...	Not made	Not made	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4
9-wire	Catalogue No. ...	Not made	Not made	3900	4900	5900	6900	7900	8900	9900	10900	14900
	Diameter Holes. ...	Not made	Not made	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	2 1/8	2 1/4	2 3/4	3 1/4
W. P.	Catalogue No. ...	14	24	34	44							
	Diameter Holes. ...	1 1/8	1 1/4	1 1/2	1 3/4							

2 1/2 and 3-inch Obround wire hole covers are interchangeable; also the 3 1/2 and 4-inch sizes.

Covers for G and H, FD and FS, RJ and RK, M and O Series of Condulet Bodies

Style of Cover	Type	For G and H Series		For FD and FS Series	Style of Cover	Type	For RJ and RK Series	For M and O Series	
		Form 5 or 10	Form 20					Style of Molding	
1-wire	Cat. No.	5101	201	DS1	1-wire Std.*	Cat. No.	RK01	021	031
	Diam. Hole ...	1 1/8	1 1/4	1 1/2		Diam. Hole ...	1 1/8	1 1/4	1 1/2
2-wire	Cat. No.	5102	202	DS2	1-wire Special	Cat. No.	RK01S		
	Diam. Holes ...	1 1/8	1 1/4	1 1/2		Diam. Hole ...	1		
3-wire	Cat. No.	5103	203	DS3	2-wire	Cat. No.	RK02		Not made
	Diam. Holes ...	1 1/8	1 1/4	1 1/2		Diam. Holes ...	1 1/8		
4-wire	Cat. No.	510400	20400	DS4	3-wire	Cat. No.	RK03		
	Diam. Holes ...	1 1/8	1 1/4	1 1/2		Diam. Holes ...	1 1/8		
5-wire	Cat. No.		Not made	DS5					
	Diam. Holes ...			1 1/2					

*Standard 1-wire hole covers will always be furnished, unless order specifically calls for special 1-wire hole covers.

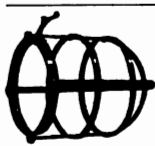
Finishes: Black enamel is the standard finish for hooks, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, at same price as black enamel finish, when the order specifies galvanized finish.

Black enameled and galvanized hooks of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

(Cross Reference Page 172)

GUARDS, GLOBES, SEALING PLATES AND REFLECTOR HOLDERS

GUARDS



Size.....	For V Series and Equipment VGDE1		For VH Series and Equipment VGDE2	
	Black	Marine	Black	Marine
Cat. No.....	V9	V90	VH9	VH90
Std. Pkg.....	35	35	35	35
Wt. Std. Pkg.	40 lbs.	40 lbs.	60 lbs.	60 lbs.
List Price, ea.	\$1.80	\$1.80	\$2.25	\$2.25

GLOBES

Color....	Clear	Opal	Green	Blue	Orange	Ruby
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For V Series of Condulets and Equipment VGDE1

Cat. No..	V8	V41	V42	V43	V44	V45
Std. Pkg.	35	35	35	35	35	35
Wt. Pkg.	50 lbs.	50 lbs.	50 lbs.	50 lbs.	50 lbs.	50 lbs.
List, ea..	\$.80	\$1.10	\$1.70	\$1.70	\$1.70	\$2.35

For VH Series of Condulets and Equipment VGDE2

Cat.No..	VH8	VH41	VH42	VH43	VH44	VH45
Std. Pkg.	35	35	35	35	35	35
Wt. Pkg.	60 lbs.	60 lbs.	60 lbs.	60 lbs.	60 lbs.	60 lbs.
List, ea..	\$.80	\$1.70	\$2.35	\$2.35	\$2.35	\$2.90



Type V Conduit
Complete with Globe, Guard
Receptacle and Sealing Plate
(broken-away View)

SEALING PLATES—Brass

For V and VH Series of Condulets

Size	For V Series	For VH Series
Catalogue Number..	V51	VH51
Std. Pkg., not Ass'd.	35	35
Ship. Wt. Std. Pkg..	30 lbs.	40 lbs.
List Price, each....	\$.30	\$.50

REFLECTOR HOLDERS

Take Reflectors Enumerated Below

Size.....	For V Series and Equipment VGDE1		For VH Series and Equipment VGDE2	
	Black	Marine	Black	Marine
Cat. No.....	V61	V610	VH61	VH610
Std. Pkg.....	35	35	35	35
Wt. Std. Pkg.	30 lbs.	30 lbs.	35 lbs.	35 lbs.
List Price, ea.	\$1.40	\$1.40	\$1.65	\$1.65

**COMBINATION REFLECTOR HOLDERS
WITH GUARDS**

Take Reflectors Enumerated Below

Size.....	For V Series and Equipment VGDE1		For VH Series and Equipment VGDE2	
	Black	Marine	Black	Marine
Cat. No.....	V71	V710	VH71	VH710
Std. Pkg.....	35	35	35	35
Wt. Std. Pkg.	50 lbs.	50 lbs.	70 lbs.	70 lbs.
List Price, ea.	\$2.00	\$2.00	\$2.50	\$2.50


Reflector Holder with Guard
Showing Reflector Mounted
List prices do not include and we
do not furnish Reflectors

We will furnish reflectors for above holders, and they take the following reflectors:
Holders V61, V610, V71 and V710 take HOLOPHANE—626, 627 and OVERBAUGH & AYERS—769, 771. Holders
VH61, VH610, VH71 and VH710 take HOLOPHANE—628, 629 and OVERBAUGH & AYERS—770, 772.
Finishes: Galvanized finish will be furnished at the same price as black finish, when order
specifies galvanized finish.
Black, marine and galvanized guards of the same size may be assorted to make up a standard
package. The same assortment applies to reflector holders and reflector holders with guards.
Condulets of the V series are listed on pages 98 to 101, inclusive. Condulets of the VH series are listed
on pages 102 to 105, inclusive.

GASKETS

GASKETS FOR OBROUND COVERS AND OBROUND CONDULETTO FITTINGS


For use between Condulet Bodies and Covers or Fittings

	Size in inches	1/2	3/4	1	1 1/4	1 1/2
	Catalogue Number.....	Gask 1	Gask 2	Gask 3	Gask 4	Gask 5
	Standard Package.....	200	100	50	25	25
	List Price, each	\$.10	\$.10	\$.15	\$.20	\$.20
Size in inches	2	2 1/2	3	3 1/2	4	5 and 6
Catalogue Number.....	Gask 6	Gask 7	Gask 8	Gask 9	Gask 10	Gask 86
Standard Package.....	25	25	25	25	25	25
List Price, each	\$.25	\$.40	\$.40	\$.50	\$.60	\$.70


GASKETS FOR OBROUND CONDULETTO FITTINGS

For use between Cap and Base



GASKET FOR
FD AND FS
CONDULET BODIES

	Size in inches	1/2	3/4	1	
	Cat. No.....	Gask 31	Gask 32	Gask 33	Gask 91
	Std. Pkg.	250	100	50	30
	List Price, ea.	\$.10	\$.10	\$.15	\$.25

GASKETS FOR TYPE F CONDULET COUPLINGS

	Size in inches	1/2	3/4	1	1 1/4
	Catalogue Number.....	Gask 11	Gask 12	Gask 13	Gask 14
	Standard Package.....	100	100	50	25
	List Price, each	\$.05	\$.05	\$.08	\$.10
Size in inches	1 1/2	2	2 1/2	3	3 1/2
Catalogue Number.....	Gask 15	Gask 16	Gask 17	Gask 18	Gask 19
Standard Package.....	25	25	25	25	25
List Price, each	\$.10	\$.15	\$.20	\$.20	\$.40


GASKETS FOR G AND H SERIES OF
CONDULET BODIESFor use between Bodies and Covers
or FittingsGASKETS FOR NORBITT CONDULETTO
FITTINGSFor use between Bodies of the J and K Series
and Fittings

	For Form 5 and Form 10 Bodies	For Form 20 Bodies	Gask 23 is also for use with Blank Cover J100	
	Gask 21	Gask 22	... Catalogue Number...	Gask 23
	100	75	... Standard Package...	200
	\$.10	\$.15	... List Price, each	\$.10

GASKETS FOR RJ AND RK SERIES
OF CONDULET BODIES



For use between Bodies and Metal Covers

GASKETS FOR ELLIPTICAL CONDULETTO
FITTINGSFor use between RJ and RK Series of Condulet
Bodies and Fittings or Porcelain Covers

	Gask 35	... Catalogue Number.....	Gask 34	
	200	... Standard Package.....	200	
	\$.15	... List Price, each.....	\$.15	

GASKETS FOR V SERIES OF CONDULETS





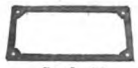





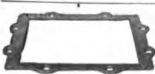





GASKETS FOR VH SERIES OF CONDULETS

	Sealing Plate Gasket	Globe Gasket	Description	Sealing Plate Gasket	Globe Gasket	
	Gask 26	Gask 24	... Cat. No....	Gask 27	Gask 25	
	35	35	... Std. Pkg....	35	35	
	\$.15	\$.15	... List, each....	\$.20	\$.20	

Listings of gaskets continued on opposite page.

(Cross Reference Page 176)

GASKETS—Continued

Gaskets for WV Condulets					Gaskets for Equipments VGDE1 and VGDE2				
	Globe Gaskets		Cover Gasket	Description	Globe Gaskets		Between Holder and Body		
	Upper	Lower			For VGDE1	For VGDE2			
	Gask 87 25 \$.35	Gask 88 25 \$.35	Gask 89 25 \$.35	Cat. No. Std. Pkg. List, ea.	Gask 24 35 \$.15	Gask 25 35 \$.20	Gask 60 35 \$.25		
Gasket for Types PRC and PRX Condulets For use between Bodies and Covers					Gasket for Types PJCA and PJX Condulets For use between Bodies and Covers				
	Gask 52 25 \$.35 Catalogue Number				Gask 67 25 \$.30			
		..... Standard Package						
		..... List Price, each						
Gaskets for RS Series of Condulet Bodies									
	Size	For 8 1/2 x 8 1/2 Cover	For 8 1/2 x 4 1/2 Cover	For 4 1/2 x 4 1/2 Cover	For 8 1/2 x 4 Side Plate	For 4 1/2 x 4 Side Plate			
		Catalogue No. ... Standard Pkg. ... List Price, each .	Gask 61 25 \$.50	Gask 63 25 \$.40	Gask 64 25 \$.35	Gask 66 25 \$.35	Gask 65 25 \$.30		
Gaskets for LO, CL and BO Series of Condulet Bodies For use between Bodies and LOB00 or LOB000 Covers					Gasket for DSP Series of Condulet Bodies For use between Bodies and Rectangular Cover				
	Gask 60 35 \$.25	Gask 85 35 \$.30	Catalogue Number . Standard Package . List Price, each ..		Gask 84 50 \$.25				
Gasket for Types JRRH and JRRV Hoods For use between Condulet Bodies and Hoods					Gasket for Types MOH and MOV Hoods For use between Condulet Bodies and Hoods				
	Gask 70 50 \$.20	..... Catalogue Number			Gask 90 50 \$.25			
		..... Standard Package						
		..... List Price, each						
Gasket for Types UGC and UGX Bodies For use between Bodies and Covers or Receptacle Housings					Gasket for Types BPF, BPFA and BPB Plugs For use between Receptacle Housings and Plugs				
	Gask 51 25 \$.75	..... Catalogue Number			Gask 59 25 \$.25			
		..... Standard Package						
		..... List Price, each						
Gaskets for Type UGE Frame					Gaskets for SP Series of Condulets				
	For Blank or Hub Plates and Receptacle Housing	For Supporting and Flange Plates	Description	Gasket for Brass Ring	Gasket for Glass Disk				
	Gask 82 25 \$.40	Gask 83 25 \$.40					Cat. No. ... Std. Pkg. ... List Price, ea.	Gask 57 25 \$.60	Gask 58 25 \$.50
Gasket for Condulet Bodies or Side Bracket Hoods that take Receptacle Mounting Plate RMP1 For use between Bodies and Mounting Plate					Gasket for Conduletto Clamp Fittings and Receptacle CCV337				
	Gask 85 35 \$.30	..... Catalogue Number			Gask 30 25 \$.10			
		..... Standard Package						
		..... List Price, each						

FINISHES

IRON CONDULETS AND COVERS

To determine the list prices of iron Condulets or covers with special plated finishes, use the following schedule:

Hot Galvanized	Multiply the standard list price of the article in iron with black enamel finish by 1½.
Brass Plated	Plain Finish: Multiply the standard list price of the article in iron with black enamel finish by 1½. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 3. Oxidized Finish: Multiply the standard list price of the article in iron with black enamel finish by 3.
Copper Plated	Plain Finish: Multiply the standard list price of the article in iron with black enamel finish by 1½. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 3. Oxidized Finish: Multiply the standard list price of the article in iron with black enamel finish by 3.
Nickel Plated	Plain Finish: Multiply the standard list price of the article in iron with black enamel finish by 1½. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 3. Oxidized Finish: Multiply the standard list price of the article in iron with black enamel finish by 3.

Iron Condulets or covers with polished plated finishes have to be ground and polished before plate is applied and again polished after plate has been applied.

Iron Condulets or covers with plain plated finishes are not ground and polished before plate is applied and, therefore, can not be satisfactorily polished after plate is applied.

CAST BRASS AND CAST BRONZE CONDULETS

To determine the list prices of cast brass or cast bronze Condulets with various finishes, use the following schedule:

Cast Brass	Marine Finish: Multiply the standard list price of the article in iron with black enamel finish by 3. Plain Finish: (See note*) Multiply the standard list price of the article in iron with black enamel finish by 3. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 3½. Sand Blast Finish: Multiply the standard list price of the article in iron with black enamel finish by 3½. Oxidized Finish: Multiply the standard list price of the article in iron with black enamel finish by 3½.
Cast Bronze	Plain Finish: Multiply the standard list price of the article in iron with black enamel finish by 3½. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 3½. Sand Blast Finish: Multiply the standard list price of the article in iron with black enamel finish by 3½. Oxidized Finish: Multiply the standard list price of the article in iron with black enamel finish by 3½.

*Cast brass Condulets listed in this bulletin with marine finish will be furnished with plain finish at the same list price.

SHEET BRASS AND SHEET BRONZE COVERS

To determine the list prices of sheet brass or sheet bronze covers with various finishes, use the following schedule:

Sheet Brass	Plain Finish: Multiply the standard list price of the article in iron with black enamel finish by 3. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 4. Sand Blast Finish: Multiply the standard list price of the article in iron with black enamel finish by 4. Oxidized Finish: Multiply the standard list price of the article in iron with black enamel finish by 4.
Sheet Bronze	Plain Finish: Multiply the standard list price of the article in iron with black enamel finish by 3. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 4. Sand Blast Finish: Multiply the standard list price of the article in iron with black enamel finish by 4½. Oxidized Finish: Multiply the standard list price of the article in iron with black enamel finish by 4.

ALUMINUM CONDULETS AND COVERS

To determine the list prices of aluminum Condulets or covers with various finishes, use the following schedule:

Aluminum	Plain Finish: Multiply the standard list price of the article in iron with black enamel finish by 2½. Polished Finish: Multiply the standard list price of the article in iron with black enamel finish by 3. Black Enamel Finish: Multiply the standard list price of the article in iron with black enamel finish by 2½.
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Important Information Concerning Iron Condulets or Covers with Special Plated Finishes and Condulets or Covers of Special Metals with Various Finishes

Condulets or covers with special finishes or of special metal with various finishes can be ordered by using the catalogue number for black enamel Condulet or cover of type and size desired, followed by a description of the selected special finish or special metal.

Thus, the order for a ½-inch type FD Condulet body, brass plated and polished, should read: "FD1 brass plated polished."

A standard package quantity of Condulets or covers with a special plated finish or of a special metal with a special finish is the same as for black enamel Condulets or covers of the same type and size.

Published list prices always take precedence over list prices derived from above schedules.

(Cross Reference Page 182)

OBOUND CONDULETTO FITTINGS

For Types A, B, C, CO, D, E, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB,
LU, T, TB, TL, TR, U, UB and X Condulet Bodies

Furnished with Gasket between Base and Cap, and all necessary Fastening Screws

	RECEPTACLES WITH SHADE HOLDER GROOVE			
	Size of Condulet Body	1/2	3/4	1
	Catalogue Number	JR1G	JR2G	JR3G
	Standard Package	200	100	50
	Shipping Weight Std. Pkg.	120 lbs.	80 lbs.	55 lbs.
	List Price, each	\$.30	\$.35	\$.40
	RECEPTACLES WITHOUT SHADE HOLDER GROOVE			
	Size of Condulet Body	1/2	3/4	1
	Catalogue Number	JR1	JR2	JR3
	Standard Package	200	100	50
	Shipping Weight Std. Pkg.	120 lbs.	80 lbs.	55 lbs.
	List Price, each	\$.25	\$.30	\$.35
	CORD ROSETTES			
	Size of Condulet Body	1/2	3/4	1
	Catalogue Number	JC1	JC2	JC3
	Standard Package	200	100	50
	Shipping Weight Std. Pkg.	120 lbs.	80 lbs.	60 lbs.
	List Price, each	\$.20	\$.25	\$.30
	FIXTURE ROSETTES WITH 1/8 MALE NIPPLE			
	Size of Condulet Body	1/2	3/4	1
	Catalogue Number	JF19	JF29	JF39
	Standard Package	100	100	50
	Shipping Weight Std. Pkg.	80 lbs.	90 lbs.	60 lbs.
	List Price, each	\$.30	\$.35	\$.40
	FIXTURE ROSETTES WITH 1/8 FEMALE NIPPLE			
	Size of Condulet Body	1/2	3/4	1
	Catalogue Number	JF1	JF2	JF3
	Standard Package	100	100	50
	Shipping Weight Std. Pkg.	80 lbs.	90 lbs.	60 lbs.
	List Price, each	\$.30	\$.35	\$.40
	HUBBELL ATTACHMENT PLUG RECEPTACLES—10 AMPERE			
	Size of Condulet Body	1/2	3/4	1
	Catalogue Number	JR15	JR25	JR35
	Standard Package	100	100	50
	Shipping Weight Std. Pkg.	70 lbs.	80 lbs.	55 lbs.
	List Price, each	\$.40	\$.45	\$.50
	HUBBELL POLARITY PLUG RECEPTACLES—20 AMPERE			
	Size of Condulet Body	1/2	3/4	1
	Catalogue Number	JR12	JR22	JR32
	Standard Package	100	100	50
	Shipping Weight Std. Pkg.	70 lbs.	80 lbs.	55 lbs.
	List Price, each	\$.55	\$.60	\$.65

Obround Conduletto fittings are made in sizes for 1/2, 3/4 and 1-inch Obround Condulet bodies. Proper fastening screws are furnished with Obround Conduletto fittings, and are so held in screw holes that they can not fall out.








We will furnish Hubbell Knife blade plug attachments.

Condulet bodies that take Obround Conduletto fittings are listed on pages 21 to 29a, inclusive. Obround gaskets are listed separately on page 176.

(Cross Reference Page 185)

NORBITT CONDULETTO FITTINGS

For Condulet Bodies of the J and K Series
Furnished with Gasket and Fastening Screw

	RECEPTACLE WITH SHADE HOLDER GROOVE	
	Complete Fitting	
	Catalogue Number	CC227G
	Standard Package	200
	Shipping Weight Std. Pkg.	130 lbs.
	RECEPTACLE WITHOUT SHADE HOLDER GROOVE	
	Complete Fitting	
	Catalogue Number	CC227
	Standard Package	200
	Shipping Weight Std. Pkg.	130 lbs.
	CORD ROSETTE	
	Complete Fitting	
	Catalogue Number	CC332
	Standard Package	200
	Shipping Weight Std. Pkg.	140 lbs.
	FIXTURE ROSETTE WITH 1/8 MALE NIPPLE	
	Complete Fitting	
	Catalogue Number	CC339
	Standard Package	100
	Shipping Weight Std. Pkg.	80 lbs.
	FIXTURE ROSETTE WITH 1/8 FEMALE NIPPLE	
	Complete Fitting	
	Catalogue Number	CC338
	Standard Package	100
	Shipping Weight Std. Pkg.	80 lbs.
	HUBBELL ATTACHMENT PLUG RECEPTACLE—10 AMPERE	
	Complete Fitting	
	Catalogue Number	CC5
	Standard Package	100
	Shipping Weight Std. Pkg.	70 lbs.
	HUBBELL POLARITY PLUG RECEPTACLE—20 AMPERE	
	Complete Fitting	
	Catalogue Number	CC20
	Standard Package	100
	Shipping Weight Std. Pkg.	70 lbs.
	List Price, each	\$.65

Norbitt Conduletto fittings are made in one size only and are interchangeable on Condulet bodies of the J and K series.

Proper fastening screw is furnished with each Norbitt Conduletto fitting, and is so held in screw hole that it can not fall out.








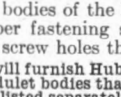
We will furnish Hubbell knife blade plug attachments.

Condulet bodies that take Norbitt Conduletto fittings are listed on pages 65, 66 and 67. Gasket is listed separately on page 176.

(Cross Reference Page 187)

ELLIPTICAL CONDULETTO FITTINGS

For Condulet Bodies of the RJ and RK Series
Furnished with Gasket and Fastening Screws

	RECEPTACLE WITH SHADE HOLDER GROOVE	
	Complete Fitting	
	Catalogue Number	RK527G
	Standard Package	200
	Shipping Weight Std. Pkg.	100 lbs.
	List Price, each	\$.45
	RECEPTACLE WITHOUT SHADE HOLDER GROOVE	
	Complete Fitting	
	Catalogue Number	RK527
	Standard Package	200
	Shipping Weight Std. Pkg.	100 lbs.
	List Price, each	\$.40
	CORD ROSETTE	
	Complete Fitting	
	Catalogue Number	RK532
	Standard Package	200
	Shipping Weight Std. Pkg.	110 lbs.
	List Price, each	\$.30
	FIXTURE ROSETTE WITH 1/8 MALE NIPPLE	
	Complete Fitting	
	Catalogue Number	RK539
	Standard Package	100
	Shipping Weight Std. Pkg.	70 lbs.
	List Price, each	\$.35
	FIXTURE ROSETTE WITH 1/8 FEMALE NIPPLE	
	Complete Fitting	
	Catalogue Number	RK538
	Standard Package	100
	Shipping Weight Std. Pkg.	70 lbs.
	List Price, each	\$.35
	HUBBELL ATTACHMENT PLUG RECEPTACLE—10 AMPERE	
	Complete Fitting	
	Catalogue Number	RK5
	Standard Package	100
	Shipping Weight Std. Pkg.	80 lbs.
	List Price, each	\$.50
	HUBBELL POLARITY PLUG RECEPTACLE—20 AMPERE	
	Complete Fitting	
	Catalogue Number	RK20
	Standard Package	100
	Shipping Weight Std. Pkg.	80 lbs.
	List Price, each	\$.65

Elliptical Conduletto fittings are made in one size only and are interchangeable on all Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with Elliptical Conduletto fittings, and are so held in screw holes that they can not fall out.

We will furnish Hubbell knife blade plug attachments.

Condulet bodies that take Elliptical Conduletto fittings are listed on pages 69, 70, 71 and 72. Gasket is listed separately on page 176.

(Cross Reference Page 189)

NORBITT CONDULETTO CLAMP FITTINGS

For Condulets of the S Series

Norbitt Conduletto Clamp Receptacle C337 is used with the following: Equipments VGDE1 and VGDE2; Crouse-Hinds Reflector and Receptacle Holder SRE2, and Receptacle Mounting Plate RMP1. Furnished with Gasket



Norbitt Conduletto Clamp Receptacle
With Shade Holder Groove
(Exploded View)

Norbitt Conduletto Clamp fittings eliminate soldered and taped joints, and have the additional advantage of enclosed contacts.

These fittings are made in two parts—base and cap. Circuit wires connect direct to the base, and two screws through the cap complete the electrical connection and clamp fitting in position.

Norbitt Conduletto Clamp fittings have a base common to all. This construction permits the substitution of one style of cap for another, without disconnecting circuit wires.



Norbitt Conduletto Clamp
Cord Rosette
(Exploded View)

RECEPTACLE WITH SHADE HOLDER GROOVE



Description	Fitting Complete
Catalogue Number	C337G
Standard Package	200
Shipping Weight Std. Pkg.	110 lbs.
List Price, each	\$.45

RECEPTACLE WITHOUT SHADE HOLDER GROOVE



Description	Fitting Complete
Catalogue Number	C337
Standard Package	200
Shipping Weight Std. Pkg.	110 lbs.
List Price, each	\$.40

CORD ROSETTE



Description	Fitting Complete
Catalogue Number	C442
Standard Package	200
Shipping Weight Std. Pkg.	100 lbs.
List Price, each	\$.30

FIXTURE ROSETTE WITH 1/8 MALE NIPPLE



Description	Fitting Complete
Catalogue Number	C449
Standard Package	100
Shipping Weight Std. Pkg.	65 lbs.
List Price, each	\$.35

FIXTURE ROSETTE WITH 1/8 FEMALE NIPPLE



Description	Fitting Complete
Catalogue Number	C448
Standard Package	100
Shipping Weight Std. Pkg.	65 lbs.
List Price, each	\$.35

Condulet bodies that take Norbitt Conduletto clamp fittings are listed on pages 14 and 15. Equipments VGDE1 and VGDE2, Crouse-Hinds reflector and receptacle holder SRE2 and receptacle mounting plate RMP1, with each of which receptacle C337 is used, are listed on page 14. Gasket is listed separately on page 177.

(Cross Reference Page 190)

CROUSE-HINDS PANELS

GENERAL PANEL BOARD SPECIFICATIONS

- Type A. Branches arranged for N. E. C. cartridge fuses, with or without knife switches.
- Type D. Branches arranged for Edison plug fuses, with or without knife switches.
- Type DD. Branches arranged for Edison plug fuses, no switches.
- Type DK. Branches arranged for Edison plug fuses, with knife switches.
- Type DP. Branches arranged for Edison plug fuses, with push button switches.
- Type DR. Branches arranged for Edison plug fuses, with rotary snap switches.
- Type F. Branches arranged for N. E. C. cartridge fuses, with rotary snap switches.
- Type H. Branches arranged for Edison plug fuses, with rotary snap switches.
- Type O. Branches arranged for N. E. C. cartridge fuses, with push button switches.
- Type P. Branches arranged for Edison plug fuses, with push button switches.

Material.—The base is highest grade black Monson slate, free from flaws or metallic veins. All current-carrying parts are best grade hard-drawn copper of 98 per cent conductivity.

Finish.—The slate is furnished with a rubbed oil finish. All exposed metal parts are finished in polished copper, carefully lacquered, except on contact surfaces.

Spacings.—All current-carrying parts are spaced in accordance with the latest requirements of the National Board of Fire Underwriters.

Current Density.—All current-carrying parts are based upon a maximum current density of 1000 amperes per square inch cross section.

Circuit Connections.—All two to two-wire panel boards are connected in the regular manner, adjacent poles of adjoining circuits being of the same polarity, but fed by separate strips. All three to two-wire panel boards are connected for the Edison three-wire system; that is, each branch circuit has one pole connected to the neutral bus bar and the other pole connected to one of the two outside bus bars. All three to two-wire panel boards are so connected that adjacent poles of adjoining circuits are of the same polarity, but fed by separate strips.

Capacities.—Fuse terminal branch circuits and branch circuits with knife switches are of 30 amperes capacity. Snap switch circuits are of 10 amperes capacity. Mains on all two to two-wire panel boards are figured at 6 amperes per circuit, and on three to two-wire panel boards at 3 amperes per circuit.

Circuit Strips.—Branch circuit strips are made of $\frac{1}{2}$ -inch by $\frac{1}{16}$ -inch copper, formed up in such a manner as to make direct connections to the main bus bars without the use of pillars, thus reducing the number of parts and contact joints to a minimum.

Circuit Switches.—Knife switches are of 30 amperes capacity and 30 amperes spacing, equipped with substantial composition handles into which the blades are molded. Contact clips and hinge standards are each formed from one piece of $\frac{1}{2}$ -inch by No. 16 gauge copper. The contact clips are flared at the top to insure proper entrance of the blades. The blades are of substantial design and made of $\frac{1}{2}$ -inch by No. 12 gauge copper. Hinge joints are held under compression by spring washers, insuring perfect contact. Snap switches are of the indicating type, 10 amperes capacity, designed especially for these panel boards, and present a neat and attractive appearance. The outer case is made of black composition and covers the entire mechanism and connections.

Main Switches.—Main switches are of substantial design and construction and are regularly mounted at the bottom of the panel board, but will be mounted at the top, if specifically ordered. This change in arrangement does not alter the size or price of the panel board. The capacities of the main connections for various panel boards are given in the schedule where panel boards are listed.

Slate Frames.—Slate frames are made of oiled Monson slate $\frac{1}{2}$ inch thick, and telescope the panel board; therefore, the outside dimensions of a slate frame are 1 inch greater than those of the panel board with which it is used. Slate frames are drilled for circuit wires and slotted for main wires, and are held in position by adjustable corner irons.

Special Finishes and Arrangements.—Black enamel slate panel boards will be furnished at an advance of 5 per cent, if specifically ordered. White Italian or Blue Vermont marble panel boards will be furnished at an advance of 25 per cent, if specifically ordered.

Type A panel boards will be furnished with branch circuit strips and switch bases made of $\frac{1}{2}$ -inch by $\frac{1}{16}$ -inch copper, and switches made with contact and standard clips driven and sweated into base blocks at an advance of 30 per cent, if specifically ordered.

Marble frames, drilled for branches and slotted for mains, will be furnished at an advance of 100 per cent, if specifically ordered.

Slate frames will be furnished slotted for both main and branch wires at an advance of 50 per cent, if specifically ordered.

CROUSE-HINDS TYPE A PANELS

2 TO 2-WIRE, 125 VOLTS

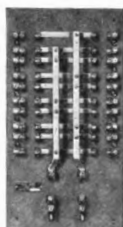
Mains—2-wire. Branches—Double, Arranged for N.E.C. Cartridge Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

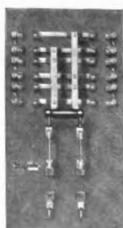
Panel Only								SLATE FRAME List	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.		Type AL	Type AL	Type BM-BN	Type MT
MAIN LUGS												
2	150001	\$4.10	11½	8	4	30	C 8	\$3.00	\$12.10	\$15.80	\$20.10	\$24.60
4	150002	6.30	11½	12	4	30	C12	3.40	15.00	19.00	23.80	28.60
6	150003	8.40	11½	14	4	60	C14	3.60	17.50	21.70	26.70	31.60
8	150004	10.30	11½	16	4	60	C16	3.80	19.80	24.00	29.30	34.30
10	150005	12.30	11½	18	4	60	C18	4.00	22.20	26.50	32.10	37.10
12	150006	14.90	11½	22	4	100	C22	4.40	25.50	30.00	36.30	41.30
14	150007	17.20	11½	24	4	100	C24	4.60	28.30	32.90	39.30	44.40
16	150008	19.50	11½	28	4	100	C28	5.00	31.50	36.30	43.10	48.30
18	150009	22.90	11½	30	4	200	C30	5.20	35.20	40.20	47.30	52.60
20	150010	25.00	11½	32	4	200	C32	5.30	37.80	42.90	49.90	55.30
22	150011	27.10	11½	34	4	200	C34	5.50	40.30	45.50	52.70	58.20
24	150012	29.50	11½	38	4	200	C38	5.90	43.70	49.10	56.70	62.10
26	150013	31.70	11½	40	4	200	C40	6.10	48.80	54.20	62.40	68.20
28	150014	33.80	11½	42	4	200	C42	6.20	51.60	57.10	65.10	70.20
30	150015	35.80	11½	44	4	200	C44	6.40	54.30	59.80	68.00	73.10
32	150016	38.10	11½	48	4	200	C48	6.80	57.80	63.40	72.10	77.90



FUSIBLE MAINS												
2	150081	5.60	11½	10	4	30	C10	3.20	13.90	17.80	22.30	27.00
4	150082	7.80	11½	14	4	30	C14	3.60	16.90	21.10	26.10	31.00
6	150083	10.20	11½	18	4	60	C18	4.00	20.10	24.40	30.00	35.00
8	150084	12.10	11½	20	4	60	C20	4.20	22.40	26.80	32.60	37.60
10	150085	14.10	11½	22	4	60	C22	4.40	24.70	29.20	35.50	40.50
12	150086	17.60	11½	28	4	100	C28	5.00	29.60	34.40	41.20	46.40
14	150087	19.90	11½	30	4	100	C30	5.20	32.20	37.20	44.30	49.60
16	150088	22.20	11½	34	4	100	C34	5.50	35.40	40.60	47.80	53.30
18	150089	27.20	11½	38	4	200	C38	5.90	41.40	46.80	54.40	59.80
20	150090	29.30	11½	40	4	200	C40	6.10	46.40	51.80	60.00	65.20
22	150091	31.40	11½	42	4	200	C42	6.20	49.20	54.70	62.70	68.00
24	150092	33.80	11½	44	4	200	C44	6.40	52.30	57.80	66.00	71.30
26	150093	36.00	11½	48	4	200	C48	6.80	55.70	61.30	70.00	75.80
28	150094	38.10	11½	50	4	200	C50	7.00	58.40	64.00	72.90	78.70
30	150095	40.10	11½	52	4	200	C52	7.20	61.00	66.60	75.80	81.40
32	150096	42.40	11½	54	4	200	C54	7.40	63.90	69.60	78.90	84.80



FUSELESS MAIN SWITCH												
2	150161	8.40	11½	14	4	30	C14	3.60	17.50	21.70	26.70	31.60
4	150162	10.60	11½	18	4	30	C18	4.00	20.50	24.80	30.40	35.40
6	150163	13.60	11½	22	4	60	C22	4.40	24.20	28.70	35.00	40.00
8	150164	15.50	11½	24	4	60	C24	4.60	26.60	31.20	37.60	42.70
10	150165	17.50	11½	26	4	60	C26	4.80	29.00	33.70	40.40	45.60
12	150166	22.90	11½	32	4	100	C32	5.30	35.70	40.80	47.80	53.20
14	150167	25.20	11½	34	4	100	C34	5.50	38.40	43.60	50.80	56.30
16	150168	27.50	11½	36	4	100	C36	5.70	41.20	46.50	54.00	59.40
18	150169	34.10	11½	40	6	200	C40	7.80	52.70	58.10	68.10	73.90
20	150170	36.20	11½	44	6	200	C44	8.30	56.20	61.70	72.00	77.50
22	150171	38.30	11½	46	6	200	C46	8.60	58.90	64.40	75.00	80.50
24	150172	40.70	11½	48	6	200	C48	8.80	61.90	67.50	78.30	83.80
26	150173	42.90	11½	50	6	200	C50	9.10	64.70	70.30	81.40	86.90
28	150174	45.00	11½	54	6	200	C54	9.60	68.10	73.80	85.40	90.90
30	150175	47.00	11½	56	6	200	C56	9.80	70.70	76.40	88.30	93.80
32	150176	49.30	11½	58	6	200	C58	10.10	73.60	79.20	91.60	97.40



FUSIBLE MAIN SWITCH												
2	150241	9.80	11½	14	4	30	C14	3.60	18.90	23.10	28.10	33.00
4	150242	12.00	11½	18	4	30	C18	4.00	21.90	26.20	31.80	36.80
6	150243	15.00	11½	22	4	60	C22	4.40	25.60	30.10	36.40	41.40
8	150244	16.90	11½	24	4	60	C24	4.60	28.00	32.60	39.00	44.10
10	150245	18.90	11½	26	4	60	C26	4.80	30.40	35.10	41.80	47.00
12	150246	26.10	11½	34	4	100	C34	5.50	39.30	44.50	51.70	57.20
14	150247	28.40	11½	36	4	100	C36	5.70	42.10	47.40	54.90	60.20
16	150248	30.70	11½	40	4	100	C40	6.10	47.80	53.20	61.40	67.50
18	150249	38.60	11½	44	6	200	C44	8.30	58.60	64.10	74.40	79.90
20	150250	40.70	11½	46	6	200	C46	8.60	61.30	66.80	77.40	82.90
22	150251	42.80	11½	50	6	200	C50	9.10	64.60	70.20	81.30	86.80
24	150252	45.20	11½	52	6	200	C52	9.30	67.70	73.30	84.70	90.20
26	150253	47.40	11½	54	6	200	C54	9.60	70.50	76.20	87.80	93.30
28	150254	49.50	11½	56	6	200	C56	9.80	73.20	78.90	90.80	96.10
30	150255	51.00	11½	60	6	200	C60	10.10	76.20	81.90	94.60	100.80
32	150256	53.80	11½	62	6	200	C62	10.60	79.20	84.90	98.00	104.60

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

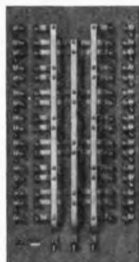
CROUSE-HINDS TYPE A PANELS

3 TO 2-WIRE, 125 VOLTS

Mains—3-Wire. Branches—Double, Arranged for N.E.C. Cartridge Fuses

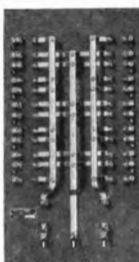
Panels furnished with main connections at top, if so ordered, without extra charge.

Panel Only										SLATE FRAME		Panel with Cabinet*			
No. Ctr.	Cat. No.	List Price	SIZE IN.			Cap. Mains	Box Ref.	FRAME	Type AK	Type AL	Types BM-BN	Type BT			
MAIN LUGS															
2	150641	\$ 4.80	13 ¹ / ₂	8	4	30	D 8	\$3.10	\$13.10	\$16.90	\$21.50	\$25.90			
4	150642	7.10	13 ¹ / ₂	12	4	30	D12	3.50	16.30	20.30	25.40	30.00			
6	150643	9.10	13 ¹ / ₂	14	4	30	D14	3.70	18.70	22.80	28.10	32.80			
8	150644	11.10	13 ¹ / ₂	16	4	30	D16	3.90	21.10	25.30	30.80	35.60			
10	150645	13.50	13 ¹ / ₂	18	4	30	D18	4.10	24.10	28.30	33.90	38.80			
12	150646	16.30	13 ¹ / ₂	22	4	60	D22	4.50	27.60	32.10	38.20	43.20			
14	150647	18.40	24	4	60	D24	4.70	30.20	34.80	41.10	46.20				
16	150648	20.60	13 ¹ / ₂	26	4	60	D26	4.90	32.90	37.60	44.10	49.40			
18	150649	22.70	13 ¹ / ₂	28	4	60	D28	5.10	35.50	40.30	47.00	52.40			
20	150650	25.10	13 ¹ / ₂	32	4	60	D32	5.40	38.90	44.00	51.00	56.50			
22	150651	28.60	13 ¹ / ₂	34	4	100	D34	5.60	42.90	48.10	55.30	60.80			
24	150652	31.00	13 ¹ / ₂	38	4	100	D38	6.00	46.30	51.70	59.30	64.40			
26	150653	33.30	13 ¹ / ₂	40	4	100	D40	6.20	51.60	56.90	64.90	67.90			
28	150654	35.50	13 ¹ / ₂	42	100	D42	6.30	54.50	59.90	67.70	71.00	74.00			
30	150655	37.70	13 ¹ / ₂	44	100	D44	6.50	57.30	62.70	71.00	74.40				
32	150656	40.10	13 ¹ / ₂	48	4	100	D48	6.90	60.90	66.40	75.10	79.20			



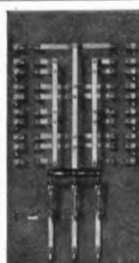
MAIN LUGS

2	150641	\$ 4.80	13 1/2	8	4	30	D 8		\$3.10	\$13.10	\$16.90	\$21.50	\$25.90
4	150642	7.10	13 1/2	12	4	30	D12		3.50	16.30	20.30	25.40	30.00
6	150643	9.10	13 1/2	14	4	30	D14		3.70	18.70	22.80	28.10	32.80
8	150644	11.10	13 1/2	16	4	30	D16		3.90	21.10	25.30	30.80	35.60
10	150645	13.50	13 1/2	18	4	30	D18		4.10	24.00	28.30	33.90	38.80
12	150646	16.30	13 1/2	22	4	60	D22		4.50	27.60	32.10	38.20	43.20
14	150647	18.40	13 1/2	24	4	60	D24		4.70	30.20	34.80	41.10	46.20
16	150648	20.60	13 1/2	26	4	60	D26		4.90	32.90	37.60	44.10	49.40
18	150649	22.70	13 1/2	28	4	60	D28		5.10	35.50	40.30	47.00	52.40
20	150650	25.10	13 1/2	32	4	60	D32		5.40	38.90	44.00	51.00	56.50
22	150651	28.60	13 1/2	34	4	100	D34		5.60	42.90	48.10	55.30	60.80
24	150652	31.70	13 1/2	38	4	100	D38		6.00	46.30	51.70	59.30	64.70
26	150653	33.30	13 1/2	40	4	100	D40		6.20	51.60	56.90	64.90	67.90
28	150654	35.50	13 1/2	42	4	100	D42		6.30	54.50	59.90	67.70	71.00
30	150655	37.70	13 1/2	44	4	100	D44		6.50	57.30	62.70	71.00	74.40
32	150656	40.10	13 1/2	48	4	100	D48		6.90	60.90	66.40	75.10	79.20



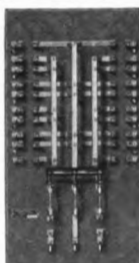
FUSIBLE MAINS

2	150721	7.10	13 1/2	10	4	30	D10		3.30	15.80	19.70	24.60	29.10
4	150722	9.40	13 1/2	14	4	30	D14		3.70	19.00	23.10	28.40	33.10
6	150723	11.40	13 1/2	16	4	30	D16		3.90	21.40	25.60	31.10	35.90
8	150724	13.40	13 1/2	18	4	30	D18		4.10	23.90	28.20	33.80	38.70
10	150725	15.80	13 1/2	22	4	30	D22		4.50	27.10	31.60	37.70	42.70
12	150726	19.00	13 1/2	24	4	60	D24		4.70	30.80	35.40	41.70	46.80
14	150727	21.10	13 1/2	28	4	60	D28		5.10	33.90	38.70	45.40	50.80
16	150728	23.30	13 1/2	30	4	60	D30		5.30	36.60	41.50	48.50	53.90
18	150729	25.40	13 1/2	32	4	60	D32		5.40	39.20	44.30	51.30	56.80
20	150730	27.80	13 1/2	34	4	60	D34		5.60	42.10	47.30	54.50	60.00
22	150731	32.70	13 1/2	40	4	100	D40		6.20	51.00	56.30	64.30	67.30
24	150732	35.10	13 1/2	44	4	100	D44		6.50	54.70	60.10	68.40	71.80
26	150733	37.40	13 1/2	46	4	100	D46		6.70	57.60	63.10	71.50	75.20
28	150734	39.60	13 1/2	48	4	100	D48		6.90	60.40	65.90	74.60	78.70
30	150735	41.80	13 1/2	50	4	100	D50		7.10	63.20	68.70	77.60	82.10
32	150736	44.20	13 1/2	54	4	100	D54		7.50	66.80	72.40	81.80	86.90



FUSELESS MAIN SWITCH

2	150801	11.30	13 1/2	14	4	30	D14		3.70	20.90	25.00	30.30	35.00
4	150802	13.60	13 1/2	18	4	30	D18		4.10	24.10	28.40	34.00	38.90
6	150803	15.60	13 1/2	20	4	30	D20		4.30	26.50	30.90	36.80	41.80
8	150804	17.60	13 1/2	22	4	30	D22		4.50	28.90	33.40	39.50	44.50
10	150805	20.00	13 1/2	24	4	30	D24		4.70	31.80	36.40	42.70	47.80
12	150806	24.10	13 1/2	30	4	60	D30		5.30	37.40	42.30	49.90	54.70
14	150807	26.20	13 1/2	32	4	60	D32		5.40	40.00	45.10	52.10	57.00
16	150808	28.40	13 1/2	34	4	60	D34		5.60	42.70	47.90	55.10	60.60
18	150809	30.50	13 1/2	36	4	60	D36		5.80	45.30	50.60	57.90	63.40
20	150810	32.90	13 1/2	40	4	60	D40		6.20	51.20	56.50	64.50	67.50
22	150811	40.60	13 1/2	44	4	100	D44		6.50	60.20	65.60	73.90	77.30
24	150812	43.00	13 1/2	46	4	100	D46		6.70	63.20	68.70	77.10	80.90
26	150813	45.30	13 1/2	48	4	100	D48		6.90	66.10	71.60	80.30	84.40
28	150814	47.50	13 1/2	52	4	100	D52		7.30	69.50	75.10	84.20	89.10
30	150815	49.70	13 1/2	54	4	100	D54		7.50	72.30	77.90	87.30	92.40
32	150816	52.10	13 1/2	56	4	100	D56		7.70	75.40	81.10	90.70	96.20



FUSIBLE MAIN SWITCH

2	150881	13.40	13 1/2	14	4	30	D14		3.70	23.00	27.10	32.40	37.10
4	150882	15.70	13 1/2	18	4	30	D18		4.10	26.20	30.50	36.10	41.00
6	150883	17.70	13 1/2	20	4	30	D20		4.30	28.60	33.00	38.90	43.90
8	150884	19.70	13 1/2	22	4	30	D22		4.50	31.00	35.50	41.60	46.00
10	150885	22.10	13 1/2	24	4	30	D24		4.70	33.90	38.50	44.80	49.90
12	150886	26.20	13 1/2	30	4	60	D30		5.30	39.50	44.40	51.40	56.80
14	150887	28.30	13 1/2	32	4	60	D32		5.40	42.10	47.20	54.20	59.70
16	150888	30.50	13 1/2	34	4	60	D34		5.60	44.80	50.00	57.20	62.70
18	150889	32.60	13 1/2	36	4	60	D36		5.80	47.40	52.70	60.00	65.50
20	150890	35.00	13 1/2	40	4	60	D40		6.20	53.30	58.60	66.60	69.60
22	150891	45.40	13 1/2	46	4	100	D46		6.70	65.60	71.10	79.50	83.30
24	150892	47.80	13 1/2	50	4	100	D50		7.10	69.20	74.70	83.60	88.10
26	150893	50.10	13 1/2	52	4	100	D52		7.30	72.10	77.70	86.80	91.70
28	150894	52.30	13 1/2	54	4	100	D54		7.50	74.90	80.50	89.90	95.00
30	150895	54.50	13 1/2	56	4	100	D56		7.70	77.80	83.50	93.10	98.60
32	150896	56.90	13 1/2	60	4	100	D60		8.10	81.40	87.20	97.30	103.70

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE A PANELS

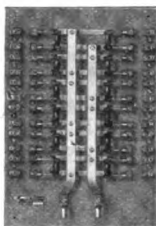
2 TO 2-WIRE, 125 VOLTS

Mains—2-wire. Branches—Double, with 30-amp. Knife Switches, Arranged for N.E.C. Cartridge Fuses

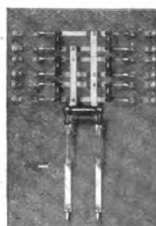
Panels furnished with main connections at top, if so ordered, without extra charge.

Panels furnished with main connections at top, if so ordered, without extra charge.

Panel Only								SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Bot. Ref.		Type AK	Type AL	Type BM-BN	Type BT
			W.	H.	D.		List					
MAIN LUGS												
2	150321	\$5.40	15½	8	4	30	E 8	\$3.30	\$14.10	\$18.00	\$22.90	\$27.20
4	150322	8.40	15½	12	4	30	E12	3.70	18.00	22.00	27.40	31.90
6	150323	11.40	15½	14	4	60	E14	3.90	21.50	25.60	31.10	35.80
8	150324	14.40	15½	16	4	60	E16	4.10	24.90	29.00	34.80	39.60
10	150325	17.30	15½	18	4	60	E18	4.30	28.30	32.50	38.50	43.40
12	150326	20.80	15½	22	4	100	E22	4.70	32.90	37.20	43.50	48.60
14	150327	24.20	15½	24	4	100	E24	4.90	36.70	41.10	47.70	53.00
16	150328	27.50	15½	28	4	100	E28	5.20	41.00	45.70	52.60	58.00
18	150329	31.90	15½	30	4	200	E30	5.40	45.90	50.70	57.80	63.30
20	150330	35.00	15½	32	4	200	E32	5.60	49.60	54.50	61.80	67.30
22	150331	38.00	15½	34	4	200	E34	5.80	53.20	58.20	65.70	71.20
24	150332	41.40	15½	38	4	200	E38	6.10	57.60	62.90	70.70	76.10
26	150333	44.50	15½	40	4	200	E40	6.30	63.80	69.10	77.00	82.20
28	150334	47.60	15½	42	4	200	E42	6.50	67.50	72.80	81.00	86.20
30	150335	50.50	15½	44	4	200	E44	6.70	71.00	76.50	84.90	89.70
32	150336	53.80	15½	48	4	200	E48	7.10	75.40	81.20	90.20	94.60



FUSIBLE MAINS												
2	150401	6.90	15½	10	4	30	E10	3.50	16.10	20.00	25.20	29.60
4	150402	9.90	15½	14	4	30	E14	3.90	20.00	24.10	29.60	34.30
6	150403	13.20	15½	18	4	60	E18	4.30	24.20	28.40	34.40	39.30
8	150404	16.20	15½	20	4	60	E20	4.50	27.70	32.00	38.20	43.20
10	150405	19.10	15½	22	4	60	E22	4.70	31.20	35.50	42.00	47.10
12	150406	23.50	15½	28	4	100	E28	5.20	37.00	41.70	48.60	54.00
14	150407	26.90	15½	30	4	100	E30	5.40	40.90	45.70	52.80	58.30
16	150408	30.20	15½	34	4	100	E34	5.80	45.40	50.40	57.90	63.40
18	150409	36.20	15½	38	4	200	E38	6.10	52.40	57.70	65.50	70.90
20	150410	39.30	15½	40	4	200	E40	6.30	58.60	63.90	71.80	77.00
22	150411	42.30	15½	42	4	200	E42	6.50	62.30	67.50	75.70	79.20
24	150412	45.70	15½	44	4	200	E44	6.70	66.20	71.70	80.10	83.90
26	150413	48.80	15½	48	4	200	E48	7.10	70.40	76.20	85.20	89.60
28	150414	51.90	15½	50	4	200	E50	7.30	74.20	80.10	89.20	93.90
30	150415	54.80	15½	52	4	200	E52	7.50	77.70	83.60	93.10	98.10
32	150416	58.10	15½	54	4	200	E54	7.70	81.60	87.50	97.40	102.80



FUSELESS MAIN SWITCH												
2	150481	9.70	15½	14	4	30	E14	3.90	19.80	23.90	29.40	34.10
4	150482	12.70	15½	18	4	30	E18	4.30	23.70	27.90	33.90	38.80
6	150483	16.60	15½	22	4	60	E22	4.70	28.70	33.00	39.30	44.40
8	150484	19.60	15½	24	4	60	E24	4.90	32.10	36.50	43.10	48.40
10	150485	22.50	15½	26	4	60	E26	5.10	35.50	40.00	46.80	52.20
12	150486	28.80	15½	32	4	100	E32	5.60	43.40	48.30	55.60	61.10
14	150487	32.20	15½	34	4	100	E34	5.80	47.40	52.40	59.90	65.40
16	150488	35.50	15½	36	4	100	E36	6.00	51.20	56.30	64.10	69.50
18	150489	43.10	15½	40	6	200	E40	8.20	64.00	69.30	79.20	82.40
20	150490	46.20	15½	44	6	200	E44	8.80	68.30	73.80	84.40	88.20
22	150491	49.20	15½	46	6	200	E46	9.00	71.90	77.50	88.40	92.50
24	150492	52.60	15½	48	6	200	E48	9.30	75.80	81.60	92.90	97.30
26	150493	55.70	15½	50	6	200	E50	9.60	79.60	85.50	97.00	101.70
28	150494	58.80	15½	54	6	200	E54	10.10	84.00	89.90	102.30	107.70
30	150495	61.70	15½	56	6	200	E56	10.40	87.60	93.60	106.30	112.60
32	150496	65.00	15½	58	6	200	E58	10.70	91.50	97.60	110.50	116.60

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

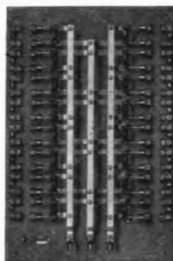
For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE A PANELS

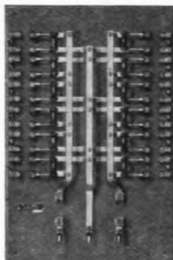
3 TO 2-WIRE, 125 VOLTS

Mains—3-wire. Branches—Double, with 30-amp. Knife Switches, Arranged for N.E.C. Cartridge Fuses

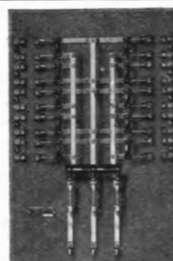
Panels furnished with main connections at top, if so ordered, without extra charge.



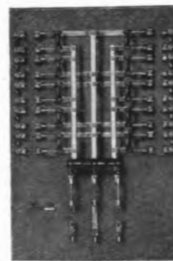
Panel Only										SLATE FRAME		Panel with Cabinet*				
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap Mains	Box Ref.	List	Type AL	Type AL	Types BM-BN	Type BT				
			W.	H.	D.											
MAIN LUGS																
2	150961	\$6.00	17½	8	4	30	F 8	\$3.50	\$15.10	\$19.00	\$24.30	\$28.60				
4	150962	9.30	17½	12	4	30	F12	3.90	19.50	23.60	29.20	33.60				
6	150963	12.30	17½	14	4	30	F14	4.10	23.00	27.20	33.10	37.50				
8	150964	15.30	17½	16	4	30	F16	4.30	26.60	30.90	36.80	41.30				
10	150965	18.40	17½	18	4	30	F18	4.50	30.20	34.60	40.80	45.30				
12	150966	22.10	17½	22	4	60	F22	4.90	34.90	39.50	46.10	50.70				
14	150967	25.30	17½	24	4	60	F24	5.10	38.60	43.20	50.10	54.80				
16	150968	28.30	17½	26	4	60	F26	5.20	42.10	46.90	53.80	58.60				
18	150969	31.40	17½	28	4	60	F28	5.40	45.70	50.50	57.80	62.60				
20	150970	34.80	17½	32	4	60	F32	5.80	50.30	55.20	62.90	67.80				
22	150971	39.20	17½	34	4	100	F34	6.00	55.20	60.20	68.10	73.10				
24	150972	42.70	17½	38	4	100	F38	6.30	59.90	65.10	73.10	78.20				
26	150973	45.90	17½	40	4	100	F40	6.50	65.90	71.40	79.70	82.80				
28	150974	49.10	17½	42	4	100	F42	6.70	69.90	75.30	83.90	87.30				
30	150975	52.20	17½	44	4	100	F44	6.90	73.60	79.10	88.00	91.80				
32	150976	55.70	17½	48	4	100	F48	7.30	78.50	84.10	93.50	98.00				



FUSIBLE MAINS													
2	151041	8.30	17½	10	4	30	F10	3.70	18.00	22.00	27.40	31.80	
4	151042	11.60	17½	14	4	30	F14	4.10	22.30	26.50	32.40	36.80	
6	151043	14.60	17½	16	4	30	F16	4.30	25.90	30.20	36.10	40.60	
8	151044	17.60	17½	18	4	30	F18	4.50	29.40	33.80	40.00	44.50	
10	151045	20.70	17½	22	4	30	F22	4.90	33.50	38.10	44.70	49.30	
12	151046	24.80	17½	24	4	60	F24	5.10	38.10	42.70	49.60	54.30	
14	151047	28.00	17½	28	4	60	F28	5.40	42.30	47.10	54.40	59.20	
16	151048	31.00	17½	30	4	60	F30	5.60	45.90	50.80	58.20	63.10	
18	151049	34.10	17½	32	4	60	F32	5.80	49.60	54.50	62.20	67.10	
20	151050	37.50	17½	34	4	60	F34	6.00	53.50	58.50	66.40	71.40	
22	151051	43.30	17½	40	4	100	F40	6.50	63.30	68.80	77.10	80.20	
24	151052	46.80	17½	44	4	100	F44	6.90	68.20	73.70	82.60	86.40	
26	151053	50.00	17½	46	4	100	F46	7.10	72.20	77.70	86.80	90.90	
28	151054	53.20	17½	48	4	100	F48	7.30	76.00	81.60	91.00	95.50	
30	151055	56.30	17½	50	4	100	F50	7.50	79.90	85.50	95.10	99.90	
32	151056	59.80	17½	54	4	100	F54	7.90	84.80	90.50	100.80	106.10	



FUSELESS MAIN SWITCH													
2	151121	12.50	17½	14	4	30	F14	4.10	23.20	27.40	33.30	37.70	
4	151122	15.80	17½	18	4	30	F18	4.50	27.60	32.00	38.20	42.70	
6	151123	18.80	17½	20	4	30	F20	4.70	31.10	35.60	42.10	46.60	
8	151124	21.80	17½	22	4	30	F22	4.90	34.60	39.20	45.80	50.40	
10	151125	24.90	17½	24	4	30	F24	5.10	38.20	42.80	49.70	54.40	
12	151126	29.90	17½	30	4	60	F30	5.60	44.80	49.70	57.10	62.00	
14	151127	33.10	17½	32	4	60	F32	5.80	48.60	53.50	61.20	66.10	
16	151128	36.10	17½	34	4	60	F34	6.00	52.10	57.10	65.00	70.00	
18	151129	39.20	17½	36	4	60	F36	6.10	55.90	61.00	68.80	73.90	
20	151130	42.60	17½	40	4	60	F40	6.50	62.60	68.10	76.40	79.50	
22	151131	51.20	17½	44	4	100	F44	6.90	72.60	78.10	87.00	90.80	
24	151132	54.70	17½	46	4	100	F46	7.10	76.90	82.40	91.50	95.60	
26	151133	57.90	17½	48	4	100	F48	7.30	80.70	86.30	95.70	100.20	
28	151134	61.10	17½	52	4	100	F52	7.70	85.30	91.00	101.00	106.10	
30	151135	64.20	17½	54	4	100	F54	7.90	89.20	94.90	105.20	110.50	
32	151136	67.70	17½	56	4	100	F56	8.10	93.40	99.10	109.80	115.40	



FUSIBLE MAIN SWITCH													
2	151201	14.60	17½	14	4	30	F14	4.10	25.30	29.50	35.40	39.80	
4	151202	17.90	17½	18	4	30	F18	4.50	29.70	34.10	40.30	44.80	
6	151203	20.90	17½	20	4	30	F20	4.70	33.20	37.70	44.20	48.70	
8	151204	23.90	17½	22	4	30	F22	4.90	36.70	41.30	47.90	52.50	
10	151205	27.00	17½	24	4	30	F24	5.10	40.30	44.90	51.80	56.50	
12	151206	32.00	17½	30	4	60	F30	5.60	46.90	51.80	59.20	64.10	
14	151207	35.20	17½	32	4	60	F32	5.80	50.70	55.60	63.30	68.20	
16	151208	38.20	17½	34	4	60	F34	6.00	54.20	59.20	67.10	72.10	
18	151209	41.30	17½	36	4	60	F36	6.10	58.00	63.10	70.90	76.00	
20	151210	44.70	17½	40	4	60	F40	6.50	64.70	70.20	78.50	81.60	
22	151211	56.00	17½	46	4	100	F46	7.10	78.20	83.70	92.80	96.90	
24	151212	59.50	17½	50	4	100	F50	7.50	83.10	88.70	98.30	103.10	
26	151213	62.70	17½	52	4	100	F52	7.70	86.90	92.60	102.60	107.70	
28	151214	65.90	17½	54	4	100	F54	7.90	90.90	96.60	106.90	112.20	
30	151215	69.00	17½	56	4	100	F56	8.10	94.70	100.40	111.10	116.70	
32	151216	72.50	17½	60	4	100	F60	8.50	99.60	105.40	116.70	122.90	

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE D PANELS
2 TO 2-WIRE, 125 VOLTS

Mains—2-wire. Branches—Double, Arranged for Edison Plug Fuses

Plans furnished with main connections at top, if so ordered, without extra charge.

Panel Only										SLATE FRAME	Panel with Cabinet*			
No.	Cat.	List	SIZE IN IN.			Cap.	Box	Ref.			Type	Type	Type	Type
Cir.	No.	Price	W.	H.	D.	Mains		List	AL	AL	BM-25	BT		
MAIN LUGS														
2	151281	\$4.20	1 1/2	8	4	30	C 8		\$3.00	\$12.10	\$15.90	\$20.20	\$24.70	
4	151282	6.40	1 1/2	12	4	30	C12		3.40	15.10	19.10	23.90	28.70	
6	151283	8.60	1 1/2	14	4	60	C14		3.60	17.70	21.90	26.90	31.80	
8	151284	10.70	1 1/2	18	4	60	C18		4.00	20.60	24.90	30.50	35.50	
10	151285	12.70	1 1/2	20	4	60	C20		4.20	23.00	27.40	33.20	38.20	
12	151286	15.40	1 1/2	24	4	100	C24		4.60	26.50	31.10	37.40	42.60	
14	151287	17.90	1 1/2	28	4	100	C28		5.00	29.90	34.70	41.50	46.70	
16	151288	19.90	1 1/2	30	4	100	C30		5.20	32.20	37.20	44.30	49.60	
18	151289	23.60	1 1/2	34	4	200	C34		5.50	36.80	42.00	49.20	54.70	
20	151290	25.80	1 1/2	36	4	200	C36		5.70	39.50	44.80	52.30	57.70	
22	151291	28.20	1 1/2	40	4	200	C40		6.10	45.30	50.70	58.90	64.70	
24	151292	30.30	1 1/2	42	4	200	C42		6.20	48.10	53.60	61.60	67.40	
26	151293	32.70	1 1/2	46	4	200	C46		6.60	51.80	57.30	65.80	69.30	
28	151294	34.90	1 1/2	48	4	200	C48		6.80	54.60	60.20	68.90	72.70	
30	151295	37.10	1 1/2	52	4	200	C52		7.20	58.00	63.60	72.80	77.40	
32	151296	39.30	1 1/2	54	4	200	C54		7.40	60.80	66.50	75.80	80.80	
FUSIBLE MAINS														
2	151321	5.70	1 1/2	10	4	30	C10		3.20	14.00	17.90	22.40	27.10	
4	151322	7.90	1 1/2	14	4	30	C14		3.60	17.00	21.20	26.20	31.10	
6	151323	10.40	1 1/2	18	4	60	C18		4.00	20.30	24.60	30.20	35.20	
8	151324	12.50	1 1/2	20	4	60	C20		4.20	22.80	27.20	33.00	38.00	
10	151325	14.50	1 1/2	24	4	60	C24		4.60	25.60	30.20	36.00	41.70	
12	151326	18.10	1 1/2	30	4	100	C30		5.20	30.40	35.40	42.50	47.80	
14	151327	20.60	1 1/2	34	4	100	C34		5.50	33.80	39.00	46.20	51.70	
16	151328	22.60	1 1/2	36	4	100	C36		5.70	36.30	41.60	49.10	54.50	
18	151329	27.90	1 1/2	42	4	200	C42		6.20	45.70	51.20	59.20	62.30	
20	151330	30.10	1 1/2	44	4	200	C44		6.40	48.60	54.10	62.30	65.50	
22	151331	32.50	1 1/2	48	4	200	C48		6.80	52.20	57.80	66.50	70.30	
24	151332	34.60	1 1/2	50	4	200	C50		7.00	54.90	60.50	69.40	73.60	
26	151333	37.00	1 1/2	54	4	200	C54		7.40	58.50	64.20	73.50	78.50	
28	151334	39.20	1 1/2	56	4	200	C56		7.60	61.30	67.00	76.60	81.90	
30	151335	41.40	1 1/2	60	4	200	C60		8.00	64.50	70.20	80.50	86.70	
32	151336	43.60	1 1/2	62	4	200	C62		8.20	67.30	73.00	83.60	90.20	
FUSELESS MAIN SWITCH														
2	151361	8.50	1 1/2	14	4	30	C14		3.60	17.60	21.80	26.80	31.70	
4	151362	10.70	1 1/2	18	4	30	C18		4.00	20.60	24.90	30.50	35.50	
6	151363	13.80	1 1/2	22	4	60	C22		4.40	24.40	28.90	35.20	40.20	
8	151364	15.90	1 1/2	26	4	60	C26		4.80	27.40	32.10	38.80	44.00	
10	151365	17.90	1 1/2	28	4	60	C28		5.00	29.90	34.70	41.50	46.70	
12	151366	23.40	1 1/2	34	4	100	C34		5.50	36.60	41.80	49.00	54.50	
14	151367	25.90	1 1/2	36	4	100	C36		5.70	39.60	44.90	52.40	57.80	
16	151368	27.90	1 1/2	40	4	100	C40		6.10	45.00	50.40	58.60	64.40	
18	151369	34.80	1 1/2	44	6	200	C44		8.30	54.80	60.30	70.60	73.70	
20	151370	37.00	1 1/2	48	6	200	C48		8.80	58.20	63.80	74.60	78.40	
22	151371	39.40	1 1/2	50	6	200	C50		9.10	61.20	66.80	77.90	82.10	
24	151372	41.60	1 1/2	54	6	200	C54		9.60	64.60	70.30	81.90	86.90	
26	151373	43.90	1 1/2	56	6	200	C56		9.80	67.60	73.30	85.20	90.50	
28	151374	46.10	1 1/2	60	6	200	C60		10.30	70.80	76.50	89.20	95.40	
30	151375	48.30	1 1/2	62	6	200	C62		10.60	73.70	79.40	92.50	99.10	
32	151376	50.50	1 1/2	66	6	200	C66		11.10	77.00	82.80	96.60	104.30	
FUSIBLE MAIN SWITCH														
2	151401	9.90	1 1/2	14	4	30	C14		3.60	19.00	23.20	28.20	33.10	
4	151402	12.10	1 1/2	18	4	30	C18		4.00	22.00	26.30	31.90	36.90	
6	151403	15.20	1 1/2	22	4	60	C22		4.40	25.80	30.30	36.60	41.60	
8	151404	17.30	1 1/2	26	4	60	C26		4.80	28.80	33.50	40.20	45.40	
10	151405	19.30	1 1/2	28	4	60	C28		5.00	31.30	36.10	42.90	48.10	
12	151406	26.60	1 1/2	36	4	100	C36		5.70	40.30	45.60	53.10	58.50	
14	151407	29.10	1 1/2	40	4	100	C40		6.10	46.20	51.60	59.80	62.60	
16	151408	31.10	1 1/2	42	4	100	C42		6.20	48.90	54.40	62.40	65.60	
18	151409	39.30	1 1/2	48	6	200	C48		8.80	60.50	66.10	76.90	80.70	
20	151410	41.50	1 1/2	52	6	200	C52		9.30	64.00	69.60	81.00	85.60	
22	151411	43.90	1 1/2	54	6	200	C54		9.60	67.00	72.70	84.30	89.30	
24	151412	46.00	1 1/2	58	6	200	C58		10.10	70.20	75.90	88.30	94.10	
26	151413	48.40	1 1/2	60	6	200	C60		10.30	73.10	78.80	91.50	97.70	
28	151414	50.60	1 1/2	64	6	200	C64		10.90	76.60	82.30	95.80	103.00	
30	151415	52.80	1 1/2	66	6	200	C66		11.10	79.30	85.10	98.60	106.60	
32	151416	55.00	1 1/2	70	6	200	C70		11.60	82.40	88.40	102.80	111.70	

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

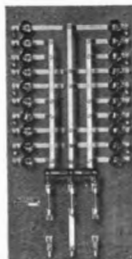
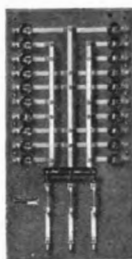
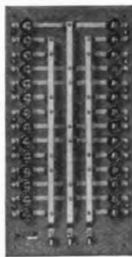
Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number. For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE D PANELS

3 TO 2-WIRE, 125 VOLTS

Mains—3-Wire. Branches—Double, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.



Panel Only										SLATE FRAME		Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AL	Type AL	Type BM-BN	Type BT			
			W.	H.	D.										
MAIN LUGS															
2	151601	\$4.90	13½	8	4	30	D 8	\$3.10	\$13.20	\$17.00	\$21.60	\$26.00			
4	151602	7.20	13½	12	4	30	D12	3.50	16.40	20.40	25.50	30.10			
6	151603	9.20	13½	14	4	30	D14	3.70	18.80	22.90	28.20	32.90			
8	151604	11.60	13½	18	4	30	D18	4.10	22.10	26.40	32.00	36.90			
10	151605	14.00	13½	20	4	30	D20	4.30	24.90	29.30	35.20	40.20			
12	151606	16.80	13½	24	4	60	D24	4.70	28.60	33.20	39.50	44.60			
14	151607	18.90	13½	26	4	60	D26	4.90	31.20	35.90	42.40	47.70			
16	151608	21.30	13½	30	4	60	D30	5.30	34.60	39.50	46.50	51.90			
18	151609	23.50	13½	32	4	60	D32	5.40	37.30	42.40	49.40	54.90			
20	151610	25.90	13½	36	4	60	D36	5.80	40.70	46.00	53.30	58.80			
22	151611	29.70	13½	40	4	100	D40	6.20	48.00	53.30	61.30	64.30			
24	151612	32.10	13½	42	4	100	D42	6.30	51.10	56.50	64.30	67.60			
26	151613	34.50	13½	46	4	100	D46	6.70	54.70	60.20	68.60	72.40			
28	151614	36.70	13½	48	4	100	D48	6.90	57.50	63.00	71.70	75.80			
30	151615	39.00	13½	52	4	100	D52	7.30	61.00	66.60	75.70	80.60			
32	151616	41.40	13½	54	4	100	D54	7.50	64.00	69.60	79.00	84.10			

FUSIBLE MAINS												
2	151641	7.20	13½	10	4	30	D10	3.30	15.90	19.80	24.70	29.20
4	151642	9.50	13½	14	4	30	D14	3.70	19.10	23.20	28.50	33.20
6	151643	11.50	13½	16	4	30	D16	3.90	21.50	25.70	31.20	36.00
8	151644	13.90	13½	20	4	30	D20	4.30	24.80	29.20	35.10	40.10
10	151645	16.30	13½	22	4	30	D22	4.50	27.60	32.10	38.20	43.20
12	151646	19.50	13½	28	4	60	D28	5.10	32.30	37.10	43.80	49.20
14	151647	21.60	13½	30	4	60	D30	5.30	34.90	39.80	46.80	52.20
16	151648	24.00	13½	34	4	60	D34	5.60	38.30	43.50	50.70	56.20
18	151649	26.20	13½	36	4	60	D36	5.80	41.00	46.30	53.60	59.10
20	151650	28.60	13½	40	4	60	D40	6.20	46.90	52.20	60.20	63.20
22	151651	33.80	13½	46	4	100	D46	6.70	54.00	59.50	67.90	71.70
24	151652	36.20	13½	48	4	100	D48	6.90	57.00	62.50	71.20	75.30
26	151653	38.60	13½	52	4	100	D52	7.30	60.60	66.20	75.30	80.20
28	151654	40.80	13½	54	4	100	D54	7.50	63.40	69.00	78.40	83.50
30	151655	43.10	13½	58	4	100	D58	7.90	67.10	72.80	82.60	88.60
32	151656	45.50	13½	60	4	100	D60	8.10	70.00	75.80	85.90	92.30

FUSELESS MAIN SWITCH												
2	151681	11.40	13½	14	4	30	D14	3.70	21.00	25.10	30.40	35.10
4	151682	13.70	13½	18	4	30	D18	4.10	24.20	28.50	34.10	39.00
6	151683	15.70	13½	20	4	30	D20	4.30	26.60	31.00	36.90	41.90
8	151684	18.10	13½	24	4	30	D24	4.70	29.90	34.50	40.80	45.90
10	151685	20.50	13½	26	4	30	D26	4.90	32.80	37.50	44.00	49.30
12	151686	24.60	13½	32	4	60	D32	5.40	38.40	43.50	50.50	56.00
14	151687	26.70	13½	34	4	60	D34	5.60	41.00	46.20	53.40	58.90
16	151688	29.10	13½	38	4	60	D38	6.00	44.40	49.80	57.40	62.80
18	151689	31.30	13½	40	4	60	D40	6.20	49.60	54.90	62.90	68.90
20	151690	33.70	13½	44	4	60	D44	6.50	53.30	58.70	67.00	70.40
22	151691	41.70	13½	48	4	100	D48	6.90	62.50	68.00	76.70	80.80
24	151692	44.10	13½	52	4	100	D52	7.30	66.10	71.70	80.80	85.70
26	151693	46.50	13½	54	4	100	D54	7.50	69.10	74.70	84.10	89.20
28	151694	48.70	13½	58	4	100	D58	7.90	72.60	78.40	88.20	94.20
30	151695	51.00	13½	60	4	100	D60	8.10	75.50	81.30	91.40	97.80
32	151696	53.40	13½	64	4	100	D64	8.50	79.10	85.00	95.80	103.20

FUSIBLE MAIN SWITCH												
								3.70	23.10	27.20	32.50	37.20
2	151721	13.50	13½	14	4	30	D14	4.10	23.30	30.60	36.20	41.10
4	151722	15.80	13½	18	4	30	D18	4.30	28.70	33.10	39.00	44.00
6	151723	17.80	13½	20	4	30	D20	4.70	32.00	36.60	42.90	48.00
8	151724	20.20	13½	24	4	30	D24	4.90	34.90	39.60	46.10	51.40
10	151725	22.60	13½	26	4	30	D26	5.40	40.50	45.60	52.60	58.10
12	151726	26.70	13½	32	4	60	D32	5.60	43.10	48.30	55.50	61.00
14	151727	28.80	13½	34	4	60	D34	6.00	46.50	51.90	59.50	64.90
16	151728	31.20	13½	38	4	60	D38	6.20	51.70	57.00	65.00	68.00
18	151729	33.40	13½	40	4	60	D40	6.50	55.40	60.80	69.10	72.50
20	151730	35.80	13½	44	4	60	D44	7.30	68.50	74.10	83.20	88.10
22	151731	46.50	13½	52	4	100	D52	7.50	71.50	77.10	86.50	91.60
24	151732	48.90	13½	54	4	100	D54	7.90	75.20	81.00	90.80	96.80
26	151733	51.30	13½	58	4	100	D58	8.10	78.00	83.80	93.90	100.30
28	151734	53.50	13½	60	4	100	D60	8.50	81.50	87.40	98.20	105.60
30	151735	55.80	13½	64	4	100	D64	8.70	84.50	90.50	101.60	109.50
32	151736	58.20	13½	66	4	100	D66					

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE D PANELS

2 to 2-Wire, 125 Volts

Main—2-Wire. Branches—Double, with 30-ampere Knife Switches, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

Panel Only									SLATE FRAME	Panel with Cabinet*				
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap Mains	Box Ref.	List	Type AL	Type AL	Types EM-BN	Type B		
			W.	H.	D.									
MAIN LUGS														
2	151441	\$5.50	15½	8	4	30	E 8	\$3.30	\$14.20	\$18.10	\$23.00	\$27.30		
4	151442	8.50	15½	12	4	30	E12	3.70	18.10	22.10	27.50	32.00		
6	151443	11.60	15½	14	4	60	E14	3.90	21.10	25.80	31.30	36.00		
8	151444	14.80	15½	18	4	60	E18	4.30	25.30	30.00	36.00	40.90		
10	151445	17.70	15½	20	4	60	E20	4.50	29.20	33.50	39.70	44.70		
12	151446	21.30	15½	24	4	100	E24	4.90	33.30	38.20	44.80	50.10		
14	151447	24.90	15½	28	4	100	E28	5.20	38.40	43.10	50.00	55.40		
16	151448	27.90	15½	30	4	100	E30	5.40	41.90	46.70	53.80	59.00		
18	151449	32.60	15½	34	4	200	E34	5.80	47.80	52.80	60.30	65.80		
20	151450	35.80	15½	36	4	200	E36	6.00	51.50	56.60	64.40	69.80		
22	151451	39.10	15½	40	4	200	E40	6.30	58.40	63.70	71.40	76.80		
24	151452	42.20	15½	42	4	200	E42	6.50	62.10	66.40	73.90	79.30		
26	151453	45.50	15½	46	4	200	E46	6.90	66.60	72.20	80.90	85.50		
28	151454	48.70	15½	48	4	200	E48	7.10	70.30	76.10	83.50	88.00		
30	151455	51.80	15½	52	4	200	E52	7.50	74.70	80.60	90.10	95.10		
32	151456	55.00	15½	54	4	200	E54	7.70	78.50	84.40	94.90	99.90		

MAIN LUGS

2	151441	\$5.50	15½	8	4	30	E 8		\$3.30	\$14.20	\$18.10	\$23.00	\$27.30
4	151442	8.50	15½	12	4	30	E12		3.70	18.10	22.10	27.50	32.00
6	151443	11.60	15½	14	4	60	E14		3.90	21.70	25.80	31.30	36.00
8	151444	14.80	15½	18	4	60	E18		4.30	25.80	30.00	36.00	40.90
10	151445	17.70	15½	20	4	60	E20		4.50	29.20	33.50	39.70	44.70
12	151446	21.30	15½	24	4	100	E24		4.90	33.80	38.20	44.80	50.10
14	151447	24.90	15½	28	4	100	E28		5.20	38.40	43.10	50.00	55.40
16	151448	27.90	15½	30	4	100	E30		5.40	41.90	46.70	53.80	59.30
18	151449	32.60	15½	34	4	200	E34		5.80	47.80	52.80	60.30	65.80
20	151450	35.80	15½	36	4	200	E36		6.00	51.50	56.60	64.40	69.80
22	151451	39.10	15½	40	4	200	E40		6.30	58.40	63.70	71.60	77.10
24	151452	42.20	15½	42	4	200	E42		6.50	62.10	67.40	75.60	81.10
26	151453	45.50	15½	46	4	200	E46		6.90	66.60	72.20	80.90	85.00
28	151454	48.70	15½	48	4	200	E48		7.10	70.30	76.10	85.10	90.30
30	151455	51.80	15½	52	4	200	E52		7.50	74.70	80.60	90.10	95.10
32	151456	55.00	15½	54	4	200	E54		7.70	78.50	84.40	94.30	99.70

FUSIBLE MAINS

2	151481	7.00	15½	10	4	30	E10		3.50	16.20	20.10	25.30	29.70
4	151482	10.00	15½	14	4	30	E14		3.90	20.10	24.20	29.70	34.40
6	151483	13.40	15½	18	4	60	E18		4.30	24.40	28.60	34.60	39.50
8	151484	16.60	15½	20	4	60	E20		4.50	28.10	32.40	38.60	43.60
10	151485	19.50	15½	24	4	60	E24		4.90	32.00	36.40	43.00	48.30
12	151486	24.00	15½	30	4	100	E30		5.40	38.00	42.80	49.90	55.40
14	151487	27.60	15½	34	4	100	E34		5.80	42.80	47.80	55.30	60.80
16	151488	30.60	15½	36	4	100	E36		6.00	46.30	51.40	59.20	64.60
18	151489	36.90	15½	42	4	200	E42		6.50	52.80	58.10	66.30	71.80
20	151490	40.10	15½	44	4	200	E44		6.70	56.60	62.10	70.60	76.30
22	151491	43.40	15½	48	4	200	E48		7.10	65.00	70.80	79.80	84.20
24	151492	46.50	15½	50	4	200	E50		7.30	68.80	74.70	83.80	88.50
26	151493	49.80	15½	54	4	200	E54		7.70	73.30	79.20	89.10	94.50
28	151494	53.00	15½	56	4	200	E56		7.90	77.20	83.20	93.30	99.00
30	151495	56.10	15½	60	4	200	E60		8.30	81.50	87.70	98.20	104.60
32	151496	59.30	15½	62	4	200	E62		8.50	85.30	91.50	102.50	109.40

FUSELESS MAIN SWITCH

2	151521	9.80	15½	14	4	30	E14		3.90	19.90	24.00	29.50	34.20
4	151522	12.80	15½	18	4	30	E18		4.30	23.80	28.00	34.00	38.90
6	151523	16.80	15½	22	4	60	E22		4.70	28.90	33.20	39.50	44.60
8	151524	20.00	15½	26	4	60	E26		5.10	33.00	37.50	44.30	49.70
10	151525	22.90	15½	28	4	60	E28		5.20	36.40	41.10	48.00	53.40
12	151526	29.30	15½	34	4	100	E34		5.80	44.50	49.50	57.00	62.50
14	151527	32.90	15½	36	4	100	E36		6.00	48.60	53.70	61.50	66.90
16	151528	35.90	15½	40	4	100	E40		6.30	55.20	60.50	68.40	73.80
18	151529	43.80	15½	44	6	200	E44		8.80	65.90	71.40	82.00	87.50
20	151530	47.00	15½	48	6	200	E48		9.30	70.20	76.00	87.30	91.70
22	151531	50.30	15½	50	6	200	E50		9.60	74.20	80.10	91.60	96.30
24	151532	53.40	15½	54	6	200	E54		10.10	78.60	84.50	96.90	102.30
26	151533	56.70	15½	56	6	200	E56		10.40	82.60	88.60	101.30	107.00
28	151534	59.90	15½	60	6	200	E60		10.90	87.00	93.20	106.40	112.80
30	151535	63.00	15½	62	6	200	E62		11.20	90.80	97.00	110.80	117.70
32	151536	66.20	15½	66	6	200	E66		11.80	95.30	101.50	115.90	123.40

FUSELESS MAIN SWITCH

2	151561	11.20	15½	14	4	30	E14		3.90	21.30	25.40	30.90	35.60
4	151562	14.20	15½	18	4	30	E18		4.30	25.20	29.40	35.40	40.30
6	151563	18.20	15½	22	4	60	E22		4.70	30.30	34.60	40.90	46.00
8	151564	21.40	15½	26	4	60	E26		5.10	34.40	38.90	45.70	51.10
10	151565	24.30	15½	28	4	60	E28		5.20	37.80	42.50	49.40	54.80
12	151566	32.50	15½	36	4	100	E36		6.00	48.20	53.30	61.10	66.50
14	151567	36.10	15½	40	4	100	E40		6.30	55.40	60.70	68.60	74.00
16	151568	39.10	15½	42	4	100	E42		6.50	59.00	64.30	72.50	77.80
18	151569	48.30	15½	48	6	200	E48		9.30	71.50	77.30	88.60	93.90
20	151570	51.50	15½	52	6	200	E52		9.80	76.10	82.00	93.90	98.90
22	151571	54.80	15½	54	6	200	E54		10.10	80.00	85.90	98.30	103.70
24	151572	57.90	15½	58	6	200	E58		10.70	84.40	90.50	103.40	109.50
26	151573	61.20	15½	60	6	200	E60		10.90	88.30	94.50	107.70	114.10
28	151574	64.40	15½	64	6	200	E64		11.50	92.80	99.10	112.30	119.00
30	151575	67.50	15½	66	6	200	E66		11.80	96.60	102.80	117.20	124.30
32	151576	70.70	15½	70	6	200	E70		12.30	101.40	107.50	122.50	130.10

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

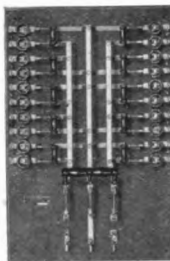
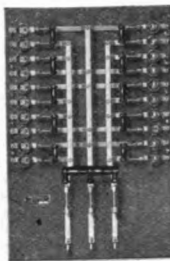
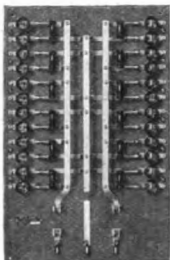
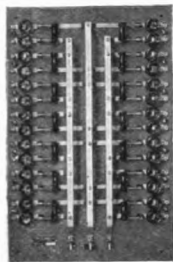
For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE D PANELS

3 TO 2-WIRE, 125 VOLTS

Mains—3-wire. Branches—Double, with 30-ampere Knife Switches, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.



Panel Only										SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref	List	Type					
			W.	H.	D.				AL		AL	Types BM-BN	Type BT	
MAIN LUGS														
2	151761	\$6.20	17½	8	4	30	F 8	\$3.50	\$15.30	\$19.20	\$24.50	\$28.80	\$28.80	
4	151762	8.30	17½	12	4	30	F12	3.90	18.50	22.60	28.20	32.60	32.60	
6	151763	12.20	17½	14	4	30	F14	4.10	22.90	27.10	33.00	37.40	37.40	
8	151764	15.70	17½	18	4	30	F18	4.50	27.50	31.90	38.10	42.60	42.60	
10	151765	19.00	17½	20	4	30	F20	4.70	31.30	35.80	42.30	46.80	46.80	
12	151766	22.70	17½	24	4	60	F24	5.10	36.00	40.60	47.50	52.20	52.20	
14	151767	25.90	17½	26	4	60	F26	5.20	39.70	44.50	51.40	56.20	56.20	
16	151768	29.30	17½	30	4	60	F30	5.60	44.20	49.10	56.50	61.40	61.40	
18	151769	32.50	17½	32	4	60	F32	5.80	48.00	52.90	60.60	65.50	65.50	
20	151770	35.90	17½	36	4	60	F36	6.10	52.60	57.70	65.50	70.60	70.60	
22	151771	40.60	17½	40	4	100	F40	6.50	60.60	66.10	74.40	77.50	77.50	
24	151772	44.00	17½	42	4	100	F42	6.70	64.80	70.20	78.80	82.20	82.20	
26	151773	47.30	17½	46	4	100	F46	7.10	69.50	75.00	84.10	88.20	88.20	
28	151774	50.50	17½	48	4	100	F48	7.30	73.30	78.90	87.80	92.50	92.50	
30	151775	53.70	17½	52	4	100	F52	7.70	77.90	83.60	93.60	98.70	98.70	
32	151776	57.10	17½	54	4	100	F54	7.90	82.10	87.80	98.10	103.40	103.40	
FUSIBLE MAINS														
2	151801	8.50	17½	10	4	30	F10	3.70	18.20	22.20	27.60	32.00	32.00	
4	151802	10.60	17½	14	4	30	F14	4.10	21.30	25.50	31.40	35.80	35.80	
6	151803	12.50	17½	16	4	30	F16	4.30	23.80	28.10	34.00	38.50	38.50	
8	151804	18.00	17½	20	4	30	F20	4.70	30.30	34.80	41.30	45.80	45.80	
10	151805	21.30	17½	22	4	30	F22	4.90	34.10	38.70	45.30	49.90	49.90	
12	151806	25.40	17½	28	4	60	F28	5.40	39.70	44.50	51.80	56.60	56.60	
14	151807	28.60	17½	30	4	60	F30	5.60	43.50	48.40	55.80	60.70	60.70	
16	151808	32.00	17½	34	4	60	F34	6.00	48.00	53.00	60.90	65.90	65.90	
18	151809	35.20	17½	36	4	60	F36	6.10	51.90	57.00	64.80	69.90	69.90	
20	151810	38.60	17½	40	4	60	F40	6.50	58.60	64.10	72.40	77.50	77.50	
22	151811	44.70	17½	46	4	100	F46	7.10	66.90	72.40	81.50	85.60	85.60	
24	151812	48.10	17½	48	4	100	F48	7.30	70.90	76.50	85.90	90.40	90.40	
26	151813	51.40	17½	52	4	100	F52	7.70	75.60	81.30	91.30	96.40	96.40	
28	151814	54.60	17½	54	4	100	F54	7.90	79.60	85.30	95.60	100.90	100.90	
30	151815	57.80	17½	58	4	100	F58	8.30	84.20	90.00	100.90	106.80	106.80	
32	151816	61.20	17½	60	4	100	F60	8.50	88.30	94.10	105.40	111.60	111.60	
FUSELESS MAIN SWITCH														
2	151841	12.70	17½	14	4	30	F14	4.10	23.40	27.60	33.50	37.90	37.90	
4	151842	14.80	17½	18	4	30	F18	4.50	26.60	31.00	37.20	41.70	41.70	
6	151843	18.70	17½	20	4	30	F20	4.70	31.00	35.50	42.00	46.50	46.50	
8	151844	22.20	17½	24	4	30	F24	5.10	35.50	40.10	47.00	51.70	51.70	
10	151845	25.50	17½	26	4	30	F26	5.20	39.30	44.10	51.00	55.80	55.80	
12	151846	30.50	17½	32	4	60	F32	5.80	46.00	50.90	58.60	63.50	63.50	
14	151847	33.70	17½	34	4	60	F34	6.00	49.70	54.70	62.60	67.60	67.60	
16	151848	37.10	17½	38	4	60	F38	6.30	54.30	59.50	67.50	72.60	72.60	
18	151849	40.30	17½	40	4	60	F40	6.50	60.30	65.80	74.10	77.20	77.20	
20	151850	43.70	17½	44	4	60	F44	6.90	65.10	70.60	79.50	83.30	83.30	
22	151851	52.60	17½	48	4	100	F48	7.30	75.40	81.00	90.40	94.90	94.90	
24	151852	56.00	17½	52	4	100	F52	7.70	80.20	85.90	95.90	101.00	101.00	
26	151853	59.30	17½	54	4	100	F54	7.90	84.30	90.00	100.30	105.60	105.60	
28	151854	62.50	17½	58	4	100	F58	8.30	88.90	94.70	105.60	111.50	111.50	
30	151855	65.70	17½	60	4	100	F60	8.50	92.80	98.60	109.90	116.10	116.10	
32	151856	69.10	17½	64	4	100	F64	8.80	97.60	103.50	115.30	122.50	122.50	
FUSIBLE MAIN SWITCH														
2	151881	14.80	17½	14	4	30	F14	4.10	25.50	29.70	35.60	40.00	40.00	
4	151882	16.90	17½	18	4	30	F18	4.50	28.70	33.10	39.30	43.80	43.80	
6	151883	20.80	17½	20	4	30	F20	4.70	33.10	37.60	44.10	48.60	48.60	
8	151884	24.30	17½	24	4	30	F24	5.10	37.60	42.20	49.10	53.80	53.80	
10	151885	27.60	17½	26	4	30	F26	5.20	41.40	46.20	53.10	57.90	57.90	
12	151886	32.60	17½	32	4	60	F32	5.80	48.10	53.00	60.70	65.60	65.60	
14	151887	35.80	17½	34	4	60	F34	6.00	51.80	56.80	64.70	69.70	69.70	
16	151888	39.20	17½	38	4	60	F38	6.30	56.40	61.60	69.60	74.70	74.70	
18	151889	42.40	17½	40	4	60	F40	6.50	62.40	67.90	76.20	79.30	79.30	
20	151890	45.80	17½	44	4	60	F44	6.90	67.20	72.70	81.60	85.40	85.40	
22	151891	57.40	17½	52	4	100	F52	7.70	81.60	87.30	97.30	102.40	102.40	
24	151892	60.80	17½	54	4	100	F54	7.90	85.80	91.50	101.80	107.10	107.10	
26	151893	64.10	17½	58	4	100	F58	8.30	90.50	96.30	107.20	113.10	113.10	
28	151894	67.30	17½	60	4	100	F60	8.50	94.40	100.20	111.50	117.70	117.70	
30	151895	70.50	17½	64	4	100	F64	8.80	99.00	104.90	116.70	123.90	123.90	
32	151896	73.90	17½	66	4	100	F66	9.00	103.20	109.10	121.10	128.80	128.80	

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet," include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

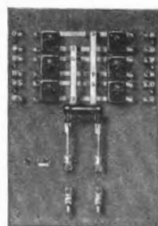
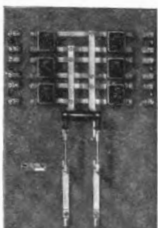
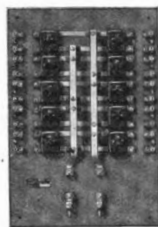
For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE F PANELS

2 TO 2-WIRE, 125 VOLTS

Mains—2-wire. Branches—Double, with 10-amp. Rotary Snap Switches, for N.E.C. Cartridge Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.



Panel Only								SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AK	Type AL	Type BM-BN	Type BT
MAIN LUGS												
2	151921	\$6.90	15½	8	4	30	E 8	\$3.30	\$15.60	\$19.50	\$24.40	\$28.70
4	151922	11.60	15½	12	4	30	E12	3.70	21.00	25.00	30.40	34.90
6	151923	16.10	15½	14	4	30	E14	3.90	26.20	30.30	35.80	40.30
8	151924	20.60	15½	16	4	60	E16	4.10	31.10	35.20	41.00	45.80
10	151925	25.40	15½	18	4	60	E18	4.30	36.40	40.60	46.60	51.30
12	151926	30.30	15½	22	4	100	E22	4.70	42.40	46.70	53.00	58.10
14	151927	35.40	15½	24	4	100	E24	4.90	47.90	52.30	58.90	64.20
16	151928	40.00	15½	28	4	100	E28	5.20	53.50	58.20	65.10	70.50
18	151929	46.00	15½	30	4	200	E30	5.40	60.00	64.80	71.90	77.40
20	151930	50.90	15½	32	4	200	E32	5.60	65.50	70.40	77.70	83.20
22	151931	55.60	15½	34	4	200	E34	5.80	70.80	75.80	83.30	88.80
24	151932	60.20	15½	38	4	200	E38	6.10	76.40	81.70	89.50	94.90
26	151933	64.90	15½	40	4	200	E40	6.30	84.20	89.50	97.40	100.60
28	151934	69.80	15½	44	4	200	E42	6.50	89.70	95.00	103.20	106.70
30	151935	74.30	15½	48	4	200	E44	6.70	94.80	100.30	108.70	112.50
32	151936	78.90	15½	48	4	200	E48	7.10	100.50	106.30	115.30	119.70

FUSIBLE MAINS												
2	152001	8.40	15½	10	4	30	E10	3.50	17.60	21.50	26.70	31.10
4	152002	12.90	15½	14	4	30	E14	3.90	23.00	27.10	32.60	37.30
6	152003	17.90	15½	18	4	60	E18	4.30	28.90	33.10	39.10	44.00
8	152004	22.30	15½	20	4	60	E20	4.50	33.80	38.10	44.30	49.30
10	152005	27.20	15½	22	4	60	E22	4.70	39.30	43.60	49.90	55.00
12	152006	33.00	15½	28	4	100	E28	5.20	46.50	51.20	58.10	63.50
14	152007	38.10	15½	30	4	100	E30	5.40	52.10	56.90	64.00	69.50
16	152008	42.70	15½	34	4	100	E34	5.80	57.90	62.90	70.40	75.90
18	152009	50.30	15½	38	4	200	E38	6.10	66.50	71.80	79.60	85.00
20	152010	55.20	15½	40	4	200	E40	6.30	74.50	79.80	87.70	90.90
22	152011	59.90	15½	42	4	200	E42	6.50	79.80	85.10	93.30	96.80
24	152012	64.50	15½	44	4	200	E44	6.70	85.00	90.50	98.90	102.70
26	152013	69.20	15½	48	4	200	E48	7.10	90.80	96.60	105.60	110.00
28	152014	74.10	15½	50	4	200	E50	7.30	96.40	102.30	111.40	116.10
30	152015	78.60	15½	52	4	200	E52	7.50	101.50	107.40	116.90	121.90
32	152016	83.20	15½	54	4	200	E54	7.70	106.70	112.60	122.50	127.90

FUSELESS MAIN SWITCH												
2	152081	11.20	15½	14	4	30	E14	3.90	21.30	25.40	30.90	35.60
4	152082	15.70	15½	18	4	30	E18	4.30	26.70	30.90	36.90	41.80
6	152083	21.30	15½	22	4	60	E22	4.70	33.40	37.70	44.00	49.10
8	152084	25.70	15½	24	4	60	E24	4.90	38.20	42.60	49.20	54.50
10	152085	30.60	15½	26	4	60	E26	5.10	43.60	48.10	54.90	60.30
12	152086	38.30	15½	32	4	100	E32	5.60	52.90	57.80	65.10	70.60
14	152087	43.40	15½	34	4	100	E34	5.80	58.60	63.60	71.10	76.60
16	152088	48.00	15½	36	4	100	E36	6.00	63.70	68.80	76.60	82.00
18	152089	57.20	15½	40	6	200	E40	8.20	78.10	83.40	93.30	96.50
20	152090	62.10	15½	44	6	200	E44	8.80	84.20	89.70	100.30	104.10
22	152091	66.80	15½	46	6	200	E46	9.00	89.50	95.10	106.00	110.10
24	152092	71.40	15½	48	6	200	E48	9.30	94.60	100.40	111.70	116.10
26	152093	76.10	15½	50	6	200	E50	9.60	100.00	105.90	117.40	122.10
28	152094	81.00	15½	54	6	200	E54	10.10	106.20	112.10	124.40	129.80
30	152095	85.50	15½	56	6	200	E56	10.40	111.40	117.40	130.00	135.50
32	152096	90.10	15½	58	6	200	E58	10.70	116.60	122.70	135.60	141.70

FUSELESS MAIN SWITCH												
2	152161	12.60	15½	14	4	30	E14	3.90	22.70	26.80	32.30	37.00
4	152162	17.10	15½	18	4	30	E18	4.30	28.10	32.30	38.30	43.30
6	152163	22.70	15½	22	4	60	E22	4.70	34.80	39.10	45.40	50.50
8	152164	27.10	15½	24	4	60	E24	4.90	39.60	44.00	50.60	55.90
10	152165	32.00	15½	26	4	60	E26	5.10	45.00	49.50	56.30	61.70
12	152166	41.50	15½	34	4	100	E34	5.80	56.70	61.70	69.20	74.70
14	152167	46.60	15½	36	4	100	E36	6.00	62.30	67.40	75.20	80.60
16	152168	51.20	15½	40	4	100	E40	6.30	70.50	75.80	83.70	88.90
18	152169	61.70	15½	44	6	200	E44	8.80	83.80	89.30	99.90	103.70
20	152170	66.60	15½	46	6	200	E46	9.00	89.30	94.90	105.80	109.60
22	152171	71.30	15½	50	6	200	E50	9.60	95.20	101.10	112.60	117.30
24	152172	75.90	15½	52	6	200	E52	9.80	100.50	106.40	118.30	123.30
26	152173	80.60	15½	54	6	200	E54	10.10	105.80	111.70	124.00	129.50
28	152174	85.50	15½	56	6	200	E56	10.40	111.40	117.40	130.00	135.80
30	152175	90.00	15½	60	6	200	E60	10.90	117.10	123.30	136.40	142.90
32	152176	94.60	15½	62	6	200	E62	11.20	122.40	128.60	142.40	149.30

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

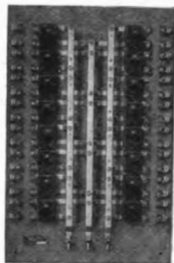
For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE F PANELS **3 TO 2-WIRE, 125 VOLTS**

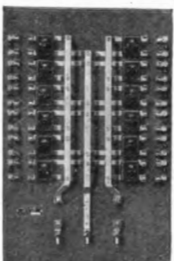
Mains—3-wire. Branches—Double, with 10-amp. Rotary Snap Switches, Arranged for N.E.C. Cartridge Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

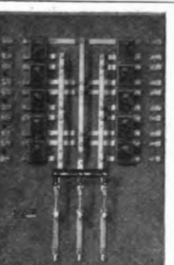
Panel Only							SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.		Cap. Mains	Box Ref.		Type AL	Type AL	Types BK-BN	Type BT
			W.	H.	D.		List				



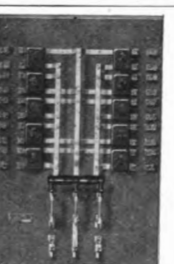
MAIN LUGS												
2	152241	\$7.50	17½	8	4	30	F 8	\$3.50	\$16.60	\$20.50	\$25.80	\$30.10
4	152242	12.40	17½	12	4	30	F12	3.90	22.60	26.70	32.30	36.70
6	152243	17.00	17½	14	4	30	F14	4.10	27.70	31.90	37.80	42.20
8	152244	21.50	17½	16	4	30	F16	4.30	32.80	37.10	43.00	47.50
10	152245	26.20	17½	18	4	30	F18	4.50	38.00	42.40	48.60	53.10
12	152246	31.60	17½	22	4	60	F22	4.90	44.40	49.00	55.60	60.20
14	152247	36.20	17½	24	4	60	F24	5.10	49.50	54.10	61.00	65.70
16	152248	40.90	17½	26	4	60	F26	5.20	54.70	59.50	66.40	71.20
18	152249	45.60	17½	28	4	60	F28	5.40	59.90	64.70	72.00	76.80
20	152250	50.50	17½	32	4	60	F32	5.80	66.00	70.90	78.60	83.50
22	152251	56.50	17½	34	4	100	F34	6.00	72.50	77.50	85.40	90.40
24	152252	61.60	17½	38	4	100	F38	6.30	78.80	84.00	92.00	97.10
26	152253	66.30	17½	40	4	100	F40	6.50	86.30	91.80	100.10	103.20
28	152254	71.00	17½	42	4	100	F42	6.70	91.80	97.20	105.80	109.20
30	152255	75.80	17½	44	4	100	F44	6.90	97.20	102.70	111.60	115.40
32	152256	80.80	17½	48	4	100	F48	7.30	103.60	109.20	118.60	123.10



FUSIBLE MAINS												
2	152321	9.80	17½	10	4	30	F10	3.70	19.50	23.50	28.90	33.30
4	152322	14.70	17½	14	4	30	F14	4.10	25.40	29.60	35.50	39.90
6	152323	19.30	17½	16	4	30	F16	4.30	30.60	34.90	40.80	45.30
8	152324	23.80	17½	18	4	30	F18	4.50	35.60	40.00	46.20	50.70
10	152325	28.50	17½	22	4	30	F22	4.90	41.30	45.90	52.50	57.10
12	152326	34.30	17½	24	4	60	F24	5.10	47.60	52.20	59.10	63.80
14	152327	38.90	17½	28	4	60	F28	5.40	53.20	58.00	65.30	70.10
16	152328	43.60	17½	30	4	60	F30	5.60	58.50	63.40	70.80	75.70
18	152329	48.30	17½	32	4	60	F32	5.80	63.80	68.70	76.40	81.30
20	152330	53.20	17½	34	4	60	F34	6.00	69.20	74.20	82.10	87.10
22	152331	60.60	17½	40	4	100	F40	6.50	80.60	86.10	94.40	97.50
24	152332	65.70	17½	44	4	100	F44	6.90	87.10	92.60	101.50	105.30
26	152333	70.40	17½	46	4	100	F46	7.10	92.60	98.10	107.20	111.30
28	152334	75.10	17½	48	4	100	F48	7.30	97.90	103.50	112.90	117.40
30	152335	79.90	17½	50	4	100	F50	7.50	103.50	109.10	118.70	123.50
32	152336	84.90	17½	54	4	100	F54	7.90	109.90	115.60	125.90	131.20



FUSELESS MAIN SWITCH												
2	152401	14.00	17½	14	4	30	F14	4.10	24.70	28.90	34.80	39.20
4	152402	18.90	17½	18	4	30	F18	4.50	30.70	35.10	41.30	45.80
6	152403	23.50	17½	20	4	30	F20	4.70	35.80	40.30	46.80	51.30
8	152404	28.00	17½	22	4	30	F22	4.90	40.80	45.40	52.00	56.60
10	152405	32.70	17½	24	4	30	F24	5.10	46.00	50.60	57.50	62.20
12	152406	39.40	17½	30	4	60	F30	5.60	54.30	59.20	66.60	71.50
14	152407	44.00	17½	32	4	60	F32	5.80	59.50	64.40	72.10	77.00
16	152408	48.70	17½	34	4	60	F34	6.00	64.70	69.70	77.60	82.60
18	152409	53.40	17½	36	4	60	F36	6.10	70.10	75.20	83.00	88.10
20	152410	58.30	17½	40	4	60	F40	6.50	78.30	83.80	92.10	95.20
22	152411	68.50	17½	44	4	100	F44	6.90	89.90	95.40	104.30	108.10
24	152412	73.60	17½	46	4	100	F46	7.10	95.80	101.30	110.40	114.50
26	152413	78.30	17½	48	4	100	F48	7.30	101.10	106.70	116.10	120.60
28	152414	83.00	17½	52	4	100	F52	7.70	107.20	112.90	122.90	128.00
30	152415	87.80	17½	54	4	100	F54	7.90	112.80	118.50	128.80	134.10
32	152416	92.80	17½	56	4	100	F56	8.10	118.50	124.20	134.90	140.50



FUSIBLE MAIN SWITCH												
2	152481	116.10	17½	14	4	30	F14	4.10	26.80	31.00	36.90	41.30
4	152482	21.00	17½	18	4	30	F18	4.50	32.80	37.20	43.40	47.90
6	152483	25.60	17½	20	4	30	F20	4.70	37.90	42.40	48.90	53.40
8	152484	30.10	17½	22	4	30	F22	4.90	42.90	47.50	54.10	58.70
10	152485	34.80	17½	24	4	30	F24	5.10	48.10	52.70	59.60	64.30
12	152486	41.50	17½	30	4	60	F30	5.60	56.40	61.30	68.70	73.60
14	152487	46.10	17½	32	4	60	F32	5.80	61.60	66.50	74.20	79.10
16	152488	50.80	17½	34	4	60	F34	6.00	66.80	71.80	79.70	84.70
18	152489	55.50	17½	36	4	60	F36	6.10	72.20	77.30	85.10	90.20
20	152490	60.40	17½	40	4	60	F40	6.50	80.40	85.90	94.20	97.30
22	152491	73.30	17½	46	4	100	F46	7.10	95.50	101.00	110.10	114.20
24	152492	78.40	17½	50	4	100	F50	7.50	102.00	107.60	117.20	122.00
26	152493	83.10	17½	52	4	100	F52	7.70	107.30	113.00	123.00	128.10
28	152494	87.80	17½	54	4	100	F54	7.90	112.80	118.50	128.80	134.10
30	152495	92.60	17½	56	4	100	F56	8.10	118.30	124.00	134.70	140.30
32	152496	97.60	17½	60	4	100	F60	8.50	124.70	130.50	141.80	148.00

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

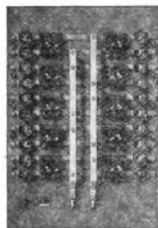
CROUSE-HINDS TYPE P PANELS

2 TO 2-WIRE, 125 VOLTS

Mains—2-wire. Branches—Double, with 10-ampere Push Button Switches, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

Panel Only								SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.		List	Type A ₁	Type A ₂	Type B ₁ -B ₂	Type B_{3}
MAIN LUGS												
2	165641	\$7.50	15½	8	4	30	E 8	\$3.30	\$16.20	\$20.10	\$25.00	\$29.30
4	165642	12.50	15½	12	4	30	E12	3.70	22.40	26.10	31.50	36.00
6	165643	17.60	15½	14	4	60	E14	3.90	27.70	31.80	37.30	42.00
8	165644	22.80	15½	18	4	60	E18	4.30	33.80	38.00	44.00	48.90
10	165645	27.70	15½	20	4	60	E20	4.50	39.20	43.50	49.70	54.70
12	165646	33.30	15½	24	4	100	E24	4.90	45.80	50.20	56.80	62.10
14	165647	38.90	15½	28	4	100	E28	5.20	52.40	57.10	64.00	69.40
16	165648	43.90	15½	30	4	100	E30	5.40	57.90	62.70	69.80	75.30
18	165649	50.60	15½	34	4	200	E34	5.80	65.80	70.80	78.30	83.80
20	165650	55.80	15½	36	4	200	E36	6.00	71.50	76.60	84.40	89.80
22	165651	61.10	15½	40	4	200	E40	6.30	80.40	85.70	93.60	99.80
24	165652	66.20	15½	42	4	200	E42	6.50	86.10	91.40	99.60	103.10
26	165653	71.50	15½	46	4	200	E46	6.90	92.60	98.20	106.90	111.00
28	165654	76.70	15½	48	4	200	E48	7.10	98.30	104.10	113.10	117.50
30	165655	81.80	15½	52	4	200	E52	7.50	104.70	110.60	120.10	125.10
32	165656	87.00	15½	54	4	200	E54	7.70	110.50	116.40	126.30	131.70



FUSIBLE MAINS

2	165681	9.00	15½	10	4	30	E10	3.50	18.20	22.10	27.30	31.70
4	165682	14.00	15½	14	4	30	E14	3.90	24.10	28.20	33.70	38.40
6	165683	19.40	15½	18	4	60	E18	4.30	30.40	34.60	40.60	45.50
8	165684	24.60	15½	20	4	60	E20	4.50	36.10	40.40	46.60	51.60
10	165685	29.50	15½	24	4	60	E24	4.90	42.00	46.40	53.00	58.30
12	165686	36.00	15½	30	4	100	E30	5.40	50.00	54.80	61.90	67.40
14	165687	41.60	15½	34	4	100	E34	5.80	56.80	61.80	69.30	74.80
16	165688	46.60	15½	36	4	100	E36	6.00	62.30	67.40	75.20	80.60
18	165689	54.90	15½	42	4	200	E42	6.50	74.80	80.10	88.30	91.80
20	165690	60.10	15½	44	4	200	E44	6.70	80.60	86.10	94.50	98.30
22	165691	65.40	15½	48	4	200	E48	7.10	87.00	92.80	101.80	106.20
24	165692	70.50	15½	50	4	200	E50	7.30	92.80	98.70	107.80	112.50
26	165693	75.80	15½	54	4	200	E54	7.70	99.30	105.20	115.10	120.50
28	165694	81.00	15½	56	4	200	E56	7.90	105.20	111.20	121.30	127.00
30	165695	86.10	15½	60	4	200	E60	8.30	111.50	117.70	128.20	134.60
32	165696	91.30	15½	62	4	200	E62	8.50	117.30	123.50	134.50	141.40

FUSELESS MAIN SWITCH

2	165721	11.80	15½	14	4	30	E14	3.90	21.90	26.00	31.50	36.20
4	165722	16.80	15½	18	4	30	E18	4.30	27.80	32.00	38.00	42.60
6	165723	22.80	15½	22	4	60	E22	4.70	34.90	39.20	45.50	50.60
8	165724	28.00	15½	26	4	60	E26	5.10	41.00	45.50	52.30	57.70
10	165725	32.90	15½	28	4	60	E28	5.20	46.40	51.10	58.00	63.40
12	165726	41.30	15½	34	4	100	E34	5.80	56.50	61.50	69.00	74.50
14	165727	46.90	15½	36	4	100	E36	6.00	62.60	67.70	75.50	80.90
16	165728	51.90	15½	40	4	100	E40	6.30	71.20	76.50	84.40	89.60
18	165729	61.80	15½	44	6	200	E44	6.80	83.90	89.40	100.00	103.80
20	165730	67.00	15½	48	6	200	E48	7.30	90.20	96.00	107.30	111.70
22	165731	72.30	15½	50	6	200	E50	7.60	96.20	102.10	113.60	118.30
24	165732	77.40	15½	54	6	200	E54	8.10	102.60	108.50	120.90	126.30
26	165733	82.70	15½	56	6	200	E56	8.40	108.60	114.60	127.80	133.00
28	165734	87.90	15½	60	6	200	E60	8.90	115.00	121.20	134.40	140.80
30	165735	93.00	15½	62	6	200	E62	9.20	120.80	127.00	140.80	147.70
32	165736	98.20	15½	66	6	200	E66	9.60	127.30	133.50	147.90	155.00

FUSIBLE MAIN SWITCH

2	165761	13.20	15½	14	4	30	E14	3.90	23.30	27.40	32.90	37.60
4	165762	18.20	15½	18	4	30	E18	4.30	29.20	33.40	39.40	44.30
6	165763	24.20	15½	22	4	60	E22	4.70	36.30	40.60	46.90	52.00
8	165764	29.40	15½	26	4	60	E26	5.10	42.40	46.90	53.70	59.10
10	165765	34.30	15½	28	4	60	E28	5.20	47.80	52.50	59.40	64.80
12	165766	44.50	15½	36	4	100	E36	6.00	50.20	55.30	73.10	78.50
14	165767	50.10	15½	40	4	100	E40	6.30	60.40	64.70	82.60	88.00
16	165768	55.10	15½	42	4	100	E42	6.50	65.00	69.50	88.50	94.00
18	165769	66.30	15½	48	6	200	E48	7.30	80.50	85.30	106.60	111.00
20	165770	71.50	15½	52	6	200	E52	7.70	86.10	91.00	113.90	118.90
22	165771	76.80	15½	54	6	200	E54	8.10	92.00	97.00	120.30	125.70
24	165772	81.90	15½	58	6	200	E58	8.50	98.40	103.50	127.40	133.30
26	165773	87.20	15½	60	6	200	E60	8.90	104.30	109.60	133.70	140.10
28	165774	92.40	15½	64	6	200	E64	9.30	110.70	116.20	141.20	148.60
30	165775	97.50	15½	66	6	200	E66	9.70	117.60	123.20	147.20	155.20
32	165776	102.70	15½	70	6	200	E70	10.10	124.00	130.00	154.60	163.60

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

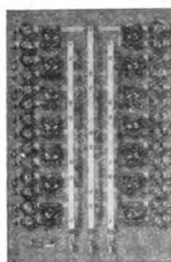
CROUSE-HINDS TYPE P PANELS

3 TO 2-WIRE, 125 VOLTS

Mains—3-wire. Branches—Double, with 10-amp. Push Button Switches, Arranged for Edison Plug Fuses

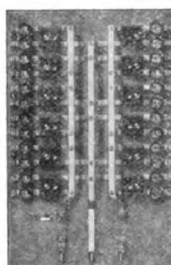
Panels furnished with main connections at top, if so ordered, without extra charge

Panel Only							SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap Mains		Box Ref.	Type AK	Type AL	Types EM-BN	Type BT



MAIN LUGS

2	165801	\$ 8.20	17½	8	4	30	F 8	\$3.50	\$17.30	\$21.20	\$26.50	\$30.80
4	165802	13.30	17½	12	4	30	F12	3.90	23.50	27.60	33.20	37.60
6	165803	18.20	17½	14	4	30	F14	4.10	28.90	33.10	39.00	43.40
8	165804	23.70	17½	18	4	30	F18	4.50	35.50	39.90	46.10	50.60
10	165805	29.00	17½	20	4	30	F20	4.70	41.30	45.80	52.30	56.80
12	165806	34.70	17½	24	4	60	F24	5.10	48.00	52.60	59.50	64.20
14	165807	39.90	17½	26	4	60	F26	5.20	53.70	58.50	65.40	70.20
16	165808	45.30	17½	30	4	60	F30	5.60	60.20	65.10	72.50	77.40
18	165809	50.50	17½	32	4	60	F32	5.80	66.00	70.90	78.60	83.50
20	165810	55.90	17½	36	4	60	F36	6.10	72.60	77.70	85.50	90.60
22	165811	62.60	17½	40	4	100	F40	6.50	82.60	88.10	96.40	99.50
24	165812	68.00	17½	42	4	100	F42	6.70	88.80	94.20	102.80	106.20
26	165813	73.30	17½	46	4	100	F46	7.10	95.50	101.00	110.10	114.20
28	165814	78.50	17½	48	4	100	F48	7.30	101.30	106.90	116.30	120.80
30	165815	83.70	17½	52	4	100	F52	7.70	107.90	113.60	123.60	128.70
32	165816	89.10	17½	54	4	100	F54	7.90	114.10	119.80	130.10	135.40



FUSIBLE MAINS

2	165841	10.50	17½	10	4	30	F10	3.70	20.20	24.20	29.60	34.00
4	165842	15.60	17½	14	4	30	F14	4.10	26.30	30.50	36.40	40.80
6	165843	20.50	17½	16	4	30	F16	4.30	31.80	36.10	42.00	46.50
8	165844	26.00	17½	20	4	30	F20	4.70	38.30	42.80	49.30	53.80
10	165845	31.30	17½	22	4	30	F22	4.90	44.10	48.70	55.30	59.90
12	165846	37.40	17½	28	4	60	F28	5.40	51.70	56.50	63.80	68.60
14	165847	42.60	17½	30	4	60	F30	5.60	57.50	62.40	69.80	74.70
16	165848	48.00	17½	34	4	60	F34	6.00	64.00	69.00	76.90	81.90
18	165849	53.20	17½	36	4	60	F36	6.10	69.90	75.00	82.80	87.90
20	165850	58.60	17½	40	4	60	F40	6.50	78.60	84.10	92.40	95.50
22	165851	66.70	17½	46	4	100	F46	7.10	88.90	94.40	103.50	107.60
24	165852	72.10	17½	48	4	100	F48	7.30	94.90	100.50	109.90	114.40
26	165853	77.40	17½	52	4	100	F52	7.70	101.60	107.30	117.30	122.40
28	165854	82.60	17½	54	4	100	F54	7.90	107.60	113.30	123.60	128.90
30	165855	87.80	17½	58	4	100	F58	8.30	114.20	120.00	130.90	136.80
32	165856	93.20	17½	60	4	100	F60	8.50	120.30	126.10	137.40	143.60

FUSELESS MAIN SWITCH

2	165881	14.70	17½	14	4	30	F14	4.10	25.40	29.60	35.50	39.90
4	165882	19.00	17½	18	4	30	F18	4.50	31.60	36.00	42.20	46.50
6	165883	24.70	17½	20	4	30	F20	4.70	37.00	41.50	48.00	52.50
8	165884	30.20	17½	24	4	30	F24	5.10	43.50	48.10	55.00	59.70
10	165885	35.50	17½	26	4	30	F26	5.20	49.30	54.10	61.00	65.80
12	165886	42.50	17½	32	4	60	F32	5.80	58.00	62.90	70.60	75.50
14	165887	47.70	17½	34	4	60	F34	6.00	63.70	68.70	76.60	81.60
16	165888	53.10	17½	38	4	60	F38	6.30	70.30	75.50	83.50	88.60
18	165889	58.30	17½	40	4	60	F40	6.50	78.30	83.80	92.10	95.20
20	165890	63.70	17½	44	4	60	F44	6.90	85.10	90.60	99.50	103.30
22	165891	74.60	17½	48	4	100	F48	7.30	97.40	103.00	112.40	116.90
24	165892	80.00	17½	52	4	100	F52	7.70	104.20	107.90	119.90	125.00
26	165893	85.30	17½	54	4	100	F54	7.90	110.30	116.00	126.30	131.60
28	165894	90.50	17½	58	4	100	F58	8.30	116.90	122.90	133.60	139.50
30	165895	95.70	17½	60	4	100	F60	8.50	122.80	128.60	139.90	146.10
32	165896	101.10	17½	64	4	100	F64	8.80	129.60	135.50	147.30	154.50

FUSIBLE MAIN SWITCH

2	165921	16.80	17½	14	4	30	F14	4.10	27.50	31.70	37.60	42.00
4	165922	21.90	17½	18	4	30	F18	4.50	33.70	38.10	44.30	48.80
6	165923	26.80	17½	20	4	30	F20	4.70	39.10	43.60	50.10	54.60
8	165924	32.30	17½	24	4	30	F24	5.10	45.60	50.20	57.10	61.80
10	165925	37.60	17½	26	4	30	F26	5.20	51.40	56.20	63.10	67.90
12	165926	44.60	17½	32	4	60	F32	5.80	60.10	65.00	72.70	77.60
14	165927	49.80	17½	34	4	60	F34	6.00	65.80	70.80	78.70	83.70
16	165928	55.40	17½	38	4	60	F38	6.30	72.40	77.60	85.60	90.70
18	165929	60.40	17½	40	4	60	F40	6.50	80.40	85.90	94.20	97.30
20	165930	65.80	17½	44	4	60	F44	6.90	87.20	92.70	101.60	105.40
22	165931	79.40	17½	52	4	100	F52	7.70	103.60	109.30	119.30	124.40
24	165932	84.80	17½	54	4	100	F54	7.90	109.80	115.50	125.80	131.10
26	165933	90.10	17½	58	4	100	F58	8.30	116.50	122.30	133.20	139.10
28	165934	95.30	17½	60	4	100	F60	8.50	122.40	128.20	139.50	145.70
30	165935	100.50	17½	64	4	100	F64	8.80	129.00	134.90	146.70	153.90
32	165936	105.90	17½	66	4	100	F66	9.00	135.20	141.10	153.10	160.80

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE DD PANELS
2 TO 2-WIRE, 125 VOLTS

Mains—2-Wire. Branches—Double, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

Panel Only										SLATE FRAME		Panel with Cabinet*			
No. Cr.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type	Type	Type	Type	Type		
			W.	H.	D.										
MAIN LUGS															
2	170001	\$4.20	8	8	4	30	H 8	\$2.70	\$11.50	\$15.30	\$19.10	\$23.60			
4	170002	6.40	8	10	4	30	H10	2.90	14.10	17.90	21.90	26.50			
6	170003	8.60	8	14	4	60	H14	3.30	17.00	21.00	25.40	30.30			
8	170004	10.70	8	18	4	60	H18	3.70	19.60	23.90	28.80	33.90			
10	170005	12.70	8	20	4	60	H20	3.90	22.00	26.30	31.50	36.70			
12	170006	15.40	8	24	4	100	H24	4.30	25.20	29.80	35.50	40.90			
14	170007	17.90	8	28	4	100	H28	4.70	28.40	33.20	39.40	45.00			
16	170008	19.90	8	30	4	100	H30	4.90	30.80	35.60	42.10	47.80			
18	170009	23.00	8	34	4	200	H34	5.20	35.10	40.10	47.00	52.90			
20	170010	25.80	8	36	4	200	H36	5.40	37.70	42.70	49.90	55.80			
22	170011	28.20	8	40	4	200	H40	5.80	43.30	48.60	57.00	59.80			
24	170012	30.30	8	42	4	200	H42	5.90	46.00	51.20	59.70	62.70			
26	170013	32.70	8	46	4	200	H46	6.30	49.40	54.70	63.70	66.90			
28	170014	34.90	8	48	4	200	H48	6.50	52.10	57.50	66.70	70.10			
30	170015	37.10	8	52	4	200	H52	6.90	55.30	60.80	70.50	74.50			
32	170016	39.30	8	54	4	200	H54	7.10	58.10	63.60	73.40	77.80			



FUSIBLE MAINS															
2	170021	5.70	8	10	4	30	H10		2.90	13.40	17.20	21.20	25.80		
4	170022	7.90	8	12	4	30	H12		3.10	15.90	19.90	24.10	28.80		
6	170023	10.40	8	18	4	60	H18		3.70	19.30	23.60	28.50	33.60		
8	170024	12.50	8	22	4	60	H22		4.10	22.00	26.40	31.90	37.20		
10	170025	14.50	8	24	4	60	H24		4.30	24.30	28.90	34.60	40.00		
12	170026	18.10	8	30	4	100	H30		4.90	29.00	33.80	40.30	46.00		
14	170027	20.60	8	34	4	100	H34		5.20	32.10	37.10	44.00	49.90		
16	170028	22.80	8	36	4	100	H36		5.40	34.50	39.50	46.70	52.80		
18	170029	27.90	8	40	4	200	H40		5.80	43.00	48.30	56.70	59.50		
20	170030	30.10	8	44	4	200	H44		6.10	46.20	51.50	60.30	63.40		
22	170031	32.50	8	46	4	200	H46		6.30	49.20	54.50	63.50	66.70		
24	170032	34.60	8	50	4	200	H50		6.70	52.40	57.80	67.20	70.80		
26	170033	37.00	8	52	4	200	H52		6.90	55.20	60.70	70.40	74.40		
28	170034	39.20	8	56	4	200	H56		7.30	58.50	64.10	74.00	78.80		
30	170035	41.40	8	58	4	200	H58		7.50	61.20	66.80	76.90	81.50		
32	170036	43.60	8	62	4	200	H62		7.90	64.40	70.10	80.60	84.90		



FUSELESS MAIN SWITCH															
2	170041	8.50	8	16	4	30	H16		3.50	17.10	21.20	26.00	31.00		
4	170042	10.70	8	18	4	30	H18		3.70	19.60	23.90	28.80	33.90		
6	170043	13.80	8	24	4	60	H24		4.30	23.60	28.20	33.90	39.30		
8	170044	15.90	8	26	4	60	H26		4.50	26.10	30.70	36.70	42.30		
10	170045	17.90	8	30	4	60	H30		4.90	28.80	33.60	40.10	45.80		
12	170046	23.40	8	34	4	100	H34		5.20	34.90	39.90	46.80	51.70		
14	170047	25.90	8	38	4	100	H38		5.60	38.20	43.40	50.80	56.00		
16	170048	27.90	8	40	4	100	H40		5.80	43.00	48.30	56.70	59.50		
18	170049	34.90	8	48	6	200	H48		8.50	53.50	58.90	70.40	73.80		
20	170050	37.00	8	50	6	200	H50		8.70	56.40	61.80	73.50	77.10		
22	170051	39.40	8	54	6	200	H54		9.20	59.80	65.30	77.60	82.00		
24	170052	41.50	8	56	6	200	H56		9.50	62.50	68.10	81.90	87.40		
26	170053	43.90	8	60	6	200	H60		10.00	65.90	71.60	86.20	92.00		
28	170054	46.10	8	62	6	200	H62		10.20	68.80	74.50	89.50	94.30		
30	170055	48.30	8	66	6	200	H66		10.80	71.90	77.70	93.80	101.70		
32	170056	50.50	8	68	6	200	H68		11.00	74.60	84.50	96.90	105.40		



FUSIBLE MAIN SWITCH															
2	170061	9.90	8	16	4	30	H16		3.50	18.50	22.60	27.40	32.60		
4	170062	12.10	8	18	4	30	H18		3.70	21.00	25.30	30.20	35.30		
6	170063	15.20	8	24	4	60	H24		4.30	25.00	29.60	35.30	40.70		
8	170064	17.30	8	26	4	60	H26		4.50	27.50	32.10	38.10	43.80		
10	170065	19.30	8	30	4	60	H30		4.90	30.20	35.00	41.50	47.20		
12	170066	26.60	8	38	4	100	H38		5.60	38.90	44.10	51.50	57.30		
14	170067	29.10	8	40	4	100	H40		5.80	44.20	49.50	57.90	60.70		
16	170068	31.10	8	44	4	100	H44		6.10	47.20	52.50	61.30	64.40		
18	170069	39.30	8	50	6	200	H50		8.70	58.70	64.10	75.80	79.40		
20	170070	41.50	8	52	6	200	H52		9.00	61.30	66.80	79.00	83.00		
22	170071	43.90	8	56	6	200	H56		9.50	64.90	70.50	84.30	88.80		
24	170072	46.00	8	58	6	200	H58		9.70	67.60	73.20	87.30	93.30		
26	170073	48.40	8	62	6	200	H62		10.20	71.10	76.80	91.80	98.60		
28	170074	50.60	8	64	6	200	H64		10.50	73.70	79.50	95.00	102.60		
30	170075	52.80	8	68	6	200	H68		11.00	76.90	82.80	99.20	107.70		
32	170076	55.00	8	70	6	200	H70		11.30	79.70	85.60	102.40	111.50		



Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch and through-feed panels will be quoted upon request.

Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE DD PANELS

3 TO 2-WIRE, 125 VOLTS

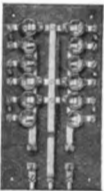
Mains—3-wire. Branches—Double, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

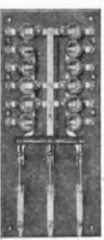
Panel only										SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AL		Type BM-BN	Type BT		
			W.	H.	D.				Type AK				Type AT	
MAIN LUGS														
2	170101	\$4.90	8	8	4	30	H 8	\$2.70	\$12.20	\$16.00	\$19.80	\$24.30		
4	170102	7.20	8	10	4	30	H10	2.90	14.90	18.70	22.70	27.30		
6	170103	9.20	8	14	4	30	H14	3.30	17.60	21.60	26.00	30.90		
8	170104	11.60	8	16	4	30	H16	3.50	20.20	24.30	29.10	34.10		
10	170105	14.00	8	20	4	30	H20	3.90	23.30	27.60	32.80	38.00		
12	170106	16.80	8	24	4	60	H24	4.30	26.60	31.20	36.90	42.30		
14	170107	18.90	8	26	4	60	H26	4.50	29.10	33.70	39.70	45.20		
16	170108	21.30	8	30	4	60	H30	4.90	32.20	37.00	43.50	49.20		
18	170109	23.50	8	32	4	60	H32	5.10	34.70	39.60	46.40	52.20		
20	170110	25.90	8	36	4	60	H36	5.40	37.80	42.80	50.00	55.90		
22	170111	29.70	8	40	4	100	H40	5.80	44.80	50.10	58.50	64.50		
24	170112	32.10	8	42	4	100	H42	5.90	47.80	53.00	61.50	64.50		
26	170113	34.50	8	46	4	100	H46	6.30	51.20	56.50	65.50	68.70		
28	170114	36.70	8	48	4	100	H48	6.50	53.90	59.30	68.50	71.90		
30	170115	39.00	8	52	4	100	H52	6.90	57.20	62.70	72.40	76.40		
32	170116	41.40	8	54	4	100	H54	7.10	60.20	65.70	75.50	79.90		



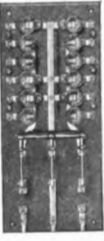
FUSIBLE MAINS												
2	170121	7.20	8	10	4	30	H10	2.90	14.90	18.70	22.70	27.30
4	170122	9.50	8	12	4	30	H12	3.10	17.50	21.50	25.70	30.40
6	170123	11.50	8	16	4	30	H16	3.50	20.10	24.20	29.00	34.00
8	170124	13.90	8	18	4	30	H18	3.70	22.80	27.10	32.00	37.10
10	170125	16.30	8	22	4	30	H22	4.10	25.80	30.20	35.70	41.00
12	170126	19.50	8	28	4	60	H28	4.70	30.00	34.80	41.00	46.60
14	170127	21.60	8	30	4	60	H30	4.90	32.50	37.30	43.80	49.50
16	170128	24.00	8	34	4	60	H34	5.20	35.50	40.50	47.40	53.30
18	170129	26.20	8	36	4	60	H36	5.40	38.10	43.10	50.30	56.20
20	170130	28.60	8	40	4	60	H40	5.80	43.70	49.00	57.40	60.20
22	170131	33.80	8	46	4	100	H46	6.30	50.50	55.80	64.80	68.00
24	170132	36.20	8	48	4	100	H48	6.50	53.40	58.80	68.00	71.40
26	170133	38.60	8	52	4	100	H52	6.90	56.80	62.30	72.00	76.00
28	170134	40.80	8	54	4	100	H54	7.10	59.60	65.10	74.90	79.30
30	170135	43.10	8	58	4	100	H58	7.50	62.90	68.50	78.60	84.00
32	170136	45.50	8	60	4	100	H60	7.70	65.70	71.40	81.70	87.60



FUSELESS MAIN SWITCH												
2	170141	11.40	8	16	4	30	H16	3.50	20.00	24.10	28.90	33.90
4	170142	13.70	8	18	4	30	H18	3.70	22.60	26.90	31.80	36.90
6	170143	15.70	8	22	4	30	H22	4.10	25.20	29.60	35.10	40.40
8	170144	18.10	8	24	4	30	H24	4.30	27.90	32.50	38.20	43.60
10	170145	20.50	8	28	4	30	H28	4.70	31.00	35.80	42.00	47.60
12	170146	24.60	8	32	4	60	H32	5.10	35.80	40.70	47.50	53.30
14	170147	26.70	8	36	4	60	H36	5.40	38.60	43.60	50.80	56.70
16	170148	29.10	8	38	4	60	H38	5.60	41.40	46.60	54.00	59.80
18	170149	31.30	8	42	4	60	H42	5.90	47.00	52.20	60.70	63.70
20	170150	33.70	8	44	4	60	H44	6.10	49.80	55.10	63.90	67.00
22	170151	41.70	8	50	4	100	H50	6.70	59.50	64.90	74.30	77.90
24	170152	44.10	8	52	4	100	H52	6.90	62.30	67.80	77.50	81.50
26	170153	46.50	8	56	4	100	H56	7.30	65.80	71.40	81.30	86.20
28	170154	48.70	8	58	4	100	H58	7.50	68.50	74.10	84.20	89.60
30	170155	51.00	8	62	4	100	H62	7.90	71.80	77.50	88.00	94.30
32	170156	53.40	8	64	4	100	H64	8.10	74.60	80.40	91.10	97.80



FUSIBLE MAIN SWITCH												
2	170161	13.50	8	16	4	30	H16	3.50	22.10	26.20	31.00	36.00
4	170162	15.80	8	18	4	30	H18	3.70	24.70	29.00	33.90	39.00
6	170163	17.80	8	22	4	30	H22	4.10	27.30	32.70	37.20	42.50
8	170164	20.20	8	24	4	30	H24	4.30	30.00	34.60	40.30	45.70
10	170165	22.60	8	28	4	30	H28	4.70	33.10	37.90	44.10	49.70
12	170166	26.70	8	32	4	60	H32	5.10	37.90	42.80	49.60	55.40
14	170167	28.80	8	36	4	60	H36	5.40	40.70	45.70	52.90	58.80
16	170168	31.20	8	38	4	60	H38	5.60	43.50	48.70	56.10	61.90
18	170169	33.40	8	42	4	60	H42	5.90	49.10	54.30	62.80	65.80
20	170170	35.80	8	44	4	60	H44	6.10	51.90	57.20	66.00	69.10
22	170171	46.50	8	52	4	100	H52	6.90	64.70	70.20	79.90	83.90
24	170172	48.90	8	56	4	100	H56	7.30	68.20	73.80	83.70	88.60
26	170173	51.30	8	58	4	100	H58	7.50	71.10	76.70	86.80	92.20
28	170174	53.50	8	62	4	100	H62	7.90	74.30	80.00	90.50	96.80
30	170175	55.80	8	64	4	100	H64	8.10	77.00	82.80	93.50	100.20
32	170176	58.20	8	68	4	100	H68	8.50	80.30	86.20	97.40	105.20



Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for through-feed panels will be quoted upon request.

Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages,

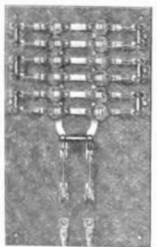
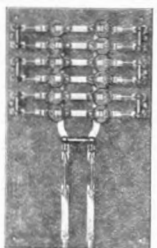
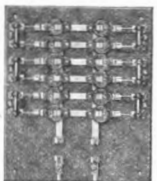
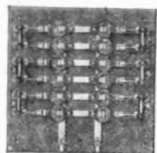
CROUSE-HINDS TYPE DK PANELS

2 TO 2-WIRE, 125 VOLTS

Mains—2-wire. Branches—Double, with 30-Ampere Knife Switches. Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

Panel only										SLATE FRAME	Panel with Cabinet*			
No. Cur	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AL	Type AL	Type BX-BB	Type BT		
			W.	H.	D.									
MAIN LUGS														
2	170201	\$5.50	12½	8	4	30	J 8	\$3.10	\$13.80	\$17.60	\$22.20	\$26.00		
4	170202	8.50	12½	10	4	30	J10	3.30	17.20	21.10	26.00	30.30		
6	170203	11.60	12½	14	4	60	J14	3.70	21.20	25.30	30.60	35.30		
8	170204	14.80	12½	18	4	60	J18	4.10	25.30	29.60	35.20	40.10		
10	170205	17.70	12½	20	4	60	J20	4.30	28.60	33.00	38.90	43.90		
12	170206	21.30	12½	24	4	100	J24	4.70	33.10	37.70	44.00	49.10		
14	170207	24.90	12½	28	4	100	J28	5.10	37.70	42.50	49.20	54.60		
16	170208	27.90	12½	30	4	100	J30	5.30	41.20	46.10	53.10	58.50		
18	170209	32.60	12½	34	4	200	J34	5.60	46.90	52.10	59.30	64.80		
20	170210	35.80	12½	36	4	200	J36	5.80	50.60	55.90	63.20	68.70		
22	170211	39.10	12½	40	4	200	J40	6.20	57.40	62.70	70.70	75.70		
24	170212	42.20	12½	42	4	200	J42	6.30	61.20	66.60	74.40	79.70		
26	170213	45.50	12½	46	4	200	J46	6.70	65.70	71.20	79.60	84.80		
28	170214	48.70	12½	48	4	200	J48	6.90	69.50	75.00	83.70	88.90		
30	170215	51.80	12½	52	4	200	J52	7.30	73.80	79.40	88.50	93.40		
32	170216	55.00	12½	54	4	200	J54	7.50	77.60	83.20	92.60	97.70		



FUSIBLE MAINS												
2	170221	7.00	12½	10	4	30	J10	3.30	15.70	19.10	24.50	29.00
4	170222	10.00	12½	12	4	30	J12	3.50	19.20	23.20	28.30	32.90
6	170223	13.40	12½	18	4	60	J18	4.10	23.90	28.20	33.80	38.70
8	170224	16.60	12½	22	4	60	J22	4.50	27.90	32.40	38.50	43.40
10	170225	19.50	12½	24	4	60	J24	4.70	31.30	35.90	42.20	47.30
12	170226	24.00	12½	30	4	100	J30	5.30	37.30	42.20	49.20	54.60
14	170227	27.60	12½	34	4	100	J34	5.60	41.90	47.10	54.30	59.90
16	170228	30.60	12½	36	4	100	J36	5.80	45.40	50.70	58.00	63.50
18	170229	36.90	12½	40	4	200	J40	6.20	55.20	60.50	68.30	73.50
20	170230	40.10	12½	44	4	200	J44	6.50	59.70	65.10	73.40	78.60
22	170231	43.40	12½	46	4	200	J46	6.70	63.60	69.10	77.50	82.70
24	170232	46.50	12½	50	4	200	J50	7.10	67.90	73.40	82.30	87.50
26	170233	49.80	12½	52	4	200	J52	7.30	71.80	77.40	86.50	91.40
28	170234	53.00	12½	56	4	200	J56	7.70	76.30	82.00	91.60	97.10
30	170235	56.10	12½	58	4	200	J58	7.90	80.00	85.80	95.60	101.60
32	170236	59.30	12½	62	4	200	J62	8.30	84.40	90.30	100.80	107.60

FUSELESS MAIN SWITCH												
2	170241	9.80	12½	16	4	30	J16	3.90	19.80	24.00	29.50	34.30
4	170242	12.80	12½	18	4	30	J18	4.10	23.30	27.60	33.20	38.10
6	170243	16.80	12½	24	4	60	J24	4.70	28.60	33.20	39.50	44.60
8	170244	20.00	12½	26	4	60	J26	4.90	32.30	37.00	43.50	48.80
10	170245	22.90	12½	30	4	60	J30	5.30	36.20	41.10	48.10	53.30
12	170246	29.30	12½	34	4	100	J34	5.60	43.00	48.80	56.00	61.30
14	170247	32.90	12½	38	4	100	J38	6.00	48.20	53.60	61.20	66.60
16	170248	35.90	12½	40	4	100	J40	6.20	54.20	59.50	67.50	72.50
18	170249	43.80	12½	48	6	200	J48	9.10	66.50	72.00	82.40	87.50
20	170250	47.00	12½	50	6	200	J50	9.40	70.30	75.80	86.50	91.60
22	170251	50.30	12½	54	6	200	J54	9.90	75.00	80.60	91.80	96.90
24	170252	53.40	12½	56	6	200	J56	10.20	78.80	84.50	95.90	101.40
26	170253	56.70	12½	60	6	200	J60	10.70	83.50	89.30	101.10	107.50
28	170254	59.90	12½	62	6	200	J62	11.00	87.30	93.20	105.60	112.40
30	170255	63.00	12½	66	6	200	J66	11.50	91.70	97.70	110.70	118.60
32	170256	66.20	12½	68	6	200	J68	11.70	95.60	101.70	114.80	123.30

FUSIBLE MAIN SWITCH												
2	170261	11.20	12½	16	4	30	J16	3.90	21.20	25.40	30.90	35.70
4	170262	14.20	12½	18	4	30	J18	4.10	24.70	29.00	34.60	39.50
6	170263	18.20	12½	24	4	60	J24	4.70	30.00	34.40	40.90	46.00
8	170264	21.40	12½	26	4	60	J26	4.90	33.70	38.40	44.90	50.20
10	170265	24.30	12½	30	4	60	J30	5.30	37.60	42.50	49.50	54.90
12	170266	32.50	12½	38	4	100	J38	6.00	47.80	53.20	60.80	66.20
14	170267	36.10	12½	40	4	100	J40	6.20	54.40	59.70	67.70	72.70
16	170268	39.10	12½	44	4	100	J44	6.50	58.70	64.10	73.40	78.40
18	170269	48.30	12½	50	6	200	J50	9.40	71.60	77.10	87.80	92.80
20	170270	51.50	12½	52	6	200	J52	9.70	75.50	81.10	92.00	96.90
22	170271	54.80	12½	56	6	200	J56	10.20	80.20	85.90	97.30	102.50
24	170272	57.90	12½	58	6	200	J58	10.40	84.00	89.80	101.40	107.40
26	170273	61.20	12½	62	6	200	J62	11.00	88.60	94.50	106.90	112.70
28	170274	64.40	12½	64	6	200	J64	11.20	92.50	98.40	111.10	118.50
30	170275	67.50	12½	68	6	200	J68	11.70	96.90	103.00	116.10	124.00
32	170276	70.70	12½	70	6	200	J70	12.00	100.80	106.90	120.30	128.60

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch and through-feed panels will be quoted upon request.

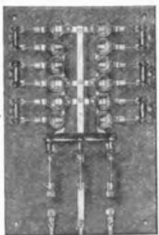
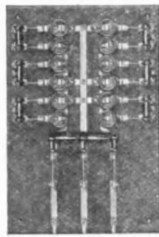
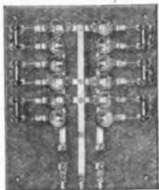
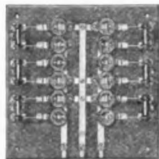
Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE DK PANELS
3 TO 2-WIRE, 125 VOLTS

Mains—3-wire. Branches—Double, with 30-Ampere Knife Switches, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.



Panel Only										SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AL		Type AL	Types BM-BN	Type BT	
MAIN LUGS														
2	170301	\$6.20	12½	8	4	30	J 8	\$3.10	\$14.50	\$18.30	\$22.90	\$27.30		
4	170302	9.30	12½	10	4	30	J10	3.30	18.00	21.90	26.80	31.30		
6	170303	12.20	12½	14	4	30	J14	3.70	21.80	25.90	31.20	35.90		
8	170304	15.70	12½	16	4	30	J16	3.90	25.70	29.90	35.40	40.20		
10	170305	19.00	12½	20	4	30	J20	4.30	29.90	34.30	40.20	45.20		
12	170306	22.70	12½	24	4	60	J24	4.70	34.50	39.10	45.40	50.50		
14	170307	25.90	12½	26	4	60	J26	4.90	38.20	42.90	49.40	54.70		
16	170308	29.30	12½	30	4	60	J30	5.30	42.60	47.50	54.50	59.90		
18	170309	32.50	12½	32	4	60	J32	5.40	46.30	51.40	58.40	63.90		
20	170310	35.90	12½	36	4	60	J36	5.80	50.70	56.00	63.30	68.80		
22	170311	40.60	12½	40	4	100	J40	6.20	58.90	64.20	72.20	75.20		
24	170312	44.00	12½	42	4	100	J42	6.30	63.00	68.40	76.30	79.50		
26	170313	47.30	12½	46	4	100	J46	6.70	67.50	73.00	81.40	85.20		
28	170314	50.50	12½	48	4	100	J48	6.90	71.30	76.80	85.50	89.40		
30	170315	53.70	12½	52	4	100	J52	7.30	75.70	81.30	90.40	95.30		
32	170316	57.10	12½	54	4	100	J54	7.50	79.70	85.30	94.70	99.80		

FUSIBLE MAINS														
2	170321	8.50	12½	10	4	30	J10	3.30	17.20	21.10	26.00	30.50		
4	170322	10.60	12½	12	4	30	J12	3.50	19.80	23.80	28.90	33.50		
6	170323	13.50	12½	16	4	30	J16	3.90	23.50	27.70	33.20	38.00		
8	170324	18.00	12½	18	4	30	J18	4.10	28.50	32.80	38.40	43.30		
10	170325	21.30	12½	22	4	30	J22	4.50	32.60	37.10	43.20	48.20		
12	170326	25.40	12½	28	4	60	J28	5.10	38.20	43.00	49.70	55.10		
14	170327	28.60	12½	30	4	60	J30	5.30	41.90	46.80	53.80	59.20		
16	170328	32.00	12½	34	4	60	J34	5.60	46.30	51.50	58.70	64.20		
18	170329	35.20	12½	36	4	60	J36	5.80	50.00	55.30	62.60	68.10		
20	170330	38.60	12½	40	4	60	J40	6.20	56.90	62.20	70.20	73.20		
22	170331	44.70	12½	46	4	100	J46	6.70	64.90	70.40	78.80	82.60		
24	170332	48.10	12½	48	4	100	J48	6.90	68.90	74.40	83.10	87.20		
26	170333	51.40	12½	52	4	100	J52	7.30	73.40	79.00	88.10	93.00		
28	170334	54.60	12½	54	4	100	J54	7.50	77.20	82.80	92.20	97.30		
30	170335	57.80	12½	58	4	100	J58	7.90	81.70	87.50	97.30	103.30		
32	170336	61.20	12½	60	4	100	J60	8.10	85.70	91.50	101.60	108.00		

FUSELESS MAIN SWITCH														
2	170341	12.70	12½	16	4	30	J16	3.90	22.70	26.90	32.40	37.20		
4	170342	15.80	12½	18	4	30	J18	4.10	26.30	30.60	36.20	40.10		
6	170343	18.70	12½	22	4	30	J22	4.50	30.00	34.50	40.60	45.60		
8	170344	22.20	12½	24	4	30	J24	4.70	34.00	38.60	44.90	50.00		
10	170345	25.50	12½	28	4	30	J28	5.10	38.30	43.10	49.80	55.20		
12	170346	30.50	12½	32	4	60	J32	5.40	44.30	49.40	56.40	61.90		
14	170347	33.70	12½	36	4	60	J36	5.80	48.50	53.80	61.10	66.60		
16	170348	37.10	12½	38	4	60	J38	6.00	52.40	57.80	65.40	70.80		
18	170349	40.30	12½	42	4	60	J42	6.30	59.30	64.70	72.50	75.80		
20	170350	43.70	12½	44	4	60	J44	6.50	63.30	68.70	77.00	80.40		
22	170351	52.60	12½	50	4	100	J50	7.10	74.00	79.50	88.40	92.90		
24	170352	56.00	12½	52	4	100	J52	7.30	78.00	83.60	92.70	97.60		
26	170353	59.30	12½	56	4	100	J56	7.70	82.60	88.30	97.90	103.40		
28	170354	62.50	12½	58	4	100	J58	7.90	86.40	92.20	102.00	108.00		
30	170355	65.70	12½	62	4	100	J62	8.30	90.80	96.70	107.20	114.00		
32	170356	69.10	12½	64	4	100	J64	8.50	94.80	100.70	111.50	118.90		

FUSIBLE MAIN SWITCH														
2	170361	14.80	12½	16	4	30	J16	3.90	24.80	29.00	34.50	39.30		
4	170362	17.90	12½	18	4	30	J18	4.10	28.40	32.70	38.30	43.20		
6	170363	20.80	12½	22	4	30	J22	4.50	32.10	36.60	42.70	47.70		
8	170364	24.30	12½	24	4	30	J24	4.70	36.10	40.70	47.00	52.10		
10	170365	27.60	12½	28	4	30	J28	5.10	40.40	45.20	51.90	57.30		
12	170366	32.60	12½	32	4	60	J32	5.40	46.40	51.50	58.50	64.00		
14	170367	35.80	12½	36	4	60	J36	5.80	50.60	55.90	63.20	68.70		
16	170368	39.20	12½	38	4	60	J38	6.00	54.50	59.90	67.50	72.90		
18	170369	42.40	12½	42	4	60	J42	6.30	61.40	66.80	74.60	77.90		
20	170370	45.80	12½	44	4	60	J44	6.50	65.40	70.80	79.10	82.50		
22	170371	57.40	12½	52	4	100	J52	7.30	79.40	85.00	94.10	99.00		
24	170372	60.80	12½	56	4	100	J56	7.70	84.10	89.80	99.40	104.90		
26	170373	64.10	12½	58	4	100	J58	7.90	88.00	93.80	103.60	109.60		
28	170374	67.30	12½	62	4	100	J62	8.30	92.40	98.30	108.80	115.60		
30	170375	70.50	12½	64	4	100	J64	8.50	96.20	102.10	112.90	120.30		
32	170376	73.90	12½	68	4	100	J68	8.90	100.80	106.90	118.20	126.70		

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for through-feed panels will be quoted upon request.

Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE DR PANELS

2 TO 2-WIRE, 125 VOLTS

Mains—2-wire. Branches—Double, with 10-Amp. Rotary Snap Switches, Arranged for Edison Plug Fuses

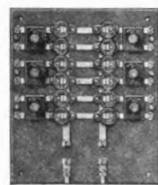
Panels furnished with main connections at top, if so ordered, without extra charge.

Panel Only							SLATE FRAME	Panel with Cabinet*				
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AL	Type AL	Type BX-BX	Type BT
			W.	H.	D.							
MAIN LUGS												
2	170401	\$7.10	12½	8	4	30	J 8	\$3.10	\$15.40	\$19.20	\$23.80	\$28.20
4	170402	11.70	12½	10	4	30	J10	3.30	20.40	24.30	29.20	33.70
6	170403	16.40	12½	14	4	60	J14	3.70	26.00	30.10	35.40	40.10
8	170404	21.20	12½	18	4	60	J18	4.10	31.70	36.00	41.60	46.50
10	170405	25.70	12½	20	4	60	J20	4.30	36.60	41.00	46.80	51.90
12	170406	30.90	12½	24	4	100	J24	4.70	42.70	47.30	53.60	58.70
14	170407	36.10	12½	28	4	100	J28	5.10	48.90	53.70	60.40	65.80
16	170408	40.70	12½	30	4	100	J30	5.30	54.00	58.90	65.90	71.30
18	170409	47.00	12½	34	4	200	J34	5.60	61.30	66.60	73.70	79.20
20	170410	51.80	12½	36	4	200	J36	5.80	66.60	71.90	79.20	84.70
22	170411	56.70	12½	40	4	200	J40	6.20	75.00	80.30	88.30	91.30
24	170412	61.40	12½	42	4	200	J42	6.30	80.40	85.80	93.60	96.90
26	170413	66.30	12½	46	4	200	J46	6.70	86.50	92.00	100.40	104.20
28	170414	71.10	12½	48	4	200	J48	6.90	91.90	97.40	106.10	110.20
30	170415	75.80	12½	52	4	200	J52	7.30	97.80	103.40	112.50	117.40
32	170416	80.60	12½	54	4	200	J54	7.50	103.20	108.80	118.20	123.30



FUSIBLE MAINS

2	170421	8.60	12½	10	4	30	J10	3.30	17.30	21.20	26.10	30.60
4	170422	13.20	12½	12	4	30	J12	3.50	22.40	26.40	31.50	36.10
6	170423	18.20	12½	18	4	60	J18	4.10	28.70	33.00	38.60	43.50
8	170424	23.00	12½	22	4	60	J22	4.50	34.30	38.80	44.90	49.90
10	170425	27.50	12½	24	4	60	J24	4.70	39.30	43.90	50.20	55.30
12	170426	33.60	12½	30	4	100	J30	5.30	46.90	51.80	58.80	64.20
14	170427	38.80	12½	34	4	100	J34	5.60	53.10	58.30	65.50	71.00
16	170428	43.40	12½	36	4	100	J36	5.80	58.20	63.50	70.80	76.30
18	170429	51.30	12½	40	4	200	J40	6.20	69.60	74.90	82.90	88.50
20	170430	56.10	12½	44	4	200	J44	6.50	75.70	81.10	89.40	95.80
22	170431	61.00	12½	46	4	200	J46	6.70	81.20	86.70	95.10	101.60
24	170432	65.70	12½	50	4	200	J50	7.10	87.10	92.60	101.50	108.00
26	170433	70.60	12½	52	4	200	J52	7.30	92.60	98.20	107.30	114.20
28	170434	75.40	12½	56	4	200	J56	7.70	98.70	104.40	114.00	119.50
30	170435	80.10	12½	58	4	200	J58	7.90	104.00	109.80	119.60	125.60
32	170436	84.90	12½	62	4	200	J62	8.30	110.00	115.90	126.40	133.20



FUSELESS MAIN SWITCH

2	170441	11.40	12½	16	4	30	J16	3.90	21.40	25.60	31.10	35.90
4	170442	16.00	12½	18	4	30	J18	4.10	26.50	30.80	36.40	41.30
6	170443	21.60	12½	24	4	60	J24	4.70	33.40	38.00	44.30	49.40
8	170444	26.40	12½	26	4	60	J26	4.90	38.70	43.40	49.90	55.20
10	170445	30.90	12½	30	4	60	J30	5.30	44.20	49.00	56.10	61.50
12	170446	38.90	12½	34	4	100	J34	5.60	53.20	58.40	65.60	71.10
14	170447	44.10	12½	38	4	100	J38	6.00	59.40	64.80	72.40	77.80
16	170448	48.70	12½	40	4	100	J40	6.20	67.00	72.30	80.30	85.20
18	170449	58.20	12½	48	6	200	J48	9.10	80.90	86.40	96.80	103.00
20	170450	63.00	12½	50	6	200	J50	9.40	86.30	91.80	102.50	107.00
22	170451	67.90	12½	54	6	200	J54	9.90	92.60	98.20	109.40	114.50
24	170452	72.60	12½	56	6	200	J56	10.20	98.00	103.70	115.10	120.60
26	170453	77.50	12½	60	6	200	J60	10.70	104.30	110.10	121.90	128.20
28	170454	82.30	12½	62	6	200	J62	11.00	109.70	115.60	128.00	134.80
30	170455	87.00	12½	66	6	200	J66	11.50	115.70	121.70	134.70	142.60
32	170456	91.80	12½	68	6	200	J68	11.70	121.20	127.30	140.40	148.90

FUSIBLE MAIN SWITCH

2	170461	12.80	12½	16	4	30	J16	3.90	22.80	27.00	32.50	37.20
4	170462	17.40	12½	18	4	30	J18	4.10	27.90	32.20	37.90	42.70
6	170463	23.00	12½	24	4	60	J24	4.70	34.80	39.40	45.70	50.80
8	170464	27.80	12½	26	4	60	J26	4.90	40.10	44.80	51.30	56.60
10	170465	32.30	12½	30	4	60	J30	5.30	45.60	50.50	57.50	62.90
12	170466	42.10	12½	38	4	100	J38	6.00	57.40	62.80	70.40	75.80
14	170467	47.30	12½	40	4	100	J40	6.20	65.60	70.90	78.90	84.30
16	170468	51.90	12½	44	4	100	J44	6.50	71.50	76.90	85.20	90.60
18	170469	62.70	12½	50	6	200	J50	9.40	86.00	91.50	102.20	107.70
20	170470	67.50	12½	52	6	200	J52	9.70	91.50	97.10	108.00	113.50
22	170471	72.40	12½	56	6	200	J56	10.20	97.80	103.50	114.90	120.40
24	170472	77.10	12½	58	6	200	J58	10.40	103.20	109.00	120.60	126.60
26	170473	82.00	12½	62	6	200	J62	11.00	109.40	115.30	127.70	134.50
28	170474	86.80	12½	64	6	200	J64	11.20	114.90	120.80	133.50	140.90
30	170475	91.50	12½	68	6	200	J68	11.70	120.90	127.00	140.10	148.60
32	170476	96.30	12½	70	6	200	J70	12.00	126.40	132.50	145.90	153.00

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch and through-feed panels will be quoted upon request.

Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

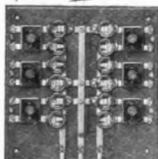
CROUSE-HINDS TYPE DR PANELS

3 TO 2-WIRE, 125 VOLTS

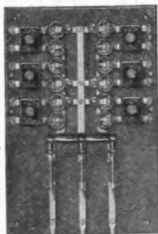
Mains—3-wire. Branches—Double, with 10-Amp. Rotary Snap Switches, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge

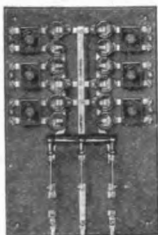
Panel Only							SLATE FRAME	Panel with Cabinet*				
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AK	Type AL	Type BM-BN	Type BT
			W.	H.	D.							
MAIN LUGS												
2	170501	\$ 7.80	12½	8	4	30	J 8	\$3.10	\$16.10	\$19.90	\$24.50	\$28.90
4	170502	12.50	12½	10	4	30	J10	3.30	21.20	25.10	30.00	34.50
6	170503	17.00	12½	14	4	30	J14	3.70	26.60	30.70	36.00	40.70
8	170504	22.10	12½	16	4	30	J16	3.90	32.10	36.30	41.80	46.60
10	170505	27.00	12½	20	4	30	J20	4.30	37.90	42.30	48.20	53.20
12	170506	32.30	12½	24	4	60	J24	4.70	44.10	48.70	55.00	60.10
14	170507	37.10	12½	26	4	60	J26	4.90	49.40	54.10	60.60	65.90
16	170508	42.10	12½	30	4	60	J30	5.30	55.40	60.30	67.30	72.70
18	170509	46.90	12½	32	4	60	J32	5.40	60.70	65.80	72.80	78.30
20	170510	51.90	12½	36	4	60	J36	5.80	66.70	72.00	79.30	84.80
22	170511	58.20	12½	40	4	100	J40	6.20	76.50	81.80	89.80	92.80
24	170512	63.20	12½	42	4	100	J42	6.30	82.20	87.60	95.40	98.70
26	170513	68.10	12½	46	4	100	J46	6.70	88.30	93.80	102.20	106.00
28	170514	72.90	12½	48	4	100	J48	6.90	93.70	99.20	107.90	112.00
30	170515	77.70	12½	52	4	100	J52	7.30	99.70	105.30	114.40	119.30
32	170516	82.70	12½	54	4	100	J54	7.50	105.30	110.90	120.30	125.40



FUSIBLE MAINS												
2	170521	10.10	12½	10	4	30	J10	3.30	18.80	22.70	27.60	32.10
4	170522	14.80	12½	12	4	30	J12	3.50	24.00	28.00	33.10	37.70
6	170523	19.30	12½	16	4	30	J16	3.90	29.30	33.50	39.00	43.80
8	170524	24.40	12½	18	4	30	J18	4.10	34.90	39.20	44.80	49.70
10	170525	29.30	12½	22	4	30	J22	4.50	40.60	45.10	51.20	56.20
12	170526	35.00	12½	28	4	60	J28	5.10	47.80	52.60	59.30	64.70
14	170527	39.80	12½	30	4	60	J30	5.30	53.10	58.00	65.00	70.40
16	170528	44.80	12½	34	4	60	J34	5.60	59.10	64.30	71.50	77.00
18	170529	49.60	12½	36	4	60	J36	5.80	64.40	69.70	77.00	82.50
20	170530	54.60	12½	40	4	60	J40	6.20	72.90	78.20	86.20	90.20
22	170531	62.30	12½	46	4	100	J46	6.70	82.50	88.00	96.40	100.20
24	170532	67.30	12½	48	4	100	J48	6.90	88.10	93.60	102.30	106.40
26	170533	72.20	12½	52	4	100	J52	7.30	94.20	99.80	108.90	113.80
28	170534	77.00	12½	54	4	100	J54	7.50	99.60	105.20	114.60	119.70
30	170535	81.80	12½	58	4	100	J58	7.90	105.70	111.50	121.30	127.80
32	170536	86.80	12½	60	4	100	J60	8.10	111.30	117.10	127.20	133.60



FUSELESS MAIN SWITCH												
2	170541	14.30	12½	16	4	30	J16	3.90	24.30	28.50	34.00	38.80
4	170542	19.00	12½	18	4	30	J18	4.10	29.50	33.80	39.40	44.30
6	170543	23.50	12½	22	4	30	J22	4.50	34.80	39.30	45.40	50.40
8	170544	28.60	12½	24	4	30	J24	4.70	40.40	45.00	51.30	56.40
10	170545	33.50	12½	28	4	30	J28	5.10	46.30	51.10	57.80	63.20
12	170546	40.10	12½	32	4	60	J32	5.40	53.90	59.00	66.00	71.50
14	170547	44.90	12½	36	4	60	J36	5.80	59.70	65.00	72.30	77.80
16	170548	49.90	12½	38	4	60	J38	6.00	65.20	70.60	78.20	83.60
18	170549	54.70	12½	42	4	60	J42	6.30	73.70	79.10	86.90	90.20
20	170550	59.70	12½	44	4	60	J44	6.50	79.30	84.70	93.00	96.40
22	170551	70.20	12½	50	4	100	J50	7.10	91.60	97.10	106.00	110.50
24	170552	75.20	12½	52	4	100	J52	7.30	97.20	102.80	111.90	116.80
26	170553	80.10	12½	56	4	100	J56	7.70	103.40	109.10	118.70	124.20
28	170554	84.90	12½	58	4	100	J58	7.90	108.80	114.60	124.40	130.40
30	170555	89.70	12½	62	4	100	J62	8.30	114.80	120.70	131.20	138.00
32	170556	94.70	12½	64	4	100	J64	8.50	120.40	126.30	137.10	144.50



FUSIBLE MAIN SWITCH												
2	170561	16.40	12½	16	4	30	J16	3.90	26.40	30.60	36.10	40.90
4	170562	21.10	12½	18	4	30	J18	4.10	31.60	35.90	41.50	46.40
6	170563	25.60	12½	22	4	30	J22	4.50	36.90	41.40	47.50	52.50
8	170564	30.70	12½	24	4	30	J24	4.70	42.50	47.10	53.40	58.50
10	170565	35.60	12½	28	4	30	J28	5.10	48.40	53.20	59.90	65.30
12	170566	42.20	12½	32	4	60	J32	5.40	56.00	61.10	68.10	73.60
14	170567	47.00	12½	36	4	60	J36	5.80	61.80	67.10	74.40	79.90
16	170568	52.00	12½	38	4	60	J38	6.00	67.30	72.70	80.30	85.70
18	170569	56.80	12½	42	4	60	J42	6.30	75.80	81.20	89.00	92.30
20	170570	61.80	12½	44	4	60	J44	6.50	81.40	86.80	95.10	98.50
22	170571	75.00	12½	52	4	100	J52	7.30	97.00	102.60	111.70	116.10
24	170572	80.00	12½	56	4	100	J56	7.70	103.30	109.00	118.60	124.10
26	170573	84.90	12½	58	4	100	J58	7.90	108.80	114.60	124.40	130.40
28	170574	89.70	12½	62	4	100	J62	8.30	114.80	120.70	131.20	138.00
30	170575	94.50	12½	64	4	100	J64	8.50	120.20	126.10	136.90	144.30
32	170576	99.50	12½	68	4	100	J68	8.90	126.40	132.50	143.80	152.30

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for through-feed panels will be quoted upon request.

Prices do not include fuses. Order by catalogue number.

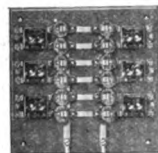
For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS TYPE DP PANELS

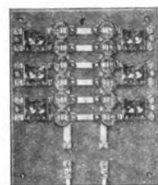
2 TQ 2-WIRE, 125 VOLTS

Mains—2-wire. Branches—Double, with 10-Amp. Push Button Switches, Arranged for Edison Plug Fuses

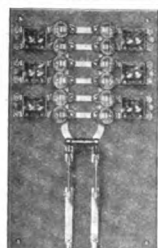
Panels furnished with main connections at top, if so ordered, without extra charge.



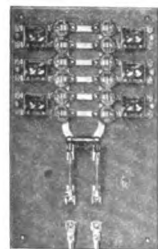
Panel Only										SLATE FRAME		Panel with Cabinet*				
No. Cir.	Cat. No.	List Price	SIZE IN IN.			Cap. Mains	Box Ref.	List	Type AK	Type AL	Type BM-BN	Type BT				
			W.	H.	D.											
MAIN LUGS																
2	170601	\$ 7.50	12½	8	4	30	J 8	\$3.10	\$15.80	\$19.60	\$24.20	\$28.60				
4	170602	12.50	12½	10	4	30	J10	3.30	21.20	25.10	30.00	34.50				
6	170603	17.60	12½	14	4	60	J14	3.70	27.20	31.30	36.60	41.30				
8	170604	22.80	12½	18	4	60	J18	4.10	33.30	37.60	43.20	48.10				
10	170605	27.70	12½	20	4	60	J20	4.30	38.60	43.00	48.90	53.90				
12	170606	33.30	12½	24	4	100	J24	4.70	45.10	49.70	55.00	61.00				
14	170607	38.90	12½	28	4	100	J28	5.10	51.70	56.50	63.20	68.60				
16	170608	43.90	12½	30	4	100	J30	5.30	57.20	62.10	69.10	74.50				
18	170609	50.60	12½	34	4	200	J34	5.60	64.90	70.20	77.30	83.20				
20	170610	55.80	12½	36	4	200	J36	5.80	70.60	75.90	83.20	88.70				
22	170611	61.10	12½	40	4	200	J40	6.20	79.40	84.70	92.70	98.70				
24	170612	66.20	12½	42	4	200	J42	6.30	85.20	90.60	98.40	104.70				
26	170613	71.50	12½	46	4	200	J46	6.70	91.70	97.20	106.00	109.40				
28	170614	76.70	12½	48	4	200	J48	6.90	97.50	103.00	111.70	115.80				
30	170615	81.80	12½	52	4	200	J52	7.30	103.80	109.40	118.50	123.40				
32	170616	87.00	12½	54	4	200	J54	7.50	109.60	115.20	124.60	129.70				



2	170621	9.00	12½	10	4	30	J10	3.30	17.70	21.60	26.50
4	170622	14.00	12½	12	4	30	J12	3.50	23.20	27.20	32.30
6	170623	19.40	12½	18	4	60	J18	4.10	29.90	34.20	39.80
8	170624	24.60	12½	22	4	60	J22	4.50	35.90	40.40	46.50
10	170625	29.50	12½	24	4	60	J24	4.70	41.30	45.90	52.50
12	170626	36.00	12½	30	4	100	J30	5.30	49.30	54.20	61.20
14	170627	41.60	12½	34	4	100	J34	5.60	55.90	61.10	68.30
16	170628	46.60	12½	36	4	100	J36	5.80	61.40	66.70	74.00
18	170629	54.90	12½	40	4	200	J40	6.20	73.20	78.50	86.50
20	170630	60.10	12½	44	4	200	J44	6.50	79.70	85.10	93.40
22	170631	65.40	12½	46	4	200	J46	6.70	85.60	91.10	99.50
24	170632	70.50	12½	50	4	200	J50	7.10	91.90	97.40	106.30
26	170633	75.80	12½	52	4	200	J52	7.30	97.80	103.40	112.50
28	170634	81.00	12½	56	4	200	J56	7.70	104.30	110.00	119.60
30	170635	86.10	12½	58	4	200	J58	7.90	110.00	115.80	125.60
32	170636	91.30	12½	62	4	200	J62	8.30	116.40	122.30	132.80



2	170641	11.80	12½	16	4	30	J16	3.90	21.80	26.00	31.50
4	170642	16.80	12½	18	4	30	J18	4.10	27.30	31.60	37.20
6	170643	22.80	12½	24	4	60	J24	4.70	34.60	39.20	45.50
8	170644	28.00	12½	26	4	60	J26	4.90	40.30	45.00	51.50
10	170645	32.90	12½	30	4	60	J30	5.30	46.20	51.10	58.10
12	170646	41.30	12½	34	4	100	J34	5.60	55.60	60.80	68.30
14	170647	46.90	12½	38	4	100	J38	6.00	62.20	67.60	75.20
16	170648	51.90	12½	40	4	100	J40	6.20	70.20	75.50	83.50
18	170649	61.80	12½	48	6	200	J48	9.10	84.50	90.00	100.40
20	170650	67.00	12½	50	6	200	J50	9.40	90.30	95.80	106.50
22	170651	72.30	12½	54	6	200	J54	9.90	97.00	102.60	113.40
24	170652	77.40	12½	56	6	200	J56	10.20	102.80	108.50	119.90
26	170653	82.70	12½	60	6	200	J60	10.70	109.50	115.30	127.10
28	170654	87.90	12½	62	6	200	J62	11.00	115.30	121.20	133.60
30	170655	93.00	12½	66	6	200	J66	11.50	121.70	127.70	140.70
32	170656	98.20	12½	68	6	200	J68	11.70	127.60	133.70	146.80



2	170661	13.29	12½	16	4	30	J16	3.90	23.20	27.40	32.90
4	170662	18.20	12½	18	4	30	J18	4.10	28.70	33.00	38.60
6	170663	24.20	12½	24	4	60	J24	4.70	36.00	40.60	46.90
8	170664	29.40	12½	26	4	60	J26	4.90	41.70	46.40	52.90
10	170665	34.30	12½	30	4	60	J30	5.30	47.60	52.50	59.50
12	170666	44.50	12½	38	4	100	J38	6.00	59.80	65.20	72.80
14	170667	50.10	12½	40	4	100	J40	6.20	68.40	73.70	81.70
16	170668	55.10	12½	44	4	100	J44	6.50	74.70	80.10	88.40
18	170669	66.30	12½	50	6	200	J50	9.40	89.60	95.10	105.80
20	170670	71.50	12½	52	6	200	J52	9.70	95.50	101.10	112.00
22	170671	76.80	12½	56	6	200	J56	10.20	102.20	107.90	119.30
24	170672	81.90	12½	58	6	200	J58	10.40	108.00	113.80	125.40
26	170673	87.20	12½	62	6	200	J62	11.00	114.60	120.50	132.90
28	170674	92.40	12½	64	6	200	J64	11.20	120.50	126.40	139.10
30	170675	97.50	12½	68	6	200	J68	11.70	126.90	133.00	146.10
32	170676	102.70	12½	70	6	200	J70	12.00	132.80	138.90	152.30

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for single-branch and through-feed panels will be quoted upon request.

Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

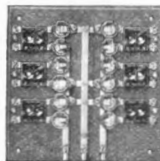
CROUSE-HINDS TYPE DP PANELS

3 TO 2-WIRE, 125 VOLTS

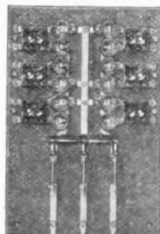
Mains—3-wire. Branches—Double, with 10-Amp. Push Button Switches, Arranged for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge.

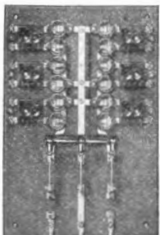
Panel only									SLATE FRAME	Panel with Cabinet*			
No. Cir.	Cat. No.	List Price	Size in In.			Cap Mains	Box Ref.	List	Type AK	Type AL	Type BM-BN	Type BT	
			W.	H.	D.								
MAIN LUGS													
2	170701	\$ 8.20	12½	8	4	30	J 8	\$3.10	\$16.50	\$20.30	\$24.90	\$29.30	
4	170702	13.30	12½	10	4	30	J10	3.30	22.00	25.90	30.80	35.30	
6	170703	18.20	12½	14	4	30	J14	3.70	27.80	31.90	37.20	41.90	
8	170704	23.70	12½	16	4	30	J16	3.90	33.70	37.90	43.40	48.20	
10	170705	29.00	12½	20	4	30	J20	4.30	39.90	44.30	50.20	55.20	
12	170706	34.70	12½	24	4	60	J24	4.70	46.50	51.10	57.40	62.50	
14	170707	39.90	12½	26	4	60	J26	4.90	52.20	56.90	63.40	68.70	
16	170708	45.30	12½	30	4	60	J30	5.30	58.60	63.50	70.50	75.90	
18	170709	50.50	12½	32	4	60	J32	5.40	64.30	69.40	76.40	81.90	
20	170710	55.90	12½	36	4	60	J36	5.80	70.70	76.00	83.30	88.80	
22	170711	62.60	12½	40	4	100	J40	6.20	80.90	86.20	94.20	97.20	
24	170712	68.00	12½	42	4	100	J42	6.30	87.00	92.40	100.20	*103.50	
26	170713	73.30	12½	46	4	100	J46	6.70	93.50	99.00	107.40	111.20	
28	170714	78.50	12½	48	4	100	J48	6.90	99.30	104.80	113.50	117.60	
30	170715	83.70	12½	52	4	100	J52	7.30	105.70	111.30	120.40	125.30	
32	170716	89.10	12½	54	4	100	J54	7.50	111.70	117.30	126.70	131.80	



FUSIBLE MAINS													
2	170721	10.50	12½	10	4	30	J10	3.30	19.20	23.10	28.00	32.50	
4	170722	15.60	12½	12	4	30	J12	3.50	24.80	28.80	33.90	38.50	
6	170723	20.50	12½	16	4	30	J16	3.90	30.50	34.70	40.20	45.00	
8	170724	26.00	12½	18	4	30	J18	4.10	36.50	40.80	46.40	51.30	
10	170725	31.30	12½	22	4	30	J22	4.50	42.60	47.10	53.20	58.20	
12	170726	37.40	12½	28	4	60	J28	5.10	50.20	55.00	61.70	67.10	
14	170727	42.60	12½	30	4	60	J30	5.30	55.90	60.80	67.80	73.20	
16	170728	48.00	12½	34	4	60	J34	5.60	62.30	67.50	74.70	80.20	
18	170729	53.20	12½	36	4	60	J36	5.80	68.00	73.30	80.60	86.10	
20	170730	58.60	12½	40	4	60	J40	6.20	76.90	82.20	90.20	93.20	
22	170731	66.70	12½	46	4	100	J46	6.70	86.90	92.40	100.80	104.60	
24	170732	72.10	12½	48	4	100	J48	6.90	92.90	98.40	107.10	111.20	
26	170733	77.40	12½	52	4	100	J52	7.30	99.40	105.00	114.10	119.00	
28	170734	82.60	12½	54	4	100	J54	7.50	105.20	110.80	120.20	125.30	
30	170735	87.80	12½	58	4	100	J58	7.90	111.70	117.50	127.30	133.30	
32	170736	93.20	12½	60	4	100	J60	8.10	117.70	123.50	133.60	140.00	



FUSELESS MAIN SWITCH													
2	170741	14.70	12½	16	4	30	J16	3.90	24.70	28.90	34.40	39.20	
4	170742	19.80	12½	18	4	30	J18	4.10	30.30	34.60	40.20	45.10	
6	170743	24.70	12½	22	4	30	J22	4.50	36.00	40.50	46.60	51.60	
8	170744	30.20	12½	24	4	30	J24	4.70	42.00	46.60	52.90	58.00	
10	170745	35.50	12½	28	4	30	J28	5.10	48.30	53.10	59.80	65.20	
12	170746	42.50	12½	32	4	60	J32	5.40	56.30	61.40	68.40	73.90	
14	170747	47.70	12½	36	4	60	J36	5.80	62.50	67.80	75.10	80.60	
16	170748	53.10	12½	38	4	60	J38	6.00	68.40	73.80	81.40	86.80	
18	170749	58.30	12½	42	4	60	J42	6.30	77.30	82.70	90.50	95.80	
20	170750	63.70	12½	44	4	60	J44	6.50	83.30	88.70	97.00	100.40	
22	170751	74.60	12½	50	4	100	J50	7.10	96.00	101.50	110.40	114.90	
24	170752	80.00	12½	52	4	100	J52	7.30	102.00	107.60	116.70	121.60	
26	170753	85.30	12½	56	4	100	J56	7.70	108.60	114.30	123.90	129.40	
28	170754	90.50	12½	58	4	100	J58	7.90	114.40	120.20	130.00	136.00	
30	170755	95.70	12½	62	4	100	J62	8.30	120.80	126.70	137.20	144.00	
32	170756	101.10	12½	64	4	100	J64	8.50	126.80	133.30	143.50	150.90	



FUSIBLE MAIN SWITCH													
2	170761	16.80	12½	16	4	30	J16	3.90	26.80	31.00	36.50	41.30	
4	170762	21.90	12½	18	4	30	J18	4.10	32.40	36.70	42.30	47.20	
6	170763	26.80	12½	22	4	30	J22	4.50	38.10	42.60	48.70	53.70	
8	170764	32.30	12½	24	4	30	J24	4.70	44.10	48.70	55.00	60.10	
10	170765	37.60	12½	28	4	30	J28	5.10	50.40	55.20	61.90	67.30	
12	170766	44.60	12½	32	4	60	J32	5.40	58.40	63.50	70.50	76.00	
14	170767	49.80	12½	36	4	60	J36	5.80	64.60	69.90	77.20	82.70	
16	170768	55.20	12½	38	4	60	J38	6.00	70.50	75.90	83.50	88.90	
18	170769	60.40	12½	42	4	60	J42	6.30	79.40	84.80	92.60	95.90	
20	170770	65.80	12½	44	4	60	J44	6.50	85.40	90.80	99.10	102.50	
22	170771	79.40	12½	52	4	100	J52	7.30	101.40	107.00	116.10	121.00	
24	170772	84.80	12½	56	4	100	J56	7.70	108.10	113.80	123.40	128.90	
26	170773	90.10	12½	58	4	100	J58	7.90	114.00	119.80	129.60	135.60	
28	170774	95.30	12½	62	4	100	J62	8.30	120.40	126.30	136.80	143.60	
30	170775	100.50	12½	64	4	100	J64	8.50	126.20	132.10	142.90	150.30	
32	170776	105.90	12½	68	4	100	J68	8.90	132.80	138.90	150.20	158.70	

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

Prices for through-feed panels will be quoted upon request.

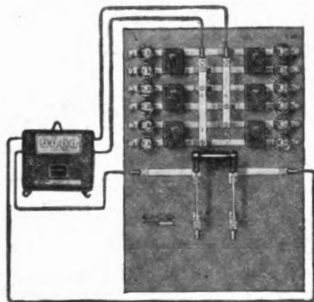
Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

CROUSE-HINDS METER LOOP PANELS

METER LOOPS FOR STANDARD PANEL BOARDS

Frequently it is desirable to have a panel board arranged with meter loop. We therefore give below a schedule of the extra list prices to be added to the list prices of standard panel boards when they are to be equipped with meter loops. The addition of meter loop does not change size of standard panel board.

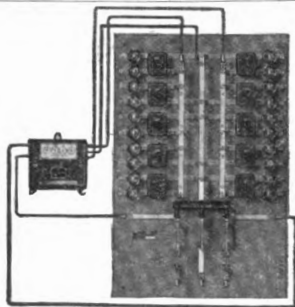


A 2 TO 2-wire Double-branch
Panel with Meter Loops

LIST PRICES OF METER LOOPS FOR ALL 2 TO 2-WIRE DOUBLE-BRANCH STANDARD PANEL BOARDS, 125 VOLTS

The Following List Prices are to be Added to the List Prices of Standard Panel Boards

No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price
2 to 4	\$2.00	6 to 10	\$2.20	12 to 16	\$2.60	18 to 32	\$3.00



A 3 TO 2-wire Double-branch
Panel with Meter Loops

LIST PRICES OF METER LOOPS FOR ALL 3 TO 2-WIRE DOUBLE-BRANCH STANDARD PANEL BOARDS, 125 VOLTS

The Following List Prices are to be Added to the List Prices of Standard Panel Boards

No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price
2 to 10	\$2.10	12 to 20	\$2.30	22 to 32	\$2.70

LIST PRICES OF METER LOOPS FOR ALL 3 TO 2-WIRE DOUBLE-BRANCH CONVERTIBLE PANEL BOARDS, 125 VOLTS

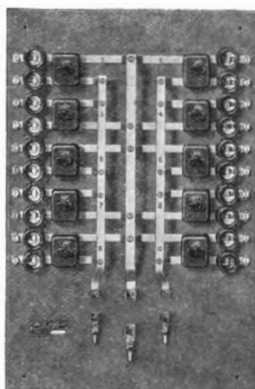
The Following List Prices are to be Added to the List Prices of Convertible Panel

No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price	No. of Circuits on Panel Board	Extra List Price
2 to 4	\$2.10	6 to 10	\$2.30	12 to 16	\$2.70	18 to 32	\$3.10

When ordering a panel board with meter loop give catalogue number of standard panel board and state that it is to have a meter loop. List prices for meter loops do not include the wire connections between panel board and meter.

CROUSE-HINDS CONVERTIBLE PANELS

THREE-WIRE, ALL TYPES



A 3 to 2-Wire Panel with Convertible Mains

If specifically ordered, three to two-wire panel boards of any type will be furnished with convertible mains having a capacity of 6 amperes per branch on the neutral pole and 3 amperes per branch on the positive and negative poles.

General specifications of various types of panel boards apply to convertible panel boards, except in capacity of mains.

PANEL BOARDS WITH CONVERTIBLE MAINS

**Schedule of Extra Heights and List Prices to be Added to 3 to 2-wire Standard Panel Boards
Widths Remain the Same**

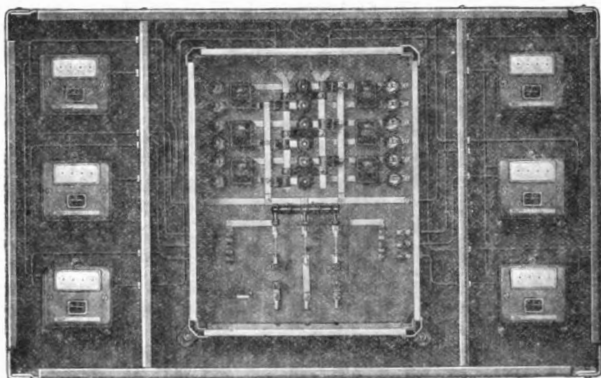
Description of Mains	No. of Circuits	CAPACITY OF MAINS AMPERES		Additional Height (width same as Standard)	Additional List Price of Panel	Additional List Price of Slate Frame
		Outsides	Neutral			
Lugs only	2 to 4	30	30	0	\$0.00	\$0.00
	6 to 10	30	60	0	.70	.00
	12 to 16	60	100	2	1.00	.20
	18 and 20	60	200	2	1.80	.20
	22 to 32	100	200	2	2.00	.20
Fused Mains	2 to 4	30	30	0	.00	.00
	6 to 10	30	60	2	1.00	.20
	12 to 16	60	100	4	2.00	.40
	18 and 20	60	200	4	3.00	.40
	22 to 32	100	200	2	2.80	.20
Fuseless Switch	2 to 4	30	30	0	.00	.00
	6 to 10	30	60	2	2.00	.20
	12 to 16	60	100	2	5.20	.20
	18 and 20	60	200	4*	10.80	3.20
	22 to 32	100	200	2*	6.80	2.90
Fusible Switch	2 to 4	30	30	0	.00	.00
	6 to 10	30	60	2	2.20	.20
	12 to 16	60	100	6	8.00	.50
	18 and 20	60	200	8*	15.50	3.60
	22 to 32	100	200	2*	8.80	2.90

*These panel boards will require slate frames and boxes 6 inches deep.

To obtain box reference, use the same reference letter as for standard panel board and the total height of panel board as reference numeral.

Use catalogue number of standard panel board when ordering and specify that it is to be convertible.

CROUSE-HINDS METERING PANELS



Six-circuit, 3 to 2-wire, Multimeter Panel with Type H Circuits,
Mounted in Cabinet Arranged for Six Meters
Meter Compartment Cabinet not Furnished unless Specified

MULTIMETER PANELS

The Crouse-Hinds Multimeter is the latest and most improved type of metering panel board yet designed. The general specifications as regards material, workmanship, finish, etc., conform to the general specifications of standard panel boards.

The terminals feeding to the meters are arranged on each side of the mains at the bottom of the panel board and are arranged for N. E. C. cartridge or Edison plug fuses, as specified. On each side of the panel board above the meter leads is placed a binding nut for potential wire connections.

The individual meter bars are arranged in two vertical laminated sets placed in the center of the panel board and are supported and separated by insulating pillars and spacers. The upper ends of the meter bars are equipped with terminals for receiving the return wires from the meters. One pole of each circuit on the panel board connects directly to a common bus bar which is divided after leaving the main connection and extends vertically at each side of the meter bars. The other pole of each circuit extends to a pillar placed in the center of the Panel Board between the two sets of meter bars. These pillars are built up with spacers in such a manner that connections with the meter bars can be made by connection clips. One end of each clip engages a meter bar and the other end is clamped between the spacers of a pillar. The connection pillar is surrounded by an insulating sleeve with openings for the connection clip on only one side of the pillar. This arrangement permits connection to be made to only one meter bar at a time. The insulating sleeve is arranged so that it can easily be turned to allow connections to any one meter bar of either set. The spacers of the pillar are arranged so that the separation between any two spacers is only large enough to allow the insertion of one connection clip, thus making it impossible to make connection to any connecting pillar from more than one meter bar. The connection clip is equipped with an insulating handle, and the entire construction of the panel board is such that it is unnecessary to use tools of any kind when making changes in connections between circuits and meter bars, thus eliminating the possibility of a short circuit by accident, as frequently happens when using a screwdriver or other tool about the live parts of a panel board. These panel boards are of uniform width regardless of the number of meter connections required.

Prices for metering panel boards and cabinets will be quoted upon request. Inquiry must give complete information as to requirements, stating number of circuits, number of meter bars, system, voltage, style of main connections, style of fuses, and whether with or without switches (knife or snap) in branches, also complete description of cabinet.

Cabinets: Multimeter Panel Boards can be installed in cabinets of standard design, illustrated elsewhere in this catalogue, when it is intended to mount meters outside of cabinet, or in cabinets with compartments for meters, as illustrated above.

CROUSE-HINDS CABINETS

CABINET SPECIFICATIONS

Crouse-Hinds Standard cabinets include types AK, AL, BM, BN and BT, all of which are illustrated on the following page.

Each cabinet is made up of two main parts, a steel box and a steel or wooden trim.

BOXES, TYPES A AND B

Construction.—Each box is formed from one piece of No. 10 U. S. standard gauge sheet steel, overlapped and riveted at corners.

Type A boxes, for types AK and AL cabinets, are made in sizes to allow a 2-inch space between the sides of the box and the panels for which they are intended. As this space makes it unnecessary to line the box, no lining is furnished.

Type B boxes, for types BM, BN and BT cabinets, are made to allow a 3-inch wiring compartment or gutter between the sides of the box and the slate frame surrounding the panel. These boxes are unlined, as no lining is necessary.

Finish.—Boxes are painted both inside and outside with a dead black lacquer. Boxes finished in baked black enamel will be furnished at an advance of 20 per cent in the list price, if specifically ordered.

Drilling.—Boxes will be drilled for conduit without extra charge, if complete drilling information accompanies order. Boxes will be drilled and porcelain bushings furnished for open work at an advance in the list price of 15 cents per hole. Blank drilling forms will be furnished upon request, without charge.

STEEL TRIMS, TYPES K, L, M AND N

Construction.—Steel trims are made from single pieces of No. 10 U. S. standard gauge sheet steel and are intended for mounting in vertical position.

Lock.—Doors are fitted with combination locks and spring catches, and where door is over 40 inches high, it is equipped with vault handle and shoot-bolts.

Finish.—Trims are painted both inside and outside with a dead black lacquer. A baked black enamel finish will be furnished at an advance of 20 per cent in the list price, if specifically ordered.

Type K door, for type AK (surface) cabinet, has a $\frac{3}{4}$ -inch flange around all four edges, overlapping the box. This form of construction makes the box dust-proof and provides a rigid door. The door is hinged directly to the box and, for this reason, should always be ordered with the box.

Type L trim, for type AL (flush) cabinet, has a $3\frac{1}{2}$ -inch mat on all four sides. This mat is cut from one piece of sheet steel, with door opening the same size as panel board. The door is in one piece and secured to the mat by flush butt hinges. An ornamental molding is welded around the edge of the door and overlaps the mat, thereby forming a rabbet.

Type M trim, for type BM (surface) cabinet, has a 4-inch mat on all four sides. This mat is cut from one piece of sheet steel, with the door opening the same size as panel board. The door is in one piece and secured to the mat by flush butt hinges. An ornamental molding is welded around the edge of the door and overlaps the mat, thereby forming a rabbet.

Type N trim, for type BN (flush) cabinet, has a $5\frac{1}{4}$ -inch mat on all four sides. This mat is cut from one piece of sheet steel with the door opening the same size as panel board. The door is in one piece and secured to the mat by flush butt hinges. An ornamental molding is welded around the edge of the door and overlaps the mat, thereby forming a rabbet.

TYPE T WOODEN TRIM, FOR TYPE BT (FLUSH) CABINETS

Construction.—Wooden trims are made of kiln-dried white oak, $\frac{3}{8}$ inch thick. The mat is $5\frac{5}{8}$ inches wide, made with square mortised joints, with door opening the same size as panel board. The door is made with square mortised joints at the corners and has wooden panel. The door sets flush with the mat and closes against a rabbet.

Lock.—Doors are fitted with combination locks with spring catches.

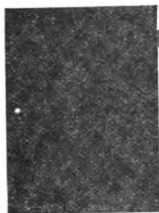
Finish.—Trims are painted on unfinished surfaces with dead black lacquer, and filled and varnished on the outside. A polished finish will be furnished at an advance of 15 per cent in the list price, if specifically ordered. Door knobs and escutcheons are finished in polished brass.

Lining.—Standard wooden trims, both mat and door, are lined with No. 16 gauge sheet steel, the door lining being finished in black enamel, the mat lining in dead black lacquer.

Glass Panel.—The use of a glass panel in door is not recommended, but, if specifically ordered, this trim will be furnished with a double-thick glass panel in door at an advance of 10 per cent; with plain plate glass, at an advance of 15 per cent or with beveled plate glass, at an advance of 20 per cent.

CROUSE-HINDS CABINETS

STEEL BOXES AND STEEL OR WOODEN TRIMS



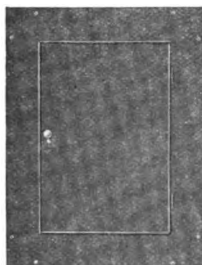
Type AK Cabinet
Combination of Type A Steel
Box and Type K Steel Door
For Surface Mounting



Type AL Cabinet
Combination of Type A Steel
Box and Type L Steel Trim
For Flush Mounting



Type BT Cabinet
Combination of Type B Steel
Box and Type T Wooden Trim
For Flush Mounting



Type BM Cabinet
Combination of Type B Steel
Box and Type M Steel Trim
For Surface Mounting



Type BN Cabinet
Combination of Type B Steel
Box and Type N Steel Trim
For Flush Mounting

Specify that cabinet is to be 6 inches in depth, if for use with a panel listed as 6 inches deep.

If slate frame is required, order should so state and give number of panel with which it is to be used.

In listings of panels, prices under heading "Panel with Cabinet" include panel complete with box and trim and slate frame, if one is required. Therefore, the price of a cabinet complete with slate frame is derived by deducting the price of the panel from the price of the panel with cabinet.

Example: Panel No. 50001 (list price \$4.10), deducted from panel with (type BM) cabinet (list price, \$20.10), leaves the list price of type BM cabinet, which is \$16.00 including slate frame.

The price of a cabinet without slate frame, where one is ordinarily supplied, is derived by deducting the price of the panel and price of slate frame from the price of the panel with cabinet.

Example: Panel No. 50001 (list price, \$4.10) plus slate frame (list price, \$3.00), deducted from panel with (type BM) cabinet (list price, \$20.10), leaves list price of type BM cabinet without slate frame, which is \$13.00.

The box reference (Box Ref.) appearing opposite every panel board listed is a key for ordering the proper cabinet, box or trim for use with that particular panel board.

Examples: To order a complete type BM cabinet for panel No. 50001, add to the panel's box reference, C8, the cabinet's type letters, BM, making C8BM.

To order a B box only, for panel No. 50001, add to the panel's box reference, C8, the box's type letter, B, making C8B.

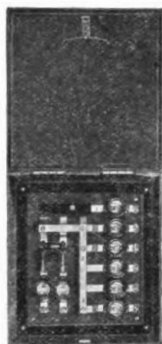
To order an M trim only, for panel No. 50001, add to the panel's box reference, C8, the trim's type letter M, making C8M.

Prices for back gutter cabinets will be furnished upon request.

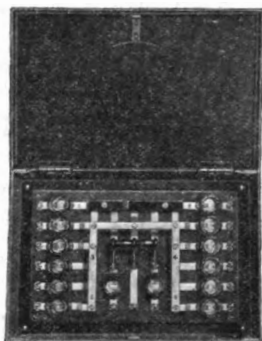
Prices for boxes and trims separately will be furnished upon request.

CROUSE-HINDS RESIDENCE PANELS

For One and Two-family Houses



2-wire, Single Service
Panel in Cabinet



3-wire, Single or
Double Service Panel in Cabinet

2-WIRE, SINGLE SERVICE PANELS										3-WIRE, SINGLE OR DOUBLE SERVICE PANELS									
Panel Only						Panel with Cabinet				Panel Only						Panel with Cabinet			
No. Cir.	Cat. No.	List Price	SIZE IN INCHES		Box* Ref.	LIST PRICE				No. Cir.	Cat. No.	List Price	SIZE IN INCHES		Box* Ref.	LIST PRICE			
			W.	H.		Surface	Flush						W.	H.		Surface	Flush		
3	165975	\$5.20	9	10	A10	\$8.60	\$11.80			6	165978	\$9.20	15½	10	E10	\$13.20	\$17.20		
4	165976	6.10	9	14	A14	9.90	13.40			8	165979	10.90	15½	14	E14	15.30	19.50		
5	165977	7.00	9	16	A16	11.20	15.00			10	165980	12.60	15½	16	E16	17.40	21.80		

*Box reference is the key to the proper combination of panel and cabinet.

The Crouse-Hinds Residence Panel Board equipment combines the main service switch, meter loop and circuit fuses in a single steel cabinet. The meter loop is provided with a sealing arrangement which prevents theft of current and makes it unnecessary to remove the meter with each change of occupancy.

The satisfactory results, in safety, efficiency and durability, obtained by the use of this type of installation, at only a slight, if any, additional cost, should receive favorable consideration.

Residence panel boards have a capacity of 30 amperes at 125 volts, and conform to the general panel board specifications given on another page.

Cabinets are provided with knock-outs, opposite wire terminals on panels, which can be used for either bushings or conduit. Doors are hinged at top, so as to close by gravity, and are held shut by a snap catch.

Boxes are formed from one piece of No. 14 U. S. gauge steel, overlapped and riveted at the corners. They are made to allow a 1-inch space between the sides of panel and box, and are provided with all necessary knock-outs, which can be used for conduit or bushings.

Trims are made from one piece of No. 14 U. S. gauge steel. Doors for surface boxes are flanged on all four edges to overlap the box, and have the hinges welded to both door and box. Trims for flush boxes have mats 2½ inches wide and door openings of the same size as panel. Doors for flush cabinets have a strip welded around the edges to overlap the mat, and hinges that are welded to both door and mat. Mats are fastened to boxes by screws that thread into flanges on the boxes.

Cabinets are regularly furnished as illustrated above, with knock-outs opposite terminals on panels. If it is desired to mount panel in any other position and the necessary information is given on the order, the cabinet will be furnished with the hinging of door and the knock-outs arranged accordingly, all without extra charge.

WEATHERPROOF COPPER WIRES

No. 4 Solid Weatherproof

No. 2 Stranded Weatherproof

These wires have three closely woven braids of cotton, all thoroughly saturated with a black weatherproof compound, which shows no signs of softening under ordinary temperature. The outer braid is smoothly polished. Stranded wires, including larger sizes of feeder cable, are braided with standard cotton yarn. The style of stranding shown in table below is a regular product of the factory but the conductor can be specially stranded of a greater or less number of wires if desired. Concentric strands are used entirely as that gives the smallest diameter conductor for the carrying capacity.

Triple Braid—Solid Conductor

List No.	Size B. & S. Gauge	APPROXIMATE WGT. LBS.		Approx. Diameter over Insulation Inches	PUT UP FOR SHIPMENT				Coils Approx. Weight Lbs.
		Per 1000 Ft.	Per Mile		Reels		Cases containing Approx. 200 Lbs.		
					Approx. Length Ft.	Approx. Weight Lbs.	Coils	Weight	
660000	0000	767	4050	2 1/8	2640	2025			
660001	000	630	3320	2 1/4	2640	1660			
660002	00	502	2650	2 1/4	2640	1325			
660003	0	407	2150	2 1/4	2640	1075			
660004	1	316	1670	1 1/2	800	250			125
660005	2	260	1370	1 1/2	1000	260			130
660006	3	200	1050	1 1/2	1250	250			125
660007	4	164	865	1 1/2	1600	260			130
660008	5	134	710	1 1/2	2000	270			135
660009	6	112	590	1 1/2	2500	280			140
660010	8	75	395	1 1/2	2700	200			100
660011	10	53	280	1 1/4	3300	170	8	25	85
660012	12	35	185	1 1/4			8	25	
660013	14	25	130	1 1/4			8	25	
660014	16	14	75	1 1/4			12	17	
660015	18	11	58	1 1/8			12	17	

Triple Braid—Stranded Conductor

List No.	Capacity Circular Mils	APPROXIMATE WEIGHT IN POUNDS		Approx. Diameter over Insulation Inches	CONCENTRIC STRANDS		PUT UP FOR SHIPMENT			
		Per 1000 Ft.	Per Mile		Number of Wires	Diameter each in Inches	Reels		Approx. Length Feet	Approx. Weight Pounds
							Diameter Reels Inches	Approx. Length Feet		
660016	2000000	7000	37000	2 1/8	91	.148	48	400	2800	
660017	1750000	6200	32750	2	91	.139	48	400	2500	
660018	1500000	5400	28500	1 7/8	91	.128	48	500	2700	
660019	1250000	4500	23800	1 3/4	91	.117	48	600	2700	
660020	1000000	3675	19400	1 3/4	61	.128	45	660	2425	
660021	900000	3330	17600	1 3/4	61	.121	45	720	2400	
660022	800000	3000	15800	1 3/4	61	.114	45	800	2385	
660023	700000	2650	14000	1 3/4	61	.107	45	900	2235	
660024	600000	2235	11800	1 3/4	61	.099	45	1000	2560	
660025	500000	1900	10000	1 3/4	37	.116	48	1320	2280	
660026	450000	1725	9100	1 3/4	37	.110	45	1320	2020	
660027	400000	1550	8200	1 3/4	37	.104	45	1320	2010	
660028	350000	1345	7100	1	27	.114	42	1500	1780	
660029	300000	1175	6200	1 1/4	27	.105	42	1500	1970	
660030	250000	985	5200	1 1/4	19	.115	42	2000	2110	
660031	0000	800	4220	1 1/4	19	.105	45	2640	1725	
660032	000	653	3450	1 1/4	12	.118	42	2640	1380	
660033	00	522	2760	1 1/4	12	.105	36	2640	1120	
660034	0	424	2240	1 1/4	7	.123	36	2640	260	
660035	1	328	1735	1 1/4	7	.109	28	800	270	
660036	2	270	1425	1 1/4	7	.098	28	1000	250	
660037	3	206	1090	1 1/4	7	.086	28	1200	255	
660038	4	170	900	1 1/4	7	.077	28	1500	280	
660039	5	140	740	1 1/4	7	.068	28	2000	285	
660040	6	115	610	1 1/4	7	.061	28	2500	165	
660041	8	78	410	1 1/4	7	.048	28	2500		

Prices on application.

Wire—Bare, Insulated and Strand

WEATHERPROOF COPPER AND IRON WIRE



Triple Braided

Weatherproof Hard-Drawn Copper Wire

Triple Braided

These wires are insulated especially for the telephone and telegraph trade and railway signal work, combining the highest conductivity with the greatest tensile strength. Unless specially ordered otherwise, these wires are put up in coils as shown, thoroughly burlapped.

Sizes marked (x) are made up on special order only.

List No.	Size B. & S. Gauge	Capacity Circular Mils.	Triple Braided Approximate Pounds per Mile	Length of Coils
360042	x 8	16,510	395	1/2 mile
360043	x 9	13,094	325	1/2 mile
360044	10	10,382	280	1/2 mile
360045	12	6,530	185	1/2 mile
360046	14	4,107	130	1/2 mile

Double Braid will be furnished on request.



Double and Triple Braided

Weatherproof Iron Wire

Double and Triple Braided

These wires are extensively used in telephone and telegraph work, and have the same insulation as regular weatherproof line wires. They are finished with the same smooth polish as all other wires, and are put up for shipment in coils only, thoroughly wrapped in burlap.

Nos. 8, 9 and 10 Double Braided are made up on special order only.

List No.	Size Iron Wire Gauge	Double Braided Approximate Pounds per Mile	Triple Braided Approximate Pounds per Mile	Length of Coils
0047	8	470	520	1/4 mile
0048	9	400	450	1/4 mile
0049	10	350	400	1/4 mile
0050	12	230	260	1/2 mile
0051	14	150	175	1/2 mile

Prices on application.

SLOW-BURNING WIRE

Solid Conductor, Triple Braided

Solid Conductor, Triple Braided

It has three close braids of cotton, all saturated with a white fireproof compound. It is finished with a smooth, hard finish.

List No.	Size B. & S. Gauge	Approximate Weight in Pounds		Approximate Diameter over Insulation Inches	PUT UP FOR SHIPMENT						
		Per 1000 Ft.	Per Mile		Diam. Reels, Inches	REELS		CASES		COILS	
						Approx. Length, Feet	Approx. Weight, Pounds	Containing Approx. 200 lbs.			Approx. Weight, Pounds
								Coils	Weight		
660052	0000	925	4890	3/4	42	2640	2450				
660053	000	760	4020	45/64	42	2640	2000				
660054	00	600	3170	23/32	36	2640	1600				
660055	0	495	2610	11/16	36	2640	1300				
660056	0000	925	4890	3/4	28	325	300				
660057	000	760	4020	45/64	28	400	300				
660058	00	600	3170	23/32	28	500	300				
660059	0	495	2610	11/16	28	625	310				
660060	1	365	1930	23/32	28	800	290				150
660061	2	320	1690	15/16	28	1000	320				160
660062	3	270	1425	13/16	28	1250	340				170
660063	4	220	1160	5/8	28	1600	350				175
660064	5	190	1000	11/8	28	2000	380				190
660065	6	160	845	5/8	28	2500	400				200
660066	8	100	530	15/16				8	25		
660067	10	80	420	13/16				8	25		
660068	12	55	290	7/8				8	25		
660069	14	40	210	15/8				8	25		
660070	16	18	95	13/8				12	17		
660071	18	14	75	15/8				12	17		

Stranded Conductor, Triple Braided

Stranded Conductor, Triple Braided

All three braids of cotton thoroughly saturated with white fireproof compound. The compound used on the outer braid becomes very hard but still the wire retains its flexibility. As this insulation does not deteriorate in a continued high temperature, it is especially suitable for engine and boiler rooms, furnaces and foundries.

List No.	Capacity B. & S. Gauge	Approximate Weight in Pounds		Approx. Diam. over Insulation Inches	Concentric Strands		PUT UP FOR SHIPMENT			
					Number of Wires	Diameter Each	REELS			Approx. Weight, Pounds
		Per 1000 Ft.	Per Mile				Diameter Reels, Inches	Approx. Length, Feet		
660072	0000	960	5070	$\frac{5}{32}$	19	.105	45	2640		2535
660073	000	785	4150	$\frac{4}{32}$	12	.118	42	2640		2075
660074	00	625	3300	$\frac{4}{32}$	12	.105	36	2640		1650
660075	0	510	2700	$\frac{3}{32}$	7	.123	36	2640		1350
660076	0000	960	5070	$\frac{5}{32}$	19	.105	28	375		360
660077	000	785	4150	$\frac{4}{32}$	12	.118	28	450		350
660078	00	625	3300	$\frac{4}{32}$	12	.105	28	525		375
660079	0	510	2700	$\frac{3}{32}$	7	.123	28	650		330
660080	1	380	2000	$\frac{3}{32}$	7	.109	28	800		300
660081	2	335	1770	$\frac{3}{32}$	7	.098	28	1000		335
660082	3	280	1480	$\frac{3}{32}$	7	.086	28	1200		340
660083	4	230	1220	$\frac{3}{32}$	7	.077	28	1500		390
660084	5	195	1030	$\frac{3}{32}$	7	.068	28	2000		410
660085	6	165	870	$\frac{3}{32}$	7	.061	28	2500		460
660086	8	105	555	$\frac{3}{32}$	7	.048	28	2500		260

The styles of strands shown are those regularly used, but strands composed of a greater or lesser number of wires can be furnished if desired.

Prices on application.

Wire—Bare, Insulated and Strand

RUBBER-COVERED WIRES

No. 10 Solid Single Braid Wire

Solid Copper Conductors

These rubber-covered wires are made according to the specifications of the National Board of Fire Underwriters, and each coil is tested and stamped by the Wire Inspection Bureau before leaving the factory. The conductors are thoroughly tinned and are covered with two thicknesses of high-grade rubber compound, which is thoroughly vulcanized. The wires are braided with a standard cotton yarn, the braids being thoroughly saturated with a pure wax compound having a high melting point, and are smoothly and evenly finished. The smooth, hard finish given these wires enables them to be handled readily and makes them especially desirable for conduit work. The single braided wires can also be finished with a white-fireproof compound over the braid.

SINGLE BRAID

List No.	Size B. & S. Gauge	Diam. of Copper Mils	Capacity Circular Mils	Rubber Wall Locks	Diam. Over All Inches	Weight Lbs. per 1000 Ft.
660097	8	1285	16509	3/64	19/64	85
660098	10	1019	10381	3/64	17/64	60
660099	12	0808	6530	3/64	16/64	44
660100	14	0640	4107	3/64	14/64	34
660101	16	0508	2583	1/32	3/16	20
660102	18	0403	1624	1/32	11/64	16
660103	19	0354	1252	1/32	5/32	15
660104	20	0319	1021	1/32	9/64	14

DOUBLE BRAID

List No.	Size B. & S. Gauge	Diam. of Copper Mils	Capacity Circular Mils	Rubber Wall Inches	Diam. Over All Inches	Weight, Lbs. per 1000 Ft.
660105	0000	4600	211600	5/64	52/64	832
660106	000	4096	167805	5/64	48/64	690
660107	00	3648	133079	5/64	47/64	568
660108	0	3249	105512	5/64	45/64	476
660109	1	2893	83694	5/64	39/64	376
660110	2	2576	66373	1/16	35/64	297
660111	3	2294	52634	1/16	17/32	245
660112	4	2043	41742	1/16	1/2	204
660113	5	1819	33102	1/16	15/32	174
660114	6	1620	26250	1/16	28/64	147
660115	8	1285	16509	3/64	3/8	95
660116	10	1019	10381	3/64	21/64	68
660117	12	0808	6530	3/64	20/64	50
660118	14	0640	4107	3/64	9/32	40

Prices on application.

RUBBER-COVERED WIRES

No. 14 Solid Duplex Wire

Duplex Copper Conductors

Duplex Rubber Covered Wire consists of two National Electrical Code, single braided wires laid parallel, with a braid over all. Wire of this construction is approved by the National Board of Fire Underwriters for use in unlined conduits while single conductor wires are required double braided when placed in unlined conduits.

DUPLEX, SOLID

List No.	Size B. & S. Gauge	Size in C. M.	Rubber Wall Inches	Diam. Over All Inches	Weight, Lbs. per 1000 Ft.
660119	8	16509	3/64	43/64	170
660120	10	10381	3/64	36/64	130
660121	12	6530	3/64	33/64	97
660122	14	4107	3/64	32/64	76

DUPLEX, STRANDED

List No.	Size B. & S. Gauge	Size in C. M.	Rubber Wall Inches	CONCENTRIC STRANDS		Diam. Over All Inches	Weight, Lbs. per 1000 Ft.
				No. Wires	Diam. Each		
660123	1	83694	5/64	19	.067	1 15/64	820
660124	2	66373	1/16	19	.059	1 7/64	651
660125	3	52634	1/16	19	.052	1 2/64	540
660126	4	41742	1/16	7	.077	62/64	451
660127	5	33102	1/16	7	.069	57/64	375
660128	6	26250	1/16	7	.062	53/64	321
660129	8	16509	3/64	7	.048	48/64	205
660130	10	10381	3/64	7	.038	43/64	151
660131	12	6530	3/64	7	.032	20/32	111
660132	14	4107	3/64	7	.025	34/64	86

Fixture Wire

No. 18 Solid Conductor Fixture Wire

A single conductor wire, designed for wiring fixtures, show cases, etc., and furnished in solid or stranded conductor as wanted.

Solid conductor wires are tinned. This is not required, however, for stranded conductor, which takes a cotton wind in its place.

Conductors are insulated with new code compound and then covered with a saturated cotton braid or silk. Dry cotton can also be furnished, but is not generally required.

SOLID FIXTURE WIRE—N. E. C. STANDARD—TYPE F-32

The standard approved sizes are Nos. 16 and 18 B.&S. Can be used for wiring fixtures, without restriction, except where special forms of wire are required on account of temperature conditions.

List No.	Size B. & S. Gauge	Rubber Wall Inches	Diameter Over All Inches	Weight, Lbs. per 1000 Feet
660133	12	3/64	14/64	40
660134	14	3/64	12/64	34
660135	16	1/32	10/64	20
660136	18	1/32	9/64	16

SOLID FIXTURE WIRE—LIGHT INSULATION—TYPE F-64

Used for wiring fixtures, except for the wiring of chains and where special forms of wire are required, because of temperature conditions. Size No. 18 B.&S. is the only size permitted by the Underwriters.

Silk-covered light fixture wire is recommended for use with especially small fixture stems, where the regular is too large.

Stranded fixture wire is recommended for use in movable stems.

660137	14	1/32	10/64	27
660138	16	1/64	9/64	16
660139	18	1/64	8/64	13
660140	20	1/64	7/64	11

Prices on application

Wire—Bare, Insulated and Strand

RUBBER-COVERED WIRES



No. 00 Stranded Double Braid Wire

Stranded Copper Conductors

Rubber-covered Stranded Conductors are made according to the specifications of the National Board of Fire Underwriters and each length is tested and stamped by the Wire Inspection Bureau before leaving the factory. The wires composing the conductors are thoroughly tinned and then laid up concentrically, giving the smallest diameter of any certain capacity. These conductors are pliable and are braided with cotton and saturated with a smooth and lasting compound, insuring their being readily handled in conduit work. The single braided conductors can also be finished with a white fireproof compound over the braid.

SINGLE BRAID

List No.	Size B. & S. Gauge	No. of Wires	Diameter of each	Rubber Wall Inches	Diam. Over All Inches	Weight, Lbs. per 1000 Ft.
660151	8	7	048	3/64	21/64	93
660152	10	7	038	3/64	19/64	64
660153	12	7	032	3/64	17/64	48
660154	14	7	025	3/64	15/64	36
660155	16	7	018	1/32	14/64	29
660156	18	3	023	1/32	13/64	23
660157	20	3	018	1/32	12/64	21

DOUBLE BRAID

List No.	Size B. & S. Gauge	No. of Wires	Diameter of Each	Rubber Wall Inches	Diam. Over All Inches	Weight, Lbs. per 1000 Ft.
660158	0000	19	105	5/64	30/32	942
660159	000	19	094	5/64	56/64	782
660160	00	19	084	5/64	52/64	647
660161	0	19	074	5/64	47/64	526
660162	1	19	067	5/64	43/64	417
660163	2	19	059	1/16	39/64	329
660164	3	19	052	1/16	36/64	272
660165	4	7	077	1/16	34/64	227
660166	5	7	069	1/16	32/64	192
660167	6	7	062	1/16	29/64	164
660168	8	7	048	3/64	26/64	105
660169	10	7	038	3/64	24/64	72
660170	12	7	032	3/64	21/64	55
660171	14	7	025	3/64	19/64	41

Prices on application

RUBBER-COVERED WIRES


250000 C. M. Stranded Double Braid Cable

These stranded conductors are made according to the specifications of the National Board of Fire Underwriters and each length is tested and stamped before leaving the factory.

Circular Mils Cables
SINGLE BRAID

List No.	Size Cir. Mils	CONCENTRIC STRANDS		Rubber Wall Inches	Diam. Over All Inches	Weight, Lbs. per 1000 Ft.
		No. of Wires	Diam. of Each			
660172	2000000	91	1485	1/8	1 60/64	7246
660173	1750000	92	138	1/8	1 56/64	6394
660174	1500000	91	1285	1/8	1 51/64	5539
660175	1250000	91	1175	1/8	1 43/64	4678
660176	1000000	61	128	7/64	1 1/2	3754
660177	950000	61	125	7/64	1 31/64	3581
660178	900000	61	122	7/64	1 28/64	3404
660179	850000	61	118	7/64	1 26/64	3233
660180	800000	61	115	7/64	1 24/64	3058
660181	750000	61	111	7/64	1 22/64	2881
660182	700000	61	107	7/64	1 20/64	2709
660183	650000	61	104	7/64	1 18/64	2534
660184	600000	61	0995	7/64	1 16/64	2355
660185	550000	37	122	7/64	1 14/64	2182
660186	500000	38	115	3/32	1 10/64	1969
660187	450000	37	111	3/32	1 7/64	1791
660188	400000	37	105	3/32	1 3/64	1608
660189	350000	37	098	3/32	1	1431
660190	300000	37	090	3/32	60/64	1250
660191	250000	37	083	3/32	56/64	1071

DOUBLE BRAID

660193	2000000	91	1485	1/8	2 5/64	7365
660194	1750000	92	138	1/8	1 59/64	6513
660195	1500000	91	1285	1/8	1 56/64	5658
660196	1250000	91	1175	1/8	1 52/64	4783
660197	1000000	61	128	7/64	1 40/64	3849
660198	950000	61	125	7/64	1 36/64	3676
660199	900000	61	122	7/64	1 34/64	3491
660200	850000	61	118	7/64	1 30/64	3310
660201	800000	61	115	7/64	1 32/64	3138
660202	750000	61	111	7/64	1 30/64	2956
660203	700000	61	107	7/64	1 28/64	2880
660204	650000	61	104	7/64	1 26/64	2600
660205	600000	61	0995	7/64	1 24/64	2418
660206	550000	37	122	7/64	1 22/64	2210
660207	500000	38	115	3/32	1 16/64	2010
660208	450000	37	111	3/32	1 12/64	1840
660209	400000	37	105	3/32	1 11/64	1650
660210	350000	37	098	3/32	1 8/64	1468
660211	300000	37	090	3/32	1 4/64	1285
660212	250000	37	083	3/32	1	1103

Prices on application

Wire—Bare, Insulated and Strand

RUBBER-COVERED WIRES

No. 1 Flexible Double Braid Switchboard Cable

Flexible Switchboard Cables

These wires are all National Electrical Code Standard and are especially designed for switchboard dynamo and motor connections.

List No.	Size B. & S. Gauge	Size in C. M.	Rubber Wall Inches	No. of Wires	Size of Wires	Diam. Over All, Ins.	Weight, Lbs. per 1000 Ft.
660214	0000	211600	5/64	133	No. 18 B. & S.	53/64	791
660215	000	167805	5/64	134	No. 19 B. & S.	51/64	655
660216	00	133079	5/64	131	No. 20 B. & S.	46/64	541
660217	0	105592	5/64	133	No. 21 B. & S.	42/64	444
660218	1	83694	5/64	133	No. 22 B. & S.	40/64	366
660219	2	66373	1/16	133	No. 23 B. & S.	37/64	274
660220	3	52634	1/16	52	No. 20 B. & S.	32/64	225
660221	4	41742	1/16	52	No. 21 B. & S.	30/64	194
660222	5	33102	1/16	52	No. 22 B. & S.	28/64	159
660223	6	26250	1/16	50	No. 23 B. & S.	26/64	141
660224	8	16509	3/64	52	No. 25 B. & S.	24/64	86
660225	10	10381	3/64	33	No. 25 B. & S.	20/64	44
660226	12	6530	3/64	21	No. 25 B. & S.	18/64	36
660227	14	4107	3/64	14	No. 25 B. & S.	16/64	26

Stranding

Standard, Flexible, and C. M. Conductors
When Strands are not Specified the Following will be Furnished:

STANDARD STRANDS				FLEXIBLE STRANDS				STAND. STRANDS			
Size B. & S. Gauge.	Strands	Stran'd Diam.	Wt.Lbs. per 1000 Ft.	Strands	Stran'd Diam.	Wt.Lbs. per 1000 Ft.		Size C. M.	Strands	Stran'd Diam.	Wt.Lbs. per 1000 Ft.
0000	19-.105	.525	655	133-.040	.600	712		250000	37-.082	.574	770
000	19-.094	.470	525	133-.035	.525*	550		300000	37-.090	.630	915
00	19-.084	.420	420	133-.032	.480	440		350000	37-.098	.686	1100
0	19-.074	.370	325	133-.028	.420	355		400000	37-.104	.728	1260
1	19-.067	.335	266	133-.025	.375	284		450000	37-.110	.770	1390
2	19-.059	.295	206	133-.023	.345	225		500000	37-.116	.812	1540
3	19-.052	.260	160	105-.023	.325	176		550000	42-.116	.893	1710
4	7-.077	.231	130	49-.028	.252	138		600000	61-.099	.891	1840
5	7-.069	.207	104	49-.025	.225	110		650000	68-.098	.950	2010
6	7-.062	.186	84	49-.023	.207	85		700000	52-.116	.986	2160
8	7-.048	.144	51	52-.018	.162	55		750000	56-.116	1.010	2330
10	7-.038	.114	32	33-.018	.120	35		800000	60-.116	1.044	2500
12	7-.032	.096	23	21-.018	.097	23		850000	63-.116	1.090	2620
14	7-.025	.075	13½	30-.012	.080	15½		900000	67-.116	1.125	2790
16	7-.018	.054	7½	20-.012	.064	9		950000	71-.116	1.16	2950
18	5-.018	.050	5½	12-.012	.052	6		1000000	61-.128	1.152	3150
20	3-.018	.041	3½	7-.012	.036	4		1250000	76-.128	1.330	3910
								1500000	91-.128	1.408	4650
								1750000	107-.128	1.557	5500
								2000000	122-.128	1.664	6280

Special Stranding

C. M. desired + by C. M. in wire to be used equals number of wires in strand.

EXAMPLE:

How many 18 B. & S. will be required to make 250,000 C. M. cable? 18 B. & S. = 1624 C. M. 250,000 C. M. ÷ 1624 C. M. = 154, the number of 18 B. & S. in 250,000 C. M.

When the number of wires in a strand is given, but not their size, this can be determined as follows: The C. M. required ÷ by the number of wires required = mileage of each wire in strand. The square root of the mileage will give the diameter of wire to be used in stranding.

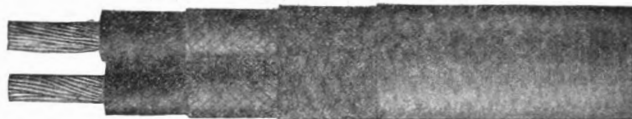
EXAMPLE:

What is the diameter of a wire necessary to make 1,000,000 C. M. of 427 strands? 1,000,000 C. M. ÷ 427 = 2342 C. M. of each wire. Square root of 2342 C. M. = .0484, the diameter of each wire in strand.

Prices on application.

MINING AND PARK CABLES

Mining Machine Cable



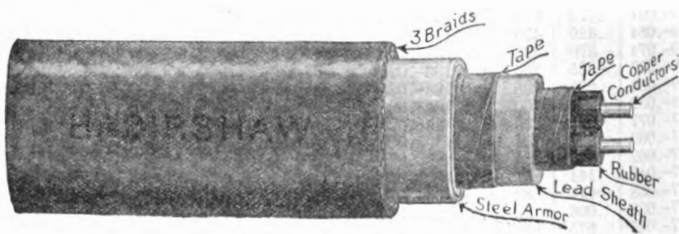
No. 4 Duplex Mining Machine Cable—Triple Braid

DUPLEX

Duplex Mining Machine Cable consists of flexible strands, rubber insulated to N. E. C. standard thickness. Each conductor is finished with a weatherproof braid and two conductors are then laid parallel and covered with two or three braids of hard cotton, which is then saturated with a weatherproof compound.

List No.	Size B. & S.	Diameter Inches	Aprx. Wt. Lbs per 1000 Ft.	Prices on Application
660228.....	8	.85	186	} Prices on Application
660229.....	6	.95	284	
660230.....	4	1.10	417	
660231.....	3	1.20	498	
660232.....	2	1.30	606	

Habirshaw Park and Suburban Cables



For Underground Work

These cables are composed of conductors of any size required. High grade rubber insulation of whatever thickness necessary for the operating voltage. The insulation is covered with a rubber filled tape, then a lead jacket varying with the size of the cable. Over the lead is first a heavy bed of jute and tar, then two steel tapes covered with jute and asphalt. The cables are made single, duplex or triple conductor, as required.

These cables are laid directly in the ground. All that is necessary for installing is a trench wide enough to hold the cable and deep enough so that the cable is from twelve to fifteen inches under ground. They are a cheap and reliable substitute for the duct system, where the expense of ducts is not justified.

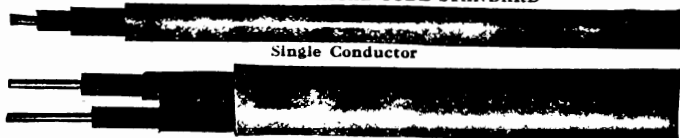
This method is not an experiment. It has been in successful operation for many years, and has proved as efficient, and much less expensive, than the duct system.

As prices will vary widely with cost of raw materials, and thickness of insulation required by operating voltage, no permanent price list can be prepared. Full information given on application. In writing please specify clearly all conditions of service.

Prices on application.

Wire—Bare, Insulated and Strand

LEAD ENCASED COPPER WIRES
NATIONAL ELECTRICAL CODE STANDARD



Single Conductor

Duplex Conductor

Leaded Wires and Cables

Rubber Covered—For 600 Volts or Less

These lead cables have walls of rubber; black core of National Code specifications. All conductors are taped and the stranded cables are of regular standard strand. The lead used is commercially pure, of thickness as shown in each case.

In the two conductor cables the two taped cores are laid flat and leaded. The three conductor cables have taped cores twisted with fillers to make them round. Over all there is placed tape and lead.

SINGLE SOLID					DUPLEX SOLID					THREE CONDUCTOR SOLID				
List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.	List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.	List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.
660939	20	1/32	.220	155	660969	20	1/32	.372	230	660946	20	3/64	.450	430
660940	19	1/32	.225	160	660970	19	1/32	.375	240	660947	19	3/64	.460	445
660941	18	1/32	.230	165	660971	18	1/32	.380	250	660948	18	3/64	.470	450
660942	16	1/32	.250	180	660972	16	1/32	.410	280	660949	16	1/16	.530	500
660248	14	3/64	.280	221	660973	14	3/64	.470	350	660950	14	1/16	.560	658
660249	12	3/64	.300	245	660974	12	3/64	.510	390	660951	12	1/16	.590	730
660250	10	3/64	.330	286	660975	10	3/64	.570	466	660952	10	1/16	.660	850
660251	8	3/64	.350	330	660976	8	1/16	.660	672	660953	8	1/16	.730	1150
660252	6	1/16	.470	455	660977	6	1/16	.780	900	660954	6	5/64	.910	1550
660253	5	1/16	.500	600	660978	5	1/16	.810	992					
660254	4	1/16	.520	646	660979	4	1/16	.840	1085					

SINGLE STRANDED					DUPLEX STRANDED					THREE CONDUCTOR STRANDED				
List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.	List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.	List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.
660943	14	3/64	.300	236	660980	14	3/64	.500	376	660955	14	1/16	.590	680
660944	12	3/64	.310	262	660981	12	3/64	.530	423	660956	12	1/16	.630	780
660945	10	3/64	.340	305	660982	10	3/64	.590	500	660957	10	1/16	.700	850
660255	8	3/64	.380	350	660983	8	1/16	.690	715	660958	8	1/16	.770	1075
660256	6	1/16	.470	580	660984	6	1/16	.810	960	660959	6	5/64	.940	1635
660257	5	1/16	.500	630	660985	5	1/16	.880	1060	660960	5	5/64	1.00	1800
660258	4	1/16	.520	690	660986	4	1/16	.810	1165	660961	4	5/64	1.03	1970
660259	3	1/16	.550	768	660987	3	1/16	.970	1300	660962	3	5/64	1.09	2200
660260	2	1/16	.580	845	660988	2	5/64	1.06	1650	660963	2	5/64	1.16	2480
660261	1	1/16	.660	1010	660989	1	5/64	1.22	2050	660964	1	3/32	1.34	3330
660262	0	1/16	.690	1150	660990	0	5/64	1.28	2290	660965	0	3/32	1.44	3760
660263	00	1/16	.730	1300	660991	00	5/64	1.38	2600	660966	00	3/32	1.53	4260
660264	000	1/16	.780	1480	660992	000	5/64	1.47	2980	660967	000	3/32	1.66	4900
660265	0000	1/16	.840	1710	660993	0000	5/64	1.59	3450	660968	0000	3/32	1.80	6085

CIRCULAR MILS

List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.	List No.	Gauge B & S	Lead	Diameter	Lbs. 1000 ft.
660266	250000 C.M.	5/64	.950	2220	660278	850000 C.M.	3/32	1.500	5560
660267	300000 C.M.	5/64	1.020	2480	660279	900000 C.M.	3/32	1.530	5800
660268	350000 C.M.	5/64	1.080	2760	660280	950000 C.M.	3/32	1.560	6040
660269	400000 C.M.	5/64	1.110	3000	660281	1000000 C.M.	3/32	1.590	6270
660270	450000 C.M.	5/64	1.190	3280	660282	1250000 C.M.	7/64	1.780	7960
660271	500000 C.M.	5/64	1.200	3480	660283	1500000 C.M.	7/64	1.910	9100
660272	550000 C.M.	3/32	1.330	4160	660284	1750000 C.M.	7/64	2.030	10220
660273	600000 C.M.	3/32	1.340	4400	660285	2000000 C.M.	7/64	2.120	11300
660274	650000 C.M.	3/32	1.380	4650					
660275	700000 C.M.	3/32	1.410	4870					
660276	750000 C.M.	3/32	1.440	5100					
660277	800000 C.M.	3/32	1.470	5340					

Prices on application.

MISCELLANEOUS FLEXIBLE CABLES

Moving Picture Machine Cable



Picture Machine Cable

A heat and flame resisting flexible cable, especially designed for moving picture machines, where fire is a constant danger. It is made as follows: A number of soft copper strands are grouped into a cable of the required capacity (standard sizes are Nos. 4, 6, 8 and 10 B.&S.), two cotton braids, over which is then placed one asbestos braid. It is then treated with a flameproof compound. Furnished in single conductor unless otherwise requested.

Non-ignitable or N-I Conductor

This is used where an absolutely flameproof wire is desired for low tension service. Either solid or stranded conductor, tinned or covered with one asbestos wrap and two asbestos braids, thoroughly impregnated with flameproof compound.

This class of wire is not waterproof.

SOLID

List No.	Size B. & S.	Overall Diameter Inches	Approx. Wt. Lbs. per 1000 ft.	List No.	Size B. & S.	Overall Diameter Inches	Approx. Wt. Lbs. per 1000 ft.
660292	16	.25	27	660295	10	.30	52
660293	14	.27	32	660296	8	.33	75
660294	12	.28	40	660297	6	.37	106

STRANDED

660298	6	.39	109	660302	0	.58	400
660299	4	.44	158	660303	00	.62	525
660300	2	.50	254	660304	000	.67	614
660301	1	.54	323	660305	0000	.73	762

Prices on application.

Asbestos Station Cables



Asbestos Station Cable

These cables are especially adapted to low tension wiring, 650 volts and less. For higher voltages varnished cambric cables with an asbestos or double underwriter's braid are recommended.

Specifications

Asbestos Station Cables are insulated as follows: First: One asbestos tape. Second: Two varnished cambric tapes. Third: Six asbestos tapes. Fourth: One muslin tape.

The total thickness of these wraps or tapings is approximately $\frac{1}{4}$ of an inch. After the application of the muslin tape the cable is run through flameproof paint, braided with cotton and finished with three coats of flameproof paint.

The copper core of conductor can be run at a temperature sufficient to melt the solder from the terminal sockets—without injury to the insulation.

This cable is not waterproof and must be run on insulators or in dry ducts.

Asbestos cables will stand a puncture test of 5,000 volts. This test can be made by wrapping any portion of the cable with tin foil and applying the test voltage between the copper core and the foil.

List No.	Size B. & S. & C.M.	Diameter Inches	Approx. Wt. Lbs. per 1000 ft.	List No.	Size C. M.	Diameter Inches	Approx. Wt. Lbs. per 1000 ft.
660306	2	.61	313	660316	500000	1.13	1778
660307	1	.65	360	660317	600000	1.21	2110
660308	0	.70	459	660318	700000	1.28	2462
660309	00	.74	574	660319	750000	1.32	2698
660310	000	.79	678	660320	800000	1.35	2782
660311	0000	.85	828	660321	900000	1.41	3107
660312	250000	.89	957	660322	1000000	1.47	3420
660313	300000	.95	1135	660323	1250000	1.61	4235
660314	350000	1.00	1289	660324	1500000	1.73	5032
660315	400000	1.05	1453	660325	2000000	1.95	6642

Prices on application.

Wire—Bare, Insulated and Stranded

Western Electric

Flexible Cords

Flexibility is the predominating feature of our standard and special flexible cords and cables, as listed hereinafter. Every step in the manufacture of our products is carefully inspected and no expense is spared to produce the best obtainable flexible cords and cables.

Our aim is not only to meet the requirements, as set forth by the National Board of Fire Underwriters, but surpass them. A sample of Western Electric Flexible Cord, which we will gladly furnish, will firmly convince you that it is a **quality product**.

A large stock of all standard cords is always available so as to give prompt and satisfactory service.



**Method of Packing No. 18 Lamp and Parallel Cords
Other Cords and Sizes Packed in Coils**

PACKING—Lamp Cord

Lamp Cord is sealed in **watertight** and **airtight** packages, light, easy to handle and convenient to store in small spaces. Study the accompanying illustration.

The cartons are strong reinforced pasteboard boxes, each one bearing a full description of its contents.

Capacity—250 feet in coil form, uncoiling from center.

Four cartons are placed in one strong corrugated container, which is sealed with a heavy gummed strip bearing our trademark at short intervals. This forms our standard package, as illustrated.

Special Flexible Cords

Special flexible cords are packed in coil form, securely wrapped with burlap. Each coil is clearly labeled.

Flexible Lamp and Reinforced Cords

Description

The conductor consists of a number of small, annealed copper strands, each No. 30 B. & S. gauge, grouped into a cable of the required capacity. This conductor is then covered with a tight close wind of fine cotton, after which it is insulated with seamless rubber, and then covered with an ornamental braid of silk or cotton. Two of these finished conductors are then twisted around each other, or laid parallel, and braided over all with silk or cotton. Lamp cord is sold in three grades as designated, "New Code," "1909 Code," and "Commercial," which vary only in the thickness and quality of the rubber insulation enclosing the conductor.

NEW CODE CORD

This cord is made to conform to the latest National Electrical Code Standard which requires that a vulcanized rubber insulation conforming to stretch, breaking weight, electrical and chemical test be placed around each conductor, over which is placed the usual cotton or silk outer braid, and differs from the "1909 Code" only in the fact that the insulation is of a higher quality of rubber.

National Electrical Code Standard (New Code) requires 1-32 inch wall of rubber insulation on Nos. 18 and 16 cords, and 3-64 inch wall on No. 14 and larger cords. Three threads, two green and one red thread, cabled with copper strands.

1909 CODE CORD

This cord was known as "New Code" before the 1911 requirement of the National Board of Fire Underwriters specified the use of a higher quality of rubber in making up the insulation surrounding the conductor. The construction of the cord is identical with the New Code cord, with the exception that the rubber insulation is of a lower quality. It is no longer approved by the National Board of Fire Underwriters.

COMMERCIAL LAMP CORD

Commercial lamp cord has a seamless insulation of 1-64 inch rubber placed over a tight close wind of fine cotton over which is placed the usual cotton or silk outer braid. This cord is not approved by the National Board of Fire Underwriters.

Western Electric Flexible Cords

The conductors of our regular cords are composed of a number of 30 B.&S. bare annealed copper strands, grouped into a cable of the required capacity, as follows: No. 8 B.&S., 165 strands; No. 10 B.&S., 104 strands; No. 12 B.&S., 65 strands; No. 14 B.&S., 41 strands; No. 16 B.&S., 26 strands; No. 18 B.&S., 16 strands; No. 20 B.&S., 10 strands; No. 22 B.&S., 7 strands. Sizes smaller than No. 18 are not approved by the Underwriters.

Seven Points to Cover When Ordering W. E. Flexcords

Amount		Size	Insulation	Conductors	Style	Finish	Color
Feet		B.&S. Gauge	New Code 1909 Code Commercial	Single Pair Triple	Lamp Cord Parallel Cord Reinforced Cord Special Rein. Cord Special Cords	Silk Cotton Weatherproofed	Use Standard Colors as per Our Braid Color Card
Examples	500	18	New Code	Twisted Pair	Lamp Cord	Silk	Green
	250	20	Commercial	Single	Lamp Cord	Cotton	Black
	500	16	1909 Code	*	Parallel Cord	Silk	Brown
	250	14	New Code	*	Reinforced Cord	Cotton	Black
	250	16	1909 Code	*	Reinforced Cord	Weatherproofed	†

*Pair Conductor is always understood (unless otherwise specified) for parallel and reinforced cords.

†Weatherproof finish is always black and need not be specified.

LIST OF COLORS

Cotton covered cords may be furnished in any of the following colors. Standard green and yellow. White, Yellow, Blue, Maroon, Green, Oak, Brown, Red, Black, Gray, Old Gold

Silk covered cords may be furnished in any of the following colors. White, Silver, Gilt, Old Gold, Copper, Bronze, Tiffany Green, Dark Green, Red, Maroon, Yellow, Gold, Brass, Old Brass, Green, Olive Green, Light Green, Brown, Navy Blue, Black

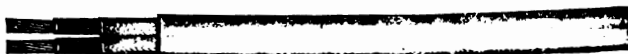
TABLE OF WEIGHTS (LBS.) PER 1000 FEET

Size	Insulation	Lamp Cords		Parallel Cords		Reinforced Cords		
		Cotton	Silk	Cotton	Silk	Cotton	Silk	Wp.
10 B.&S.	New Code	116	112	119	115	230	223	229
	1/4 in. Wall	86	83	90	87	146	141	153
12 B.&S.	New Code	83	79	85	82	178	172	187
	1/4 in. Wall	60	52	64	56	108	104	114
14 B.&S.	New Code	63	59	65	61	133	128	141
	1/4 in. Wall	37	35	40	38	79	75.5	85
16 B.&S.	New Code	37	34	38	36	75	70.5	80
	1/4 in. Wall	26	24	27	25.5	52	49	57
18 B.&S.	New Code	27	25	29	27	64	60	69
	1/4 in. Wall	19	17	20	18	43	40	47
20 B.&S.	New Code	22	19	23	21	51	47.5	56
	1/4 in. Wall	13.5	12	14.5	13	32	29.5	36
22 B.&S.	New Code	18	16	19	17	43	39	48
	1/4 in. Wall	10.5	9	11	10	26.5	24	30

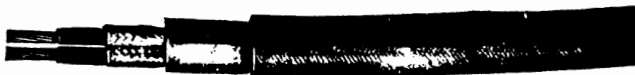
NOTE: 1909 Code Cords, weight the same as New Code. Commercial Cords, weight the same as 1/4 inch Wall. The above weights are all based on pair conductors.



Lamp Cord—Type C. Single or twisted pair with cotton or silk braid over each conductor.



Parallel Cord—Type PO. Has cotton braid over each of two conductors laid parallel under cotton or silk outer braid.



Reinforced Cord—Type P. Has cotton braid over each conductor twisted together and covered with a rubber jacket, then braided over all with a hard glazed cotton.

Reinforced Cord WP.—Type PWP. Same as Type P except outer braid is saturated and finished with a weatherproofed compound.

Special Reinforced Cord—Type PS. Underwriters only permit this cord in sizes Nos. 18 and 16 for office and dwelling only where appearance is essential.

1/4 inch wall of New Code insulation with cotton braid over each conductor, twisted together and covered with a rubber jacket to make round, then braided over all with either silk or hard glazed cotton.

Wire—Bare, Insulated and Strand

INTERIOR COPPER WIRES AND CABLES



Annunciator Wire

Regular

Insulated with two winds of cotton yarn applied in opposite directions, saturated with a special wax compound and highly polished. This makes a very compact insulation. Furnished either on spools containing about 8 lbs., or exactly 1 lb. and in 1 lb. coils, and packed in cases containing approximately 200 lbs. Furnished in colors and styles as follows—either plain copper or tinned; plain copper furnished unless otherwise ordered; red, blue, red and white, brown, white, olive, yellow, blue and white.

Single Conductor			Twisted Pairs		
List No.	Size B. & S.	Weight Lbs. per 1000 Ft.	List No.	Size B. & S.	Weight Lbs. per 1000 Ft.
660422	14	15	660426	14	30
660423	16	9.5	660427	16	19
660424	18	6.5	660428	18	13
660425	20	4.5	660429	20	9

Weatherproof Annunciator Wire

The construction of this wire is the same as regular annunciator wire except that the cotton wrapping is saturated with black weatherproof compound.

List No.	Size B. & S.	Weight Lbs. per 1000 Ft.	List No.	Size B. & S.	Weight Lbs. per 1000 Ft.
660430	14	16.6	660433	20	5.0
660431	16	11.1	660434	22	3.1
660432	18	7.7			

Damp-Proof Office Wire



No. 18—Single Conductor Damp-Proof Office Wire

This wire is double wound and braided, the two winds of cotton yarn applied in opposite directions, saturated with black weatherproof compound.

The braid is specially treated with wax, highly polished, and will not collect dust. Office wire is carried regularly in the following colors: red, red and white, blue, blue and white. It is put up in coils of about 17 lbs. each, and packed in cases of approximately 200 lbs. each.

Single Conductor			Double Conductor		
List No.	Size B. & S.	Weight Lbs. per 1000 Ft.	List No.	Size B. & S.	Weight Lbs. per 1000 Ft.
660435	14	24	660437	18	10
660436	16	13.5	660438	20	8
660439	14	55	660441	18	25
660440	16	34	660442	20	20

Annunciator Cables

This cable is designed for connecting the annunciator in an elevator car with the push buttons on the different floors.

Each conductor is composed of 16 strands of No. 30 B. & S. gauge soft untinned copper wire and insulated with two reverse wrappings of cotton and one cotton braid. The insulated conductors are then cabled with a steel supporting strand, where necessary to give extra tensile strength, then covered with two cotton braids. This is a dry cable and the outer braids are flameproof.

Prices on application.

Western Electric

Telephone Wires

The materials entering into the construction of our telephone wires are of the best quality; this fact combined with the rigid inspection maintained throughout the entire process of manufacture insures a "quality product."

The conductors of all these wires are thoroughly tinned. The insulation is of a high quality rubber compound and varies in thickness according to the size and requirements of the different wires; over this is placed a weatherproof braid, or when wanted for inside use a glazed cotton braid of any standard color combination.



Outside Telephone Wire

Outside Telephone Wires

These wires are furnished in coils, each coil carefully wrapped. Single conductor can be supplied when specified.

COPPER STEEL OUTSIDE WIRE

Gauge	Braid	Wgt. per 1000 Ft. (Tw. Pair)	Coil Lengths
*17 B.&S.	Twisted pair, weatherproof braid.....	36 lbs.	200-1500 ft.
†14 B.&S.	Twisted pair, weatherproof braid.....	63 lbs.	200-1500 ft.

*This wire has very largely replaced No. 14 B.&S. copper drop wire.

†This wire is very often spoken of as copper drop wire.

BRIDLE WIRE

18 B.&S.	Twisted pair, weatherproof braid.....	33 lbs.	200-1500 ft.
16 B.&S.	Twisted pair, weatherproof braid.....	42 lbs.	200-1500 ft.



Inside Telephone Wire

Inside Telephone Wires

Gauge		Wgt. per 1000 Ft. (Tw. Pair)	Coil Length
19 B.&S.	Twisted pair, olive green finished braid.....	22 lbs.	200-1500 ft.

Packed in barrels, each coil specially wrapped in heavy craft paper.

Furnished in single or triple conductors when specified.

Can be furnished in any color required, standard color being olive green.

A tracer thread is used in all conductors.



Flameproof Wire

Flameproof Wires

Gauge		Finish	Wgt. per 1000 Ft. (Tw. Pair)	Coil Lengths
16 B.&S.	Single, twisted or triple conductor	Standard color, slate and red	38 lbs.	200-1500 ft.
20 B.&S.	Single, twisted or triple conductor	Standard color, slate and red	19 lbs.	200-1500 ft.
22 B.&S.	Single, twisted or triple conductor	Standard color, slate and red	16 lbs.	200-1500 ft.



Single Ground Wire

Single Ground Wires

Gauge		Weight per 1000 Feet	Coil Length
18 B.&S.	Single ground wire.....	14 lbs.	200-1500 ft.

Also furnished in size No. 14 B.&S.

These wires are often spoken of as sub-station wires.

Wire—Bare, Insulated and Strand

16-4

Western Electric Telegraph Wires

These wires are furnished in strict accordance with the standard specifications of the largest telegraph companies of this country. They are a high-class product and can be furnished in all sizes as required. The sizes ordinarily specified are Nos. 14, 16, 18 single and twisted, with a weatherproof braid, and No. 18 in twisted pair and triple, with brown and black braid. Flameproof wires in size No. 16 single and twisted are also used by the telegraph companies.



Pot Head Wire

Pot Head Wires

The standard wire for pot head work is either 19, 20 or 22 B.&S. gauge in single or twisted conductor. The insulation of this wire is of high quality, suitable to withstand the effects of the hot sealing compound and outside exposure without a protecting braid. As a distinguishing marker one conductor of the twisted pair has a double ridge on the insulation. Make sure in ordering this wire that it has the double ridge, as this insures you a "quality product."

Weight per 1000 feet (twisted pair), 19 lbs. Coil Lengths, 200-1500 feet.

Gauge		Weight per 1000 Feet, Twisted Pair	Coil Length
19, 20 or 22 B.&S.	Pot-head wire.....	19 lbs.	200-1500 ft.

Iron Outside Drop Wire

A special drop wire which is stronger and lighter than copper and quite as flexible. The conductor is a high-grade non-rusting iron. It is insulated with good grade rubber compound, cotton braided and weatherproofed. The sizes most generally used are as follows:

Gauge	Description
19 BWG (18 B.&S.), $\frac{1}{16}$ inch diameter, insulation twisted pair outside wire.	
18 BWG (16 B.&S.), $\frac{1}{8}$ inch diameter, insulation twisted pair outside wire.	
16 BWG (14 B.&S.), $\frac{3}{16}$ inch diameter, insulation twisted pair outside wire.	
14 BWG (12 B.&S.), $\frac{1}{2}$ inch diameter, insulation twisted pair outside wire.	

Diameters by Different Wire Gauges

DIAMETERS IN MILS. 1 MIL=0.001 INCH

Gauge No.	B.&S.	S.W.G.	N.B.S.	Gauge No.	B.&S.	S.W.G.	N.B.S.
0000	460	454	400	14	64	83	80
000	410	425	372	15	57	72	72
00	365	380	348	16	51	65	64
0	325	340	324	17	45	58	56
1	289	300	300	18	40	49	48
2	258	284	276	19	36	42	40
3	229	259	252	20	32	35	36
4	204	238	232	21	28.5	32	32
5	182	220	212	22	25.3	28	28
6	162	203	192	23	22.6	25	24
7	144	180	176	24	20.1	22	22
8	128	165	160	25	17.9	20	20
9	114	148	144	26	15.9	18	18
10	102	134	128	27	14.2	16	16.4
11	91	120	116	28	12.6	14	14.8
12	81	109	104	29	11.3	13	13.6
13	72	95	92	30	10.0	12	12.4

Western Electric

Special Flexible Cords



Deck Cable

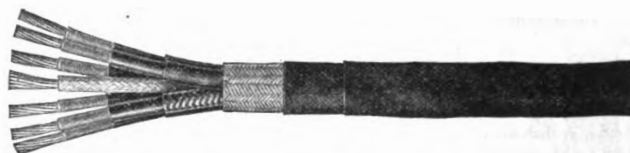
A watertight flexible cord, made to stand severe abrasion. It is especially designed for use on boat decks and is made as follows: Two conductors of new code cotton braided cord, twisted together, reinforced by jute, and a rubber jacket, over which is then placed one cotton braid thoroughly saturated and weather-proofed.

Size B. & S.	Diameter Inches	Approx. Weight Lbs. per 1000 Ft.	Size B. & S.	Diameter Inches	Approx. Weight Lbs. per 1000 Ft.
10	.730	182	16	.505	65
12	.665	144	18	.485	52
14	.650	112	..	....	..



Border Light Cable

A stage cable made up of usually more than two conductors.



Elevator Cable

An extremely flexible and durable cord, especially constructed for elevator control and lighting. The conductors of this cable (usually more than two) are constructed in the usual way of New Code cord. These conductors are then grouped together and covered with three cotton braids, the outer one weatherproofed. A steel supporting strand running through the center is usually required, and this adds materially to the strength of the cable.



Heater Cord

The conductor consists of a number of small copper strands grouped into a cable of the required capacity, cotton wrapped, insulated with a thin wall of rubber compound, asbestos braided. Two of these finished conductors are then twisted together and braided over all with cotton of any desired color combination. Standard color is black.

Size B. & S.	Diameter Inches	Approx. Weight Lbs. per 1000 Ft.	Size B. & S.	Diameter Inches	Approx. Weight Lbs. per 1000 Ft.
18	.310	36	12	.360	80
16	.330	45	10	.390	105
14	.345	60	..	....	...

Wire—Bare, Insulated and Strand

18-1

Western Electric

Special Flexible Cords



Brewery Cord

A **weatherproof** lamp cord which conforms in all respects with the requirements of the National Board of Fire Underwriters. This is a specially designed cord for use in breweries and other places where dampness is prevalent.

Size B. & S.	Diameter Inches	Approx. Weight	Size B. & S.	Diameter Inches	Approx. Weight
		Lbs. per 1000 Ft.			Lbs. per 1000 Ft.
10	.540	135	16	.360	46
12	.480	100	18	.340	35
14	.460	75	..	....	..



Canvasite Cord

An **acidproof** flexible cord, unusually **tough** and **durable**. This is especially designed for use in dyeing establishments, cold storage plants, tanneries and other places where mechanical and chemical conditions are severe. It is made up similar to Brewery Cord except that it has an extra weatherproof braid over the twisted conductors.

Size B. & S.	Diameter Inches	Approx. Weight	Size B. & S.	Diameter Inches	Approx. Weight
		Lbs. per 1000 Ft.			Lbs. per 1000 Ft.
10	.600	144	16	.400	50
12	.540	98	18	.380	38
14	.520	82	..	....	..



Stage Cable

An extremely durable and flexible cord, constructed to withstand severe **abrasion** such as is found on theater stages and similar places. The conductors of this cord are constructed in the usual manner of New Code cord. They are then reinforced with jute and a rubber jacket. It is then covered with an outer weatherproof braid.

Size B. & S.	Diameter Inches	Approx. Weight	Size B. & S.	Diameter Inches	Approx. Weight
		Lbs. per 1000 Ft.			Lbs. per 1000 Ft.
2	1.110	620	8	.740	195
3	1.000	525	10	.665	140
4	.925	435	12	.600	106
5	.870	395	14	.585	80
6	.830	310	..	....	...



Packing House Cord

Especially constructed for use in packing houses. The conductors of this cord are constructed in the usual way for New Code cord. The twisted conductors are then reinforced with jute and a cotton outer braid weatherproofed.

Size B. & S.	Diameter Inches	Approx. Weight	Size B. & S.	Diameter Inches	Approx. Weight
		Lbs. per 1000 Ft.			Lbs. per 1000 Ft.
10	.665	140	16	.440	49
12	.600	106	18	.420	38
14	.585	80	..	....	..

Western Electric**Special Flexible Cords****Vacuum Cleaner Cord**

As the result of careful study and observation, we offer to the trade this especially constructed cord for vacuum cleaners. It has all the strength desired and yet is small in size and extremely flexible. A cord better adapted for this purpose cannot be made.

The conductors of this cord are composed of a number of flexible copper strands, assembled into a cable having extreme flexibility. Cotton wrapped, insulated with 1/64 inch wall of New Code rubber compound and cotton braided. A rubber jacket of New Code insulation is then placed over the twisted conductors, after which it is braided with a close non-fraying braid of fast black cotton.

Size B. & S.	Diameter Inches	Approx. Weight		Size B. & S.	Diameter Inches	Approx. Weight	
		Lbs. per 1000 Ft.				Lbs. per 1000 Ft.	
18	.280	44	||	16	.300	65	



No. 2—49 Strand Flexible Car Wire

Car Wire

This wire is made in two styles, stranded or 7 wire, and flexible or 49 wire. The strand is covered with a wrap of cotton or paper, after which a coating of rubber is applied conforming to N. E. C. specifications. It is then covered with one, two or three braids, as specified.

Size B. & S.	Diameter Inches	Approx. Weight		Size B. & S.	Diameter Inches	Approx. Weight	
		Lbs. per 1000 Ft.				Lbs. per 1000 Ft.	
1	.560	387	||	5	.400	173	
2	.490	303	||	6	.380	147	
3	.460	249	||	8	.320	93	
4	.430	207	||				

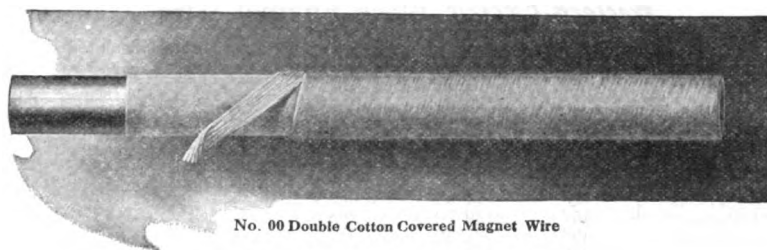
Bell Cord

Is designed for small bell and battery use. The conductors are composed of a few strands of soft copper assembled into a small cable. A cotton braid is then applied over each conductor. These are then twisted together and a silk braid placed over all. This cord can be furnished in any of our standard silk shades. (Standard green.)

Prices on application.

Wire—Bare, Insulated and Strand

MAGNET WIRE



No. 00 Double Cotton Covered Magnet Wire

Western-Electric

Cotton Covered Magnet Wire

Single Cotton Covered				Double Cotton Covered			
List No.	Size B. & S. Gauge	Weight, Lbs. per 1000 Ft.	List Price per Lb.	List No.	Size B. & S. Gauge	Weight, Lbs. per 1000 Ft.	List Price per Lb.
660479	0000		Prices on Application	660523	0000		Prices on Application
660480	000			660524	000		
660481	00			660525	00		
660482	0			660526	0		
660483	1			660527	1	256.54	
660484	2			660528	2	203.67	
660485	3			660529	3	161.68	
660486	4			660530	4	128.33	
660487	5			660531	5	101.93	
660488	6			660532	6	80.97	
660489	7			660533	7	64.33	
660490	8			660534	8	51.13	
660491	9			660535	9	40.65	
660492	10			660536	10	32.32	
660493	11			660537	11	25.71	
660494	12	20.01		660538	12	20.43	
660495	13	15.91		660539	13	16.25	
660496	14	12.65		660540	14	12.92	
660497	15	10.06		660541	15	10.29	
660498	16	8.01		660542	16	8.20	
660499	17	6.37		660543	17	6.53	
660500	18	5.07		660544	18	5.22	
660501	19	3.92		660545	19	4.05	
660502	20	3.22		660546	20	3.35	
660503	21	2.58		660547	21	2.67	
660504	22	2.05		660548	22	2.12	
660505	23	1.63		660549	23	1.71	
660506	24	1.30		660550	24	1.37	
660507	25	1.04		660551	25	1.11	
660508	26	.84		660552	26	.89	
660509	27	.67		660553	27	.72	
660510	28	.53		660554	28	.59	
660511	29	.42		660555	29	.47	
660512	30	.34		660556	30	.39	
660513	31	.28		660557	31	.32	
660514	32	.22		660558	32	.26	
660515	33	.18		660559	33	.22	
660516	34	.15		660560	34	.19	
660517	35	.13		660561	35	.17	
660518	36	.11		660562	36	.15	
660519	37	....		660563	37	....
660520	38	....		660564	38	....
660521	39	....		660565	39	....
660522	40	....		660566	40	....

ENAMELED MAGNET WIRE *Western-Electric* Black Enamel Wire

Winding area and feet per lb. of enameled wire compared with silk and cotton insulated.

B. & S. Gauge	APPROXIMATE FEET PER LB.			APPROXIMATE TURNS PER SQUARE INCH			List Price per Lb. Black Enam. Wire
	Single Silk	Single Cotton (No. 100 Ctn.)	Enamel	Single Silk	Single Cotton (No. 100 Ctn.)	Enamel	
14		78.6	79.64				On appltn.
15		98.9	100.4				On appltn.
16	.....	125	126.63	375	325	375	\$0.72
17	.....	157	159.70	468	378	468	.74
18	.....	198	201.40	579	449	579	.76
19	.....	248	254.0	725	567	725	.78
20	316	311	320.2	909	763	909	.80
21	398	399	403.8	1130	920	1180	.81
22	502	492	509.06	1410	1120	1490	.82
23	632	613	641.92	1760	1390	1880	.87
24	799	763	810	2190	1590	2420	.92
25	1010	953	1019	2710	1810	3060	.99
26	1263	1201	1286	3390	2360	3750	1.08
27	1584	1500	1620	4100	2950	4760	1.17
28	1988	1860	2042	4950	3340	5890	1.26
29	2405	2370	2570	5960	3510	7300	1.38
30	3148	2860	3240	7050	4630	8850	1.53
31	3933	3482	4082	8200	5240	10800	1.73
32	4913	4234	5132	9530	5480	13000	1.95
33	6129	5141	6445	11250	6400	15500	2.22
34	7646	6317	8093	13100	7440	20700	2.61
35	9536	7755	10197	15200	9420	25200	3.05
36	11889	9511	12813	17600	9800	30000	3.54
37	14577	11495	16110	20200	11600	37300	4.20
38	17648	13446	20274	22900	12300	44100	5.03
39	21465	15635	25519	25800	13800	.....	6.09
40	26558	18376	32107	28800	14500	.....	7.33

 No. 24 to 28 B. & S.
 No. 29 to 33 B. & S.

Approximate Thickness of Insulation

 .0008 to .00014 inch
 .0006 to .0012 inch

 No. 34 to 36 B. & S.
 No. 37 to 40 B. & S.

 .0004 to .00010 inch
 .0002 to .0008 inch

Covered Black Enamel Wire

Cotton or Silk Insulated over the Enamel Insulation

Single Cotton Covered			Single Silk Covered		
List No.	No. B. & S. Gauge	List Price per Lb.	List No.	No. B. & S. Gauge	List Price per Lb.
660567	20	†\$1.13	660588	16	†\$1.23
660568	21	†1.20	660589	17	†1.25
660569	22	1.25	660590	18	†1.28
660570	23	1.31	660591	19	†1.30
660571	24	1.42	660592	20	1.35
660572	25	1.55	660593	21	1.38
660573	26	1.68	660594	22	1.47
660574	27	1.85	660595	23	1.54
660575	28	2.00	660596	24	1.66
660576	29	2.16	660597	25	1.78
660577	30	2.40	660598	26	1.98
660578	31	2.62	660599	27	2.22
660579	32	2.86	660600	28	2.40
660580	33	3.22	660601	29	2.67
660581	34	3.72	660602	30	3.08
660582	35	4.23	660603	31	3.70
660583	36	5.14	660604	32	4.08
660584	37	6.96	660605	33	4.80
660585	38	8.80	660606	34	5.52
660586	39	10.44	660607	35	6.34
660587	40	13.20	660608	36	7.18
			660609	37	8.85
			660610	38	10.12
			660611	39	11.70
			660612	40	13.83

† These prices do not include reels or spools.

Wire—Bare, Insulated and Strand

MAGNET AND BINDING WIRE

"Deltabeston" Magnet Wire

Round and Rectangular



This wire is particularly adapted to field and armature coil winding. The insulation is an asbestos composition designed to stand extraordinary temperature, which particularly adapts it to street railway and similar use, where motors and generators experience very severe overloads. Attempts at imitation of this wire have been made without success. The trade name, "Deltabeston," represents the wire of this character that has proven its merit.

Deltabeston magnet wire, while generally used in the round type, is also manufactured in wire of a rectangular cross-section. The advantages of square or flat wires are numerous. Much greater copper section can be put into a given winding space by the use of rectangular wires, than by employing round conductors. This is

due to the fact that the small interstices necessarily occurring between adjacent round wires are practically eliminated when flat-sided wire is used.

Size B. & S. Gauge	Approx. Feet per Lb.	List No. Round	Size B. & S. Gauge	Approx. Feet per Lb.	List No. Round
0	3.078	660613	13	61.07	660639
1	3.880	660614	14	76.62	660640
2	4.873	660615	15	95.99	660641
3	6.136	660616	16	120.0	660642
4	7.731	660617	17	150.4	660643
5	9.719	660618	18	188.0	660644
6	12.22	660619	19	233.5	660645
7	15.35	660620	20	290.8	660646
8	19.38	660621	21	363.5	660647
9	24.34	660622	22	449.9	660648
10	30.49	660623	23	549.1	660649
11	38.47	660624	24	682.7	660650
12	48.27	660625	25	834.4	660651

NOTE: Square, flat and stranded "Deltabeston" wire is also manufactured. Prices on application.

Tinned Steel Binding Wire

This is a tinned steel wire which has no equal for armature binding. Its tensile strength is over 200,000 lbs. per sq. in. It is heavily and evenly tinned and true gauge.

List No.	B & S Gauge	List Price per 100 Lbs.				List No.	B & S Gauge	List Price per 100 Lbs.			
		500 Lbs. and Over	300 Lbs. to 499 Lbs.	100 Lbs. to 299 Lbs.	Less than 100 Lbs.			500 Lbs. and Over	300 Lbs. to 499 Lbs.	100 Lbs. to 299 Lbs.	Less than 100 Lbs.
660665	No. 10	\$18.48	\$18.48	\$21.44	\$23.10	660668	No. 19	\$23.52	\$24.16	\$27.30	\$29.40
660933	No. 11	18.48	18.48	21.44	23.10	660669	No. 20	24.64	25.30	28.60	30.80
660934	No. 12	19.04	19.54	22.10	23.80	660670	No. 21	25.76	26.46	29.90	32.20
660935	No. 13	19.60	20.12	22.74	24.50	660671	No. 22	28.00	28.76	32.50	35.00
660936	No. 14	22.16	20.70	23.40	25.20	660672	No. 23	30.24	31.06	35.10	37.80
660994	No. 15	21.28	21.84	24.70	26.60	660673	No. 24	34.72	35.76	40.30	43.40
660995	No. 16	21.84	22.42	25.34	27.30	660674	No. 25	38.08	39.10	44.20	47.60
660666	No. 17	22.40	23.00	26.00	28.00	660675	No. 26	40.32	41.40	46.80	50.40
660667	No. 18	22.96	23.58	26.66	28.70						

Phosphor Bronze Binding Wire

This wire is tinned for use in binding armatures and is finished smooth to gauge and ready to take solder with acid. It has high elastic limit and tensile strength.

List No.	Gauge B. & S.	Diam.	List Price per Lb.	List No.	Gauge B. & S.	Diam.	List Price per Lb.
660678	10	.101890	\$1.08	660684	16	.050820	\$1.12
660679	11	.090743	1.12	660685	17	.045257	1.14
660680	12	.080808	1.12	660686	18	.040303	1.14
660681	13	.071961	1.12	660687	19	.035890	1.16
660682	14	.064084	1.12	660688	20	.031961	1.16
660683	15	.057068	1.12	.....	..	.....	....

For Spooling Phosphor Bronze Binding Wire add the Following:

Weight in lbs. per Spool	1	2	3	4	5	6	7	8	9	10
Extra in cents per lb.	\$0.12	\$0.11	\$0.10	\$0.09	\$0.08	\$0.07	\$0.06	\$0.05	\$0.04	\$0.03

Less than 1 lb. on a spool, 24 cents per lb. Over 10 lbs. on a spool, 2 cents per lb.

Spools and Reels are charged at cost and will be redeemed at full value.

MISCELLANEOUS WIRES

Brass Wire

For Spring and Banding Wire Purposes

List No.	B. & S. G. No.	Price per Lb.	List No.	B. & S. G. No.	Price per Lb.
660689	10	Prices on Application	660698	19	Prices on Application
660690	11		660699	20	
660691	12		660700	21	
660692	13		660701	22	
660693	14		660702	23	
660694	15		660703	24	
660695	16		660704	25	
660696	17		660705	26	
660697	18		660706	27	

Bare Aluminum Wire

List No.	Size B. & S. Gauge	Approx. No. of Ft. per Lb.	Std. Pkg. per Lb.	List Price per Lb.	List No.	Size B. & S. Gauge	Approx. No. of Ft. per Lb.	Std. Pkg. per Lb.	List Price per Lb.
660707	10	105.68	1	Prices on Application	660715	18	675.67	1	Prices on Application
660708	11	133.24	1		660716	19	851.79	1	
660709	12	168.01	1		660717	20	1074.11	1	
660710	13	211.86	1		660718	21	1354.65	1	
660711	14	267.17	1		660719	22	1707.94	1	
660712	15	336.93	1		660720	23	2153.78	1½	
660713	16	424.81	1		660721	24	2715.91	1½	
660714	17	535.62	1						

Orders for broken packages not accepted.

Western Electric

German Silver Wire

COTTON COVERED

Single Cotton Covered				Double Cotton Covered			
B. & S. Gauge Size	List Price per Lb.	B. & S. Gauge Size	List Price per Lb.	B. & S. Gauge Size	List Price per Lb.	B. & S. Gauge Size	List Price per Lb.
16	\$1.87	29	\$2.81	16	\$2.15	29	\$3.30
17	1.87	30	2.97	17	2.15	30	3.47
18	1.93	31	3.25	18	2.20	31	3.74
19	1.98	32	3.52	19	2.25	32	4.07
20	1.98	33	3.85	20	2.31	33	4.46
21	2.04	34	4.13	21	2.37	34	4.84
22	2.09	35	4.73	22	2.42	35	5.06
23	2.15	36	6.11	23	2.53	36	6.71
24	2.20	37	9.68	24	2.59	37	12.65
25	2.31	38	12.38	25	2.74	38	16.34
26	2.37	39	17.11	26	2.86	39	22.06
27	2.48	40	21.56	27	2.97	40	33.00
28	2.64			28	3.14		

SILK COVERED

Single Silk Covered				Double Silk Covered			
B. & S. Gauge Size	List Price per Lb.	B. & S. Gauge Size	List Price per Lb.	B. & S. Gauge Size	List Price per Lb.	B. & S. Gauge Size	List Price per Lb.
16	\$2.25	29	\$3.91	16	\$2.59	29	\$5.12
17	2.31	30	3.96	17	2.64	30	5.45
18	2.31	31	4.62	18	2.70	31	5.94
19	2.37	32	4.84	19	2.81	32	6.27
20	2.42	33	5.34	20	2.92	33	6.38
21	2.53	34	5.72	21	3.03	34	7.21
22	2.64	35	6.55	22	3.19	35	8.69
23	2.81	36	7.43	23	3.35	36	9.19
24	2.97	37	12.65	24	3.63	37	16.12
25	3.08	38	19.09	25	3.91	38	22.77
26	3.25	39	22.06	26	4.24	39	30.09
27	3.41	40	32.45	27	4.40	40	36.91
28	3.58			28	4.68		

Prices on black enameled German silver wire on application.

Wire—Bare, Insulated and Strand

RESISTANCE WIRE "Climax" Wire

"Climax" is a nickel-steel alloy which has been on the market for many years and is too well known to require extended description. It has a resistance of 50 times copper or 87 microhms per centimeter cube, with a low temperature coefficient. It is the cheapest material to use when resistance is the only consideration.

No. B. & S.	Diameter in Inches	Area in Cir- cular Mils. C.M.=D ²	Resistance per 1000 Ft. at 75° F.	Weights per 1000 Ft. Bare	Ohms per Lb.	LIST PRICE PER LB.				
						BARE	COTTON COVERED		SILK COVERED	
							Single	Double	Single	Double
1	.289	83,521.	5.9	231.	.024	\$1.65	....	....	....	....
2	.258	66,564.	7.5	184.	.039	1.65	....	....	....	....
3	.229	52,441.	9.5	145.	.063	1.65	....	....	....	....
4	.204	41,616.	12.0	115.	.100	1.65	....	....	....	....
5	.182	33,124.	15.1	92.	.157	1.65	....	....	....	....
6	.162	26,244.	19.1	73.	.251	1.65	....	....	....	....
7	.144	20,736.	24.2	57.	.408	1.65	....	....	....	....
8	.128	16,384.	30.6	45.	.655	1.65	....	....	....	....
9	.114	12,996.	38.6	36.	1.03	1.65	....	....	....	....
10	.102	10,404.	48.2	29.	1.57	1.73	....	....	....	....
11	.091	8,281.	60.6	23.	2.58	1.73	....	....	....	....
12	.081	6,561.	76.5	18.	4.08	1.73	....	....	....	....
13	.072	5,184.	96.6	14.3	6.55	1.80	....	....	....	....
14	.064	4,096.	122.	11.3	10.4	1.80	....	....	....	....
15	.057	3,249.	154.	9.2	16.1	1.80	....	....	....	....
16	.051	2,601.	193.	7.2	25.8	1.87	....	....	\$3.03	\$3.21
17	.045	2,025.	247.	5.6	42.5	1.87	....	....	3.06	3.24
18	.040	1,600.	314.	4.42	68.2	1.95	....	....	3.18	3.36
19	.036	1,296.	386.	3.58	103.	1.95	....	....	3.21	3.39
20	.032	1,024.	488.	2.83	166.	1.95	\$2.79	\$2.88	3.24	3.42
21	.0285	812.3	618.	2.24	271.	2.03	2.91	3.06	3.36	3.54
22	.0253	640.1	785.	1.77	436.	2.03	2.94	3.12	3.39	3.60
23	.0226	510.8	983.	1.41	689.	2.03	3.00	3.18	3.45	3.69
24	.0201	404.0	1,234.	1.12	1,092.	2.10	3.12	3.36	3.63	3.93
25	.0179	320.4	1,569.	.89	1,732.	2.10	3.21	3.48	3.75	4.14
26	.0159	252.8	1,990.	.70	2,794.	2.10	3.30	3.60	3.90	4.35
27	.0142	201.6	2,469.	.56	4,370.	2.25	3.57	3.93	4.23	4.77
28	.0126	158.8	3,158.	.44	7,080.	2.40	3.79	4.26	4.53	5.22
29	.0113	127.7	3,924.	.35	10,620.	2.55	4.16	4.69	4.86	5.82
30	.010	100.0	5,000.	.275	17,960.	2.78	4.44	5.04	5.31	6.75
31	.0089	79.2	6,330.	.219	28,500.	3.00	4.86	5.49	5.82	7.80
32	.008	64.0	7,847.	.177	43,300.	3.38	5.49	6.09	6.60	8.73
33	.0071	50.4	9,962.	.139	70,000.	3.75	6.24	6.90	7.44	10.08
34	.0063	39.7	12,650.	.11	113,000.	4.88	7.89	8.73	9.24	12.33
35	.0056	31.4	16,000.	.087	180,000.	6.75	10.47	11.43	12.00	15.18
36	.005	25.0	20,090.	.069	287,000.	9.75	14.46	15.78	16.38	19.68
37	.0045	20.2	24,800.	.056	447,000.	15.53	22.58	21.98	24.83	28.50
38	.004	16.0	31,500.	.045	701,000.	24.30	34.65	37.80	36.60	40.35
39	.0035	12.2	41,000.	.034	1,209,000.	28.50	41.70	45.45	43.95	48.00
40	.003	9.0	55,060.	.025	2,220,000.	37.50	46.50	52.50	51.00	61.50

Properties of Climax Resistance Wire

Resistance per mil-foot 500 ohms at 75° F. (24° C.)
 Temperature coefficient .0004 per degree F.
 Specific gravity 8.137. Weight per cubic inch .29 lb.

COLONIAL COPPER CLAD (C. C. C.) WIRE

The use of C. C. C. wire is advantageous in all instances where strength and durability, rather than electrical conductivity, fix the size of the wire; and where, therefore, the use of copper requires a larger wire in order to get the requisite mechanical strength and ruggedness of construction than is necessary from the electrical standpoint. It consists of a core of steel entirely surrounded by, and united with, an outer envelope of copper by means of a thorough weld, combining the strength of the two with reasonable conductivity. Due to its increased strength the substitution of C. C. C. for copper wire makes line trouble the exception rather than the rule; conduces to a permanency of installation unobtainable in other materials; it incidentally effects a considerable saving in cost, a still greater one in maintenance, or in the two combined.

C. C. C. wire is furnished in two grades, having conductivity of 30% and 40% respectively.

List No.	B & SG Size	—Weight in Lbs. per M Ft.—			Approximate Breaking Weight in Lbs.			Average Resistance Ohms per M Ft. at 60° F.	
		C. C. C. 30%	C. C. C. 40%	Copper	C. C. C. 30%	C. C. C. 40%	Copper	C. C. C. 30%	C. C. C. 40%
661050	4/0	584	593	641	9805	9315	7914	.1614	.1203
661051	3/0	463	470	508	8250	7838	6533	.2019	.1514
661052	2/0	366	371	403	6830	6489	5365	.3213	.1910
661053	1/0	291	295	320	5680	5396	4386	.3213	.2410
661054	1	230	234	253	4800	4560	3565	.4063	.3048
661055	2	184	187	201	3900	3705	2892	.5097	.3823
661056	3	145	147	159	3200	3040	2338	.6470	.4853
661057	4	114.5	116.2	126.4	2630	2499	1890	.8152	.6115
661058	5	91.0	92.4	100.2	2160	2052	1520	1.025	.7685
661059	6	72.0	73.1	79.7	1770	1682	1221	1.293	.9698
661060	7	57.7	58.6	63.0	1450	1378	984	1.637	1.228
661061	8	45.5	46.2	50.0	1180	1121	788	2.071	1.554
661062	9	35.5	36.0	39.6	965	917	630	2.611	1.959
661063	10	29.0	29.4	31.4	790	751	506	3.262	2.446
661064	11		23.2	24.9		613	403		3.073
661065	12		18.5	19.8		499	318		3.880
661066	14		11.4	12.4		333	202		6.213

Comparative Weight C. C. C. Weatherproof Wire
AND COPPER WEATHERPOOF PER M FEET

List No.	B & SG Size	Double Braid			Triple Braid		
		Copper	C. C. C. 30%	C. C. C. 40%	Copper	C. C. C. 30%	C. C. C. 40%
661067	4/0	723	666	671	767	710	713
661068	3/0	587	542	546	629	584	586
661069	2/0	467	430	435	502	465	470
661070	1/0	377	348	353	407	378	382
661071	1	294	271	275	316	293	297
661072	2	239	222	225	260	243	246
661073	3	185	171	173	199	185	187
661074	4	151	139.1	140.5	164	152.5	154.2
661075	5	122	112.8	114.2	135	126.0	127.4
661076	6	100	92.5	93.6	112	105.0	106.1
661077	8	66	61.5	62.2	75	70.5	71.2
661078	9	54	49.9	50.4	62	57.9	58.4
661079	10	46	43.6	44.0	53	50.6	51.0
661080	12	30	28.4	28.7	35	33.4	33.7
661081	14	20		19.0	25		24.0

Prices on application.

—Bare, Insulated and Strand

BARE COPPER WIRE

Trolley Wire



Round



Grooved



Figure 8

Hard drawn trolley wires are furnished in any of the standard styles, round, grooved or figure 8. Sizes 4/0 and 3/0 are put up in $\frac{1}{2}$ mile lengths, 2/0 and 1/0 are furnished in $\frac{1}{2}$ or 1 mile lengths. The cross sections of the various styles and sizes are shown above. The grooved shown is American Standard.

Size B. & S.	List No. Round	List No. Grooved	List No. Figure 8	Approximate Wgt., Pounds		Electrical Conductivity (Minimum)
				Per Mile	Per 1000 Feet	
0	660774	660778	660782	1685	319	Mile—ohm @ 68 degrees Fahr., not to exceed 890.1 equals 98% Matthiessen's Standard.
00	660775	660779	660783	2132	404	
000	660776	660780	660784	2690	509	
0000	660777	660781	660785	3386	641	

Copper Line Wire

Hard Drawn or Annealed

These wires are drawn accurately to gauge according to specification. They are of high conductivity and tensile strength.

All copper wires are regularly drawn to B. & S. gauge and annealed, and all orders will be filled accordingly, unless otherwise stated.

List No.	Size B. & S. Gauge	Diameter in Mils	Capacity Circular Mils	Per 1000 Feet Lbs.	Pounds per Mile	Put up in
660786	0000	460	211600	639	3376	200-lb. Coils.
660787	000	410	167803	507	2677	
660788	00	365	133079	402	2123	
660789	0	325	105534	319	1684	
660790	1	289	83694	253	1335	200-lb. Coils.
660791	2	258	66373	201	1059	
660792	3	229	52634	159	840	
660793	4	204	41743	126	666	
660794	5	182	33102	100	528	200-lb. Coils.
660795	6	162	26251	79	419	
660796	7	144	20817	63	332	
660797	8	128	16510	50	263	
660798	9	114	13094	40	209	100-lb. Coils.
660799	10	102	10382	31	166	
660800	11	91	8234	25	131	
660801	12	81	6530	20	104	
660802	13	72	5178	16	83	50-lb. Coils.
660803	14	64	4107	13	66	
660804	15	57	3257	10	52	
660805	16	51	2583	8	41	
660806	17	45	2048	6	33	50-lb. Coils.
660807	18	40	1624	5	26	
660808	19	36	1288	4	21	
660809	20	32	1022	3	16	

Also put up in long lengths on reels, as desired. Prices on application.

BARE COPPER WIRE



Concentric Strands

Bare Copper Concentric Strand Wire

All strands are concentric laid, giving the smallest outside diameter for any certain capacity. Unless otherwise specified, cables will be furnished according to regular style of stranding. The table shows the diameter in mils of wire used according to the number of wires of which the strand is composed.

Capacity Circular Mils	Weight		Regular Style of Stranding		Diam. of Strand, Mils	Capacity Circular Mils	Weight		Regular Style of Stranding		Diam. of Strand, Mils
	Per 1000 ft.	Per Mile	No. Wires	Diam. Each			Per 1000 ft.	Per Mile	No. Wires	Diam. Each	
2000000	6180	32640	91	148	1630	300000	927	4896	37	90	630
1750000	5409	28560	91	139	1530	250000	772	4080	37	82	574
1500000	4635	24480	91	128	1410	4/0 B. & S.	652	3442	19	105	525
1250000	3864	20400	91	117	1288	3/0 B. & S.	517	2730	19	94	470
1000000	3090	16320	61	128	1151	2/0 B. & S.	410	2165	19	84	420
950000	2936	15504	61	125	1125	1/0 B. & S.	325	1717	19	75	375
900000	2780	14688	61	121	1089	1 B. & S.	258	1361	7	109	327
850000	2627	13872	61	118	1061	2 B. & S.	204	1079	7	98	294
800000	2472	13056	61	115	1034	3 B. & S.	162	855	7	87	261
750000	2318	12240	61	111	998	4 B. & S.	128	680	7	77	231
700000	2164	11424	61	107	963	5 B. & S.	102	538	7	69	207
650000	2010	10608	61	103	928	6 B. & S.	80	427	7	61.2	183
600000	1854	9792	61	99	891	8 B. & S.	51	268	7	48.4	145
550000	1700	8976	61	95	855	10 B. & S.	32	169	7	38.6	116
500000	1545	8160	37	116	812	12 B. & S.	20	106	7	30.6	91.8
450000	1390	7344	37	110	770	14 B. & S.	13	67	7	24.2	72.6
400000	1236	6528	37	104	729	16 B. & S.	8	42	7	19.3	57.9
350000	1082	5712	37	97	679	18 B. & S.	5	26	7	15.1	45.3

Capacity Circular Mils	Various Methods of Stranding							
	Diameter in Mils When Composed of							
	7 Wires	12 Wires	19 Wires	27 Wires	37 Wires	61 Wires	91 Wires	127 Wires
2000000							148	126
1750000							139	117
1500000						157	128	109
1250000						142	117	99
1000000						128	105	89
950000						125	102	86
900000						121	100	84
850000						118	97	82
800000						115	94	79
750000					143	111	91	77
700000					138	107	88	74
650000					133	103	84	72
600000					127	99	81	69
550000					122	95	78	66
500000				136	116	91	74	62.7
450000				129	110	86	70	59.5
400000				122	104	81	66	56.1
350000				114	97	76	62	52.6
300000			126	105	90	70	57.4	48.6
250000			115	96	82	64	52.4	44.3
4/0 B. & S.			105	86	76	58.9	48.2	40.8
3/0 B. & S.		118	94	79	67	52.5	43	36.4
1/0 B. & S.		105	84	70	60	46.7	38.3	32.4
2/0 B. & S.	123	94	75	62.6	53.4	41.6	34.1	28.8
1 B. & S.	109	83	66	55.6	47.5	37	30.3	25.6
2 B. & S.	98	75	59.2	49.7	42.4	33	27.1	22.9
3 B. & S.	87	66	52.5	44.1	37.7	29.3	24	20.3
4 B. & S.	77	59	46.8	39.3	33.5	26.1	21.4	18.1
5 B. & S.	69	52.5	41.8	35	29.9	23.3	19.1	16.2
6 B. & S.	61.2	46.8	37.2	31.2	26.6	20.7	17	14.4
8 B. & S.	48.4	37	29.4	24.6	21.1	16.4	13.4	11.4
10 B. & S.	38.6	29.4	23.4	19.6	16.8	13.1	10.7	9.1
12 B. & S.	30.6	23.4	18.6	15.6	13.3	10.4	8.5	7.2
14 B. & S.	24.2	18.5	14.7	12.3	10.5	8.2	6.7	5.7
16 B. & S.	19.3	14.7	11.7	9.8	8.4	6.5	5.3	4.5
18 B. & S.	15.1	11.6	9.2	7.7	6.6	5.1	4.2	3.5

Wire—Bare, Insulated and Stranded

GALVANIZED WIRE



Galvanized Wire

Telephone and Telegraph Wire

There are three grades of galvanized wire, classified as follows: Extra Best Best (E. B. B.), Best Best (B. B.) and Steel. Specify grade desired.

Extra Best Best (E. B. B.) wire is made from a special stock of great purity, producing wire of absolutely uniform quality, in which the elements of softness and elongation are combined with low electrical resistance to a marked degree. It is largely employed in long lines or service where low electrical resistance is both desirable and necessary.

Best Best (B. B.) wire is made from a stock of high quality, producing a wire somewhat less uniform and of higher resistance than E. B. B., but of greater tensile strength. This grade is used almost exclusively for the construction of subscribers' lines in exchanges, and on account of its great tensile strength is best adapted for rural or farmer lines.

Steel wire has a greater tensile strength than either E. B. B. or B. B., but on account of its greater electrical resistance is not very generally used.

The different grades of wire are Extra Galvanized, i.e., the wire is protected from atmospheric action by a heavy uniform coating of spelter.

List No.	B. W. G. Gauge	Diameter in Inches	Breaking Strain in Lbs.			Weight in Lbs. per Mile	Bundles Mile
			E. B. B.	B. B.	Steel		
660810	4	.238	2433	2676	3000	811	1/4
660811	6	.203	1770	1947	2183	590	1/4
660812	8	.165	1170	1287	1443	390	1/4
660813	9	.148	942	1036	1162	314	1/4
660814	10	.134	774	851	955	258	1/4
660815	11	.120	618	680	762	206	1/4
660816	12	.109	510	561	629	170	1/4
660817	14	.083	297	327	366	99	1/4

Prices on application.

Standard Galvanized Steel Strand



Steel Strand

For guys, signal strand, trolley line span wire and other purposes. Composed of seven wires twisted together.

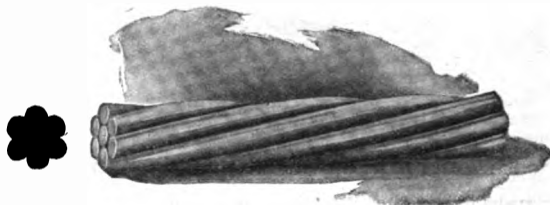
List No.	Diameter	Wgt. per 1000 Ft. in Lbs.	Approx. Breaking Strain in Lbs.	List Price per 100 Ft.
660818	1/4-inch	510	8,500	\$5.94
660819	5/16-inch	415	6,500	4.86
660820	3/8-inch	295	5,000	3.78
660821	7/16-inch	210	3,800	2.70
660822	1/2-inch	125	2,300	1.89
660823	5/8-inch	95	1,800	1.62
660824	3/4-inch	75	1,400	1.35
660825	7/8-inch	55	900	1.25
660937	1-inch	32	500	1.08
660938	1 1/8-inch	20	400	.87

Intermediate sizes take next higher list.

Galvanized strand is furnished both single and double galvanized. In ordering, state which is required.

NOTE: Add 10% for double strand.

GALVANIZED WIRE STRANDS



Galvanized Wire Strands

Uses of Strand

Guy Strand

Extra Galvanized Siemens-Martin Strand is frequently employed to guy electric railway, telegraph and telephone poles.

Messenger Strand

$\frac{1}{8}$ -inch diameter extra galvanized Siemens-Martin Strand, $\frac{3}{8}$ -inch or $\frac{1}{2}$ -inch diameter extra galvanized high strength strand is stretched from pole to pole, and from this messenger strand, so called, the heavy lead-encased telephone cable is suspended by means of clips, wire or cord at short intervals. A messenger strand thus sustains the stress due to weight of cable, wind or ice load. Common galvanized strand should never be used for this purpose, as it does not possess the requisite strength.

Catenary Method of Supporting Trolley Wires

One or more messenger strands are stretched from the center of the tracks. Every few feet along this messenger strand are pendent hangers that clamp on to the trolley wire, retaining it in a rigid, straight, horizontal line. For a single messenger strand carrying 4/0 Copper Trolley Wire, in spans of 125 to 150 feet, $\frac{3}{8}$ -inch or $\frac{1}{2}$ -inch diameter, extra galvanized Siemens-Martin Strand is frequently used. For longer spans, up to 225 feet, the $\frac{3}{8}$ -inch or $\frac{1}{2}$ -inch extra galvanized high strength strand is preferable.

Lightning Arrester for Transmission Lines

To protect high-tension current transmission lines from destructive lightning a $\frac{3}{8}$ -inch diameter extra galvanized Siemens-Martin Strand, known as an "overhead ground strand," is strung at the highest point on the supporting towers, this "overhead ground strand" being connected at frequent intervals with the ground. The extra galvanized Siemens-Martin Strand, because of its great conductivity, is employed almost exclusively for the "overhead ground strand."

EXTRA GALVANIZED SIEMENS-MARTIN STRAND

List No.	Diameter Inches	Tensile Strength in Pounds	*List Price per 100 Ft.	List No.	Diameter Inches	Tensile Strength in Pounds	*List Price per 100 Ft.
660826	$\frac{5}{8}$	19,000	\$9.50	660831	$\frac{1}{2}$	4,380	\$2.58
660827	$\frac{3}{4}$	11,000	5.90	660832	$\frac{3}{4}$	3,050	2.10
660828	$\frac{7}{8}$	9,000	4.94	660833	$\frac{1}{2}$	2,000	1.72
660829	$\frac{3}{8}$	6,800	3.80	660834	$\frac{1}{4}$	900	1.14
660830	$\frac{1}{2}$	4,860	3.04				

EXTRA GALVANIZED HIGH STRENGTH STRAND

List No.	Diameter Inches	Tensile Strength in Pounds	*List Price per 100 Ft.	List No.	Diameter Inches	Tensile Strength in Pounds	*List Price per 100 Ft.
660836	$\frac{5}{8}$	25,000	\$11.88	660841	$\frac{1}{2}$	7,300	\$3.34
660837	$\frac{3}{4}$	18,000	7.52	660842	$\frac{3}{4}$	5,100	2.86
660838	$\frac{7}{8}$	15,000	6.56	660843	$\frac{1}{2}$	3,300	2.28
660839	$\frac{3}{8}$	11,500	5.14	660844	$\frac{1}{4}$	1,500	1.52
660840	$\frac{1}{2}$	8,100	4.00				

EXTRA GALVANIZED EXTRA HIGH STRENGTH STRAND

List No.	Diameter Inches	Tensile Strength in Pounds	*List Price per 100 Ft.	List No.	Diameter Inches	Tensile Strength in Pounds	*List Price per 100 Ft.
660845	$\frac{5}{8}$	42,000	\$16.64	660850	$\frac{1}{2}$	10,900	\$4.00
660846	$\frac{3}{4}$	27,000	10.46	660851	$\frac{3}{4}$	7,600	3.62
660847	$\frac{7}{8}$	22,500	8.74	660852	$\frac{1}{2}$	4,900	3.04
660848	$\frac{3}{8}$	17,250	6.76	660853	$\frac{1}{4}$	2,250	2.00
660849	$\frac{1}{2}$	12,100	5.14				

*Delivery F. O. B. Factories, Trenton, N. J., Worcester, Mass., or Phillipsdale, R. I. For warehouse deliveries write nearest house.

Wire—Bare, Insulated and Strand

COPPER SPLICING SLEEVES



Seamless Splicing Sleeves

Clark Seamless Splicing Sleeves

For Copper and Steel Cable

These sleeves are of pure seamless copper tube, specially annealed, and when encasing a steel cable, it is tinned inside and out. The splice is made by simply placing the two conductor ends into the oval sleeve and twisting at either end in opposite directions with specially designed wrenches as listed below. The resulting joint is stronger than the encased conductor (up to $\frac{1}{2}$ inch stranded Siemens Martin steel cable) and the line is guaranteed, with the splice in place, to develop in excess of 96 per cent. of its ultimate tensile strength. The joint has a conductivity about $2\frac{1}{2}$ times that of the copper conductor encased.

For Solid Copper Conductor

List No.	Size Conductor	Wgt. per 100	List Price per 100	List No.	Size Conductor	Wgt. per 100	List Price per 100
660996	14 B. & S.	1.5 lbs.	Special	661003	2 B. & S.	28 lbs.	Special
660997	12 B. & S.	2.5 lbs.	Special	661004	1 B. & S.	35 lbs.	Special
660998	10 B. & S.	3 lbs.	Special	661005	1/0 B. & S.	51 lbs.	Special
660999	8 B. & S.	5 lbs.	Special	661006	2/0 B. & S.	59 lbs.	Special
661000	6 B. & S.	9 lbs.	Special	661007	3/0 B. & S.	75 lbs.	Special
661001	4 B. & S.	15 lbs.	Special	661008	4/0 B. & S.	100 lbs.	Special

Seven Strand and Standard Strand Cable

661009	4 B. & S.	23 lbs.	Special	661013	1/0 B. & S.	66 lbs.	Special
661010	3 B. & S.	28 lbs.	Special	661014	2/0 B. & S.	77 lbs.	Special
661011	2 B. & S.	35 lbs.	Special	661015	3/0 B. & S.	110 lbs.	Special
661012	1 B. & S.	51 lbs.	Special	661016	4/0 B. & S.	120 lbs.	Special

Tinned Copper Splicing Sleeves

For Steel Cable

661017	$\frac{1}{4}$ in.	35 lbs.	Special	661020	$\frac{1}{8}$ in.	155 lbs.	Special
661018	$\frac{3}{8}$ in.	85 lbs.	Special	661021	$\frac{1}{2}$ in.	185 lbs.	Special
661019	$\frac{1}{2}$ in.	125 lbs.	Special				

Steel Twisting Wrenches

For Use with Seamless Copper Splicing Sleeves

List No.		List Price per Set of Two
661022	Twisting wrenches.....	\$5.00



Split Tinned Connector

Split Tinned Copper Connectors

For Splicing Underground Cable Lines

These connectors are made of soft copper and the entire surface is tinned. They are especially adapted for use on underground cables.

List Prices and Data

List No.	Size	Approx. Length	List Price per 100
660888	2 B. & S. Gauge Stranded.....	2 ins.	Special
660889	1/0 B. & S. Gauge Stranded.....	2 ins.	Special
660890	4/0 B. & S. Gauge Stranded.....	2 1/4 ins.	Special
660891	500,000 B. & S. Gauge Stranded.....	2 1/4 ins.	Special
660892	1,000,000 B. & S. Gauge Stranded.....	4 ins.	Special
660893	2,000,000 B. & S. Gauge Stranded.....	6 ins.	Special

COPPER CONNECTORS

Fig. 10
Double Tube SleeveFig. 11
Sleeve and Wire Welded Together in One Solid Piece

Western Electric—National Copper Connectors

For Splicing Copper Wire

The above connectors are of the double tube type, and are made accurately and very close to the size of the wire for which they are intended.

When twisted the sleeve is drawn snugly around the wire, forming an absolutely solid joint which air and moisture cannot penetrate. Fig. 11 shows sleeve sawed lengthwise after being twisted.

DOUBLE TUBE

List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches
660626	4/0 B. & S.	20	660638	8 B. W. G.	6 3/4	660663	12 B. & S.	2 1/4
660627	3/0 B. & S.	18	660652	8 B. W. G.	3 3/8	660664	14 N. B. S.	4 1/2
660628	2/0 B. & S.	16	660653	9 B. & S.	5 1/2	660835	14 N. B. S.	2 1/4
660629	0 B. & S.	14	660654	10 B. & S.	4 1/4	660894	14 B. & S.	4
660630	1 B. & S.	12	660655	10 B. & S.	2 3/8	660895	14 B. & S.	3
660631	2 B. & S.	9 1/4	660656	10 B. W. G.	5 1/4	660896	14 B. & S.	2
660632	3 B. & S.	8 3/4	660657	10 N. B. S.	5 1/2	660897	16 B. & S.	4
660633	4 B. & S.	8	660658	11 B. W. G.	5 1/4	660898	16 B. & S.	3
660634	4 B. & S.	6	660659	12 B. W. G.	5 1/4	660899	16 B. & S.	2
660635	6 B. & S.	6	660660	12 N. B. S.	4 1/4	660900	18 B. & S.	3
660636	7 B. & S.	5 3/4	660661	12 N. B. S.	2 3/8	660901	18 B. & S.	2
660637	8 B. & S.	5 1/2	660662	12 B. & S.	4 1/2	660902	19 B. & S.	1 1/4

COMBINATION

List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches
660903	8 B. W. G.—12 N. B. S.	6 3/4	660909	10/17 B. & S.	3	660915	14/16 B. & S.	3
660904	8 B. W. G.—12 N. B. S.	3	660910	10/18 B. & S.	3	660916	14/17 B. & S.	3
660905	10/12 B. & S.	4 1/4	660911	12/14 B. & S.	3	660917	14/18 B. & S.	3
660906	10/12 B. & S.	3	660912	12/16 B. & S.	3	660918	16/17 B. & S.	3
660907	10/14 B. & S.	3	660913	12/17 B. & S.	3	660919	16/18 B. & S.	3
660908	10/16 B. & S.	3	660914	12/18 B. & S.	3			

SPLIT SLEEVES—DOUBLE TUBE

List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches
660920	10/12 B. & S.	3	660922	12/14 B. & S.	3	660924	14/16 B. & S.	3
660921	12/12 B. & S.	3	660923	12/16 B. & S.	3			

SINGLE TUBE

List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches	List No.	Size Wire	Length Inches
660925	8 B. W. G.	6 1/4	660928	12 N. B. S.	4 1/4	660931	12 B. & S.	2 1/4
660926	8 B. W. G.	3 3/8	660929	12 N. B. S.	2 1/4	660932	14 N. B. S.	4 1/4
660927	10 B. & S.	4 1/4	660930	12 B. & S.	4 1/4			

Prices on application

Western Electric—National Tinned Steel Sleeves

For Splicing Iron Wire
SINGLE TUBE

List No.	Size Wire	Length Inches	List Price per 100	List No.	Size Wire	Length Inches	List Price per 100
661046	9 B. W. G.	5 3/4	\$29.32	661049	12 B. W. G.	5 1/4	\$26.00
661047	10 B. W. G.	5 1/2	26.66				
661048	12 B. W. G.	4 3/4	24.00	661050	14 B. W. G.	4 1/4	21.32

*Delivery F. O. B. Cleveland, O. For warehouse deliveries write nearest house.
Wire—Bare, Insulated and Strand

PORCELAIN KNOBS

Split Knobs

NO. 5½ SPLIT

List No.	Code	Height	Diam.	Groove	Hole
5½	Old	1¾ ins.	1 in.	No. 12 B & S	¼ in.
5½	New	1¾ ins.	1½ in.	No. 12 B & S	¼ in.

Package Data and List Price

Code	List No.	Std. Pkg.	Pkg. Wt.	List per 1000
Old	5½	3250	415 lbs.	\$19.92
New	5½	3000	415 lbs.	20.72

NO. 1849 DESIGN

List No.	Height	Diam.	Groove	Hole
1849	1¾ ins.	1 in.	No. 12 B & S	¼ in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
1849	3250	415 lbs.	\$19.92

NO. 55½ SQUARE INTERCHANGEABLE

List No.	Height	Diam.	Groove	Hole
55½	1¾ ins.	1¼ ins.	No. 12 B & S	¼ in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
55½	2500 lbs.	410 lbs.	\$23.80

NO. 5517 DESIGN

Following knobs are all of the same general design, differing only in dimensions.

List No.	Height	Diam.	Groove	Hole
5517	1¾ ins.	1¼ in. x 1½ in.	No. 12 B & S	¼ in.
5135	1¾ ins.	1¾ ins.	No. 8 B & S	1½ in.
5147	2¼ ins.	1¾ ins.	No. 4 B & S	1½ in.

Package Data and List Price

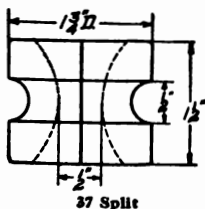
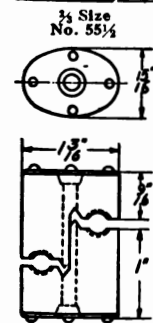
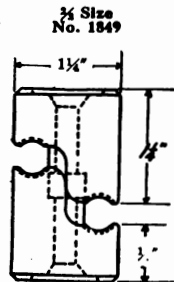
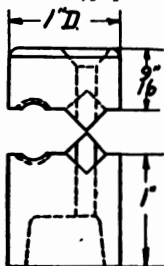
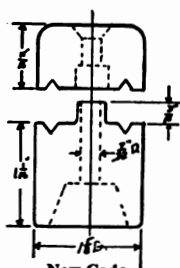
List No.	Std. Pkg.	Pkg. Wt.	List per 1000
5517	3750	465 lbs.	\$23.80
5135	1500	415 lbs.	36.04
5147	900	430 lbs.	44.76

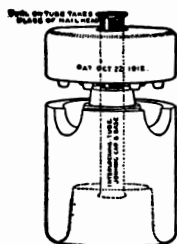
NO. 37 SPLIT

List No.	Height	Diam.	Groove	Hole
37	1½ ins.	1¾ ins.	½ in.	¾ in.

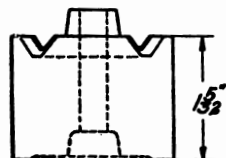
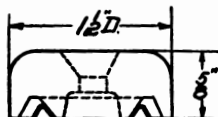
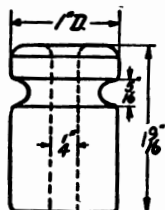
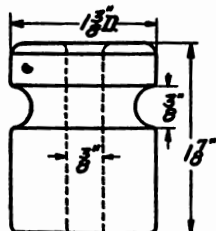
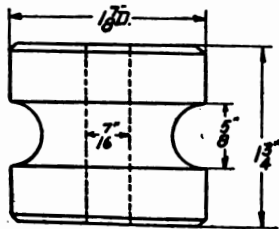
Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
37	1500	370 lbs.	\$51.94





Unit Knob

1/2 Size
No. 9419No. 5 1/2
Old Code1/2 Size
Midway1/2 Size
No. 24

Insulators

PORCELAIN KNOBS

Split Knobs

UNIT SPLIT KNOB

A complete knob with top and bottom always together, held by a metal tube which is furled at either end and takes the place of nail heads.

List No.	Description	Std. Pkg.	Pkg. Wt.	List per 1000
1	For No. 12 wire and smaller	4000	500 lbs.	\$22.80
2	For No. 10, 8 or 6 wire	4000	500 lbs.	42.40
Height, 1 1/4 inches. Diameter, 1 1/4 inches. Hole, 1/4 inch.				

Standard Knobs

NO. 9419

List No.	Height	Diam.	Groove	Hole
9419	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
9419	1500	415 lbs.	\$30.10

NO. 5 1/2 DESIGN

Following knobs are all of the same general design, differing only in dimensions.

List No.	Code	Height	Diam.	Groove	Hole
5 1/2	Old	1 1/4 ins.	1 in.	1/4 in.	1/4 in.
5 1/2	New	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.
5	....	1 1/4 ins.	1 in.	1/4 in.	1/4 in.

Package Data and List Price

List No.	Code	Std. Pkg.	Pkg. Wt.	List per 1000
5 1/2	Old	4500	400 lbs.	\$13.64
5 1/2	New	3500	410 lbs.	17.08
5	....	6000	430 lbs.	13.70

MIDWAY DESIGN

Following knobs are all of the same general design, differing only in dimensions.

List No.	Height	Diam.	Groove	Hole
Midway	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.
4	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.
4 1/2	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.
10	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.
10 1/2	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
Midway	2000	390 lbs.	\$21.46
4	1900	415 lbs.	21.46
4 1/2	1700	410 lbs.	23.88
10	1500	400 lbs.	32.24
10 1/2	1500	415 lbs.	32.30

NO. 24 DESIGN

Following knobs are all of the same general design, differing only in dimensions.

List No.	Height	Diam.	Groove	Hole
24	1 1/4 ins.	1 1/4 ins.	1/4 in.	1/4 in.
26	2 ins.	2 1/4 ins.	1/4 in.	1/4 in.

Package Data and List Price

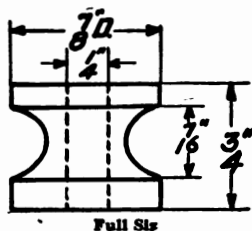
List No.	Std. Pkg.	Pkg. Wt.	List per 1000
24	1200	425 lbs.	\$55.82
26	700	420 lbs.	45.78

PORCELAIN KNOBS

NO. 7 DESIGN

Following knobs are all of the same general design, differing only in dimensions:

List No.	Height	Diam.	Groove	Hole
7	$\frac{3}{4}$ in.	$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.
6	$\frac{1}{2}$ in.	$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.
8	$\frac{1}{2}$ in.	1 in.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.
14	$\frac{1}{2}$ in.	$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.



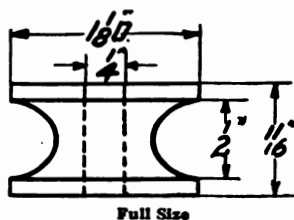
Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
7	15000	370 lbs.	\$22.94
6	13500	465 lbs.	18.18
8	8000	375 lbs.	18.26
14	12500	450 lbs.	18.20

NO. 11 DESIGN

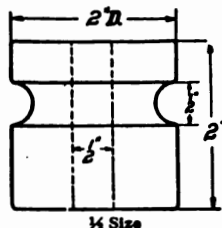
Following knobs are all of the same general design, differing only in dimensions:

List No.	Height	Diam.	Groove	Hole
11	$\frac{1}{2}$ in.	$\frac{1}{8}$ ins.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.
12	$\frac{1}{2}$ in.	$\frac{1}{8}$ ins.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.
13	$\frac{1}{2}$ in.	$\frac{1}{8}$ ins.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.
45	$\frac{1}{2}$ in.	$\frac{1}{8}$ ins.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.
46	1 in.	$\frac{1}{8}$ ins.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.



Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
11	10000	330 lbs.	\$24.18
12	5000	275 lbs.	24.50
13	4500	300 lbs.	24.56
45	5000	300 lbs.	24.54
46	4500	350 lbs.	29.02

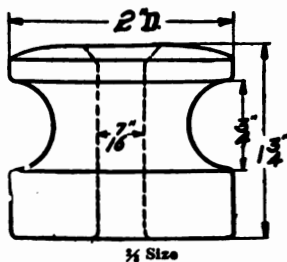


NO. 2

List No.	Height	Diam.	Groove	Hole
2	2 ins.	2 ins.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
2	850	425 lbs.	\$28.08

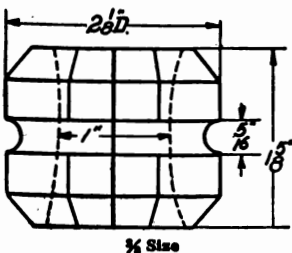


NO. 3 WG

List No.	Height	Diam.	Groove	Hole
3 WG	$1\frac{1}{4}$ ins.	2 ins.	$\frac{1}{4}$ in.	$\frac{1}{4}$ in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
3 WG	1000	390 lbs.	\$23.48



NO. 22

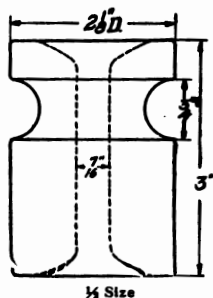
List No.	Height	Diam.	Groove	Hole
22	$1\frac{1}{2}$ ins.	$2\frac{1}{2}$ ins.	$\frac{1}{4}$ in.	1 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
22	1000	400 lbs.	\$30.28

Insulators

PORCELAIN KNOBS



NO. 1

List No.	Height	Diam.	Groove	Hole
1	3 ins.	2 1/2 ins.	1/4 in.	7/8 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
1	600	420 lbs.	\$50.16

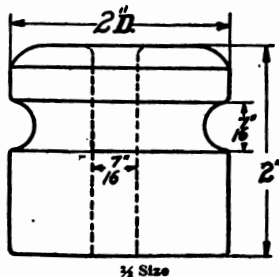
NO. 3 1/2 DESIGN

Following knobs are all of the same general design, differing only in dimensions:

List No.	Height	Diam.	Groove	Hole
3 1/2	2 ins.	2 ins.	1/8 in.	1/8 in.
3	1 1/4 ins.	2 ins.	1/8 in.	1/8 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
3 1/2	900	435 lbs.	\$28.08
3	1000	420 lbs.	23.50



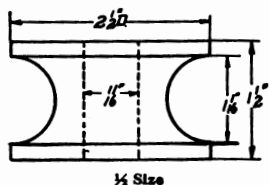
NO. 25 DESIGN

Following knobs are all of the same general design, differing only in dimensions:

List No.	Height	Diam.	Groove	Hole
25	1 1/4 ins.	2 1/2 ins.	1 1/8 ins.	1 1/8 in.
29	2 1/4 ins.	2 1/2 ins.	1 1/4 ins.	1 1/4 in.
49	1 1/2 ins.	2 3/4 ins.	1 1/2 in.	1 1/2 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
25	750	330 lbs.	\$42.78
29	500	400 lbs.	57.14
49	700	425 lbs.	41.74



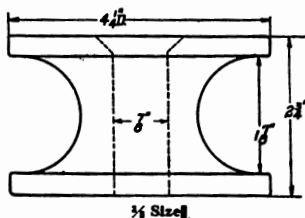
NO. 53 DESIGN

Following knobs are all of the same general design, differing only in dimensions:

List No.	Height	Diam.	Groove	Hole
53	2 3/4 ins.	4 1/4 ins.	1 1/4 ins.	1 1/4 in.
54	3 3/4 ins.	4 1/2 ins.	2 1/4 ins.	1 1/4 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
53	130	275 lbs.	\$238.48
54	125	250 lbs.	294.80

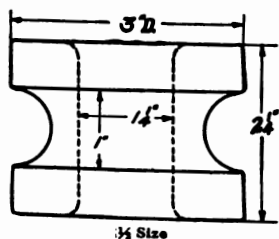


NO. 0

List No.	Height	Diam.	Groove	Hole
0	2 1/4 ins.	3 ins.	1 in.	1 1/4 ins.

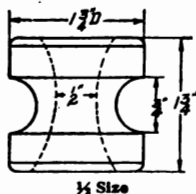
Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
0	350	350 lbs.	\$88.20



Insulators

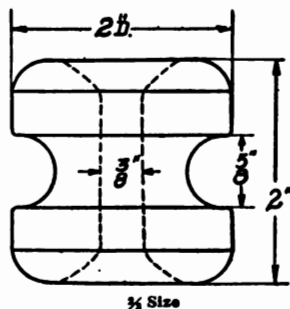
PORCELAIN KNOBS



NO. 36				
List No.	Height	Diam.	Groove	Hole
36	1 1/8 ins.	1 1/4 ins.	3/4 in.	1/2 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
36	1500	415 lbs.	\$41.10



NO. 20

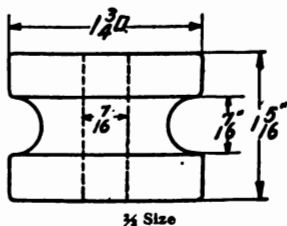
List No.	Height	Diam.	Groove	Hole
20	2 ins.	2 ins.	5/8 in.	3/8 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
20	1000	440 lbs.	\$30.18

NO. 15 DESIGN

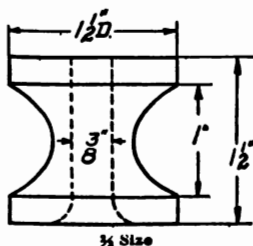
Following knobs are all of the same general design, differing only in dimensions:



List No.	Height	Diam.	Groove	Hole
15	1 1/8 ins.	1 1/4 ins.	1/2 in.	1/8 in.
41	1 1/4 ins.	2 ins.	1/2 in.	3/8 in.
47	1 1/4 ins.	1 1/4 ins.	1/8 in.	1/8 in.
48	1 1/4 ins.	2 1/4 ins.	3/4 in.	3/8 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
15	1900	415 lbs.	\$36.36
41	1300	400 lbs.	50.22
47	1400	340 lbs.	36.56
48	850	450 lbs.	44.28

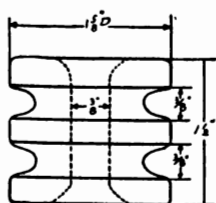


NO. 23

List No.	Height	Diam.	Groove	Hole
23	1 1/2 ins.	1 1/2 ins.	1 in.	3/4 in.

Package Data and List Price

List No.	Std. Pkg.	Pkg. Wt.	List per 1000
23	2000	250 lbs.	\$32.58



TELEPHONE KNOBS

List No.	Diam.	Height	Groove	Hole	Std. Pkg.	Approx. Wgt.	List Price per 1000
6061 Two groove	1 1/8 ins.	1 1/8 ins.	1/8 in.	3/8 in.	2000	455 lbs.	\$25.24
6062 Four groove	1 1/4 ins.	2 1/4 ins.	1/8 in.	1/8 in.	1000	375 lbs.	28.30

PORCELAIN BUSHINGS

Federal Clamp Bushings

These bushings are made of one piece of the best grade of vitrified porcelain. Clamping rings are made of metal, threaded to fit threads on the porcelain. They can be used on material one-fourth of an inch or less in thickness. Longer bushings for thicker materials described below. Black top bushings if ordered in lots of 1000 or more can be furnished at slightly higher prices, quoted on application.



A-6

A-5

A-4

A-3

A-2

A-1

List No.	Internal Diam. Ins.	External Diam. Ins.	Unit Pkg.	Std. Pkg.	Wgt. Std. Pkg. Lbs.	List Price Each
A-6	1 5/8	2 1/4	12	48	25	\$0.20
A-5	1 1/2	1 5/8	25	100	45	.12
A-4	3/4	1 1/4	25	150	35	.10
A-3	1/2	1	50	250	35	.08
A-2	1/4	3/4	50	250	30	.07
A-1 1/2	1/4	3/4	50	250	30	.07
A-1	1/4	3/4	100	250	15	.06



F-1



B-1



K-1



K-2



List No.	Internal Diam. Ins.	External Diam. Ins.	Unit Pkg.	Std. Pkg.	Wgt. Std. Pkg. Lbs.	List Price Each
F-1	9/32	41/64	25	100	35	\$0.17
B-1	9/32	41/64	50	100	25	.10

Elbow Bushing

List No.	Internal Diam. Ins.	External Diam. Ins.	Unit Pkg.	Std. Pkg.	Wgt. Std. Pkg. Lbs.	List Price Each
K-1	9/32	41/64	50	100	20	\$0.12
K-2	13/32	13/16	50	100	35	.17

Split Wedge Knob



No. 5 1/4

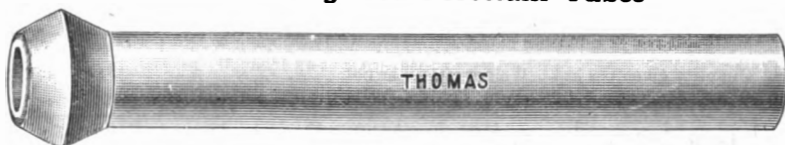
Insulators

List No.	Height	Diam.	Size Wire	500 in a Box	1000 in a Box	3000 in Bbl.
5 1/2	1 5/8	1 1/4	10, 12 and 14 B & S.	\$23.00	\$18.80	\$14.40

7

PORCELAIN TUBES

Standard Unglazed Porcelain Tubes



Tube list dimensions conform to the new rules of the Underwriters' Board.
Barrel lots constitute a standard package.

List Price per 100

Length in Inches Under Head	1/2 Hole Out- side Diam- eter	3/8 Hole Out- side Diam- eter	1/2 Hole Out- side Diam- eter	5/8 Hole Out- side Diam- eter	3/4 Hole Out- side Diam- eter	1 Hole Out- side Diam- eter	1 1/4 Hole Out- side Diam- eter	1 1/2 Hole Out- side Diam- eter	1 3/4 Hole Out- side Diam- eter	2 Hole Out- side Diam- eter	2 1/4 Hole Out- side Diam- eter	2 1/2 Hole Out- side Diam- eter
1 1/2	\$1.30	\$1.40										
1	1.30	1.40	\$2.10	\$2.70	\$3.00	\$4.50						
1 1/2	1.30	1.50	2.10	2.70	3.30	5.30						
2	1.40	1.80	2.60	3.20	4.20	6.00						
2 1/2	1.50	2.20	3.00	4.00	5.00	7.00	\$12.20	\$15.60	\$19.80	\$23.40	\$26.80	\$30.30
3	1.60	2.60	3.40	4.70	5.50	8.00	13.80	17.40	22.00	25.80	29.60	32.50
4	2.70	3.00	4.10	5.50	6.80	10.00	15.60	19.20	23.90	27.70	31.50	35.30
5	3.20	3.60	4.80	6.40	8.00	12.50	18.10	25.30	34.10	41.70	48.80	56.80
6	3.90	4.50	5.50	7.30	9.50	14.30	19.20	31.20	45.30	57.90	70.50	83.20
8	7.20	8.40	9.60	10.80	12.00	16.80	24.00	38.40	58.10	73.90	89.80	105.60
10	9.60	10.80	12.00	14.40	16.80	19.20	31.20	45.60	66.00	81.80	97.70	113.50
12	14.40	15.60	16.80	19.20	21.60	26.40	45.60	69.20	102.10	128.00	154.00	180.00
14	34.34	39.27	44.03	48.96	53.89	58.82	107.78	166.43	249.69	312.29	377.06	441.66
16	39.27	44.03	48.96	58.82	63.75	73.44	127.33	186.15	269.28	334.05	398.65	463.08
18	44.03	48.96	58.82	68.51	73.44	83.30	146.88	208.59	323.51	397.97	472.09	545.87
20	48.96	53.89	63.75	73.44	78.37	92.99	161.67	230.18	359.38	440.64	522.92	605.03
22	56.27	61.20	68.51	78.37	88.23	100.47	176.29	252.11	393.72	484.67	575.79	666.91
24	63.75	68.51	73.44	83.30	97.92	107.78	190.91	274.21	428.91	528.87	628.83	728.45

For glazed tubes, add 50 per cent. to list prices.

For split regular tubes, multiply list by ten (10).

For floor tubes, multiply list by six (6).

For split floor tubes, multiply list by ten (10).

For headless tubes, multiply list by four (4).

Curved and curved end tubes, multiply list by six (6).

Crossover tubes split, multiply list by ten (10).

Crossover tubes solid, multiply list by eight (8).

NOTE.—In computing prices on split floor tubes, headless tubes, curved and curved end tubes, the above list prices and lengths must be used as referring to "OVER-ALL" lengths, and not lengths under head.

Split regular tubes lengths refer to under head.

Crossover, solid and split tubes lengths refer to between heads.

SPECIAL PACKAGES

Standard Porcelain, Packed in Corrugated Paper Boxes

Special attention is called to the method of packing Standard Porcelain in heavy corrugated paper cartons. This method entirely eliminates the breakage incident to the usual barrel packages. Packing in cartons is done by hand, which insures inspection of every piece and the selection of only perfect material; this fact easily compensates for the slightly increased cost over the usual barrel packages.

Packed 100 in a Carton

Material	Over-all Dimension of Carton
1/2 x 3 inch Tubes	8 x 8 x 4 inches
1/2 x 4 inch Tubes	8 x 8 x 5 inches
3/8 x 3 inch Tubes	7 x 6 x 7 inches
5/8 inch Split Knobs	9 x 8 x 5 inches
2-wire Cleats	9 x 8 x 5 inches
3/8 x 4 inch Tubes	9 x 8 x 6 inches

Packed 500 in a Carton

1/2 x 3 inch Tubes	8 x 10 x 12 inches
1/2 x 4 inch Tubes	10 x 10 x 12 inches
3/8 x 3 inch Tubes	8 x 10 x 16 1/2 inches
5/8 x 4 inch Tubes	10 x 10 x 16 1/2 inches
5/8 inch Split Knobs	10 x 10 x 14 inches
2-wire Cleats	10 x 10 x 16 1/2 inches



PORCELAIN TUBES AND BUSHINGS

Standard Package, Quantity and Weight of Standard Porcelain Tubes

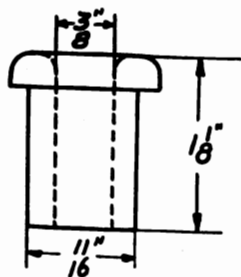
Approximate number of tubes per barrel and approximate shipping weight per bbl.

NOTE: Quantity given per bbl. Weight given per bbl.

	Length Inches	I. D. $\frac{1}{8}$	I. D. $\frac{3}{8}$	I. D. $\frac{1}{2}$	I. D. $\frac{5}{8}$	I. D. $\frac{3}{4}$	I. D. 1	I. D. $1\frac{1}{4}$	I. D. $1\frac{1}{2}$	I. D. $1\frac{3}{4}$
Quantity	$\frac{1}{2}$	15,000	12,500							
Weight	$\frac{1}{2}$	360	370							
Quantity	1	11,000	7,500	6,000	4,500	3,700				
Weight	1	370	380	375	380	330				
Quantity	$1\frac{1}{2}$	9,000	6,000	4,200	3,200	2,500	1,500			
Weight	$1\frac{1}{2}$	350	300	345	375	320	360			
Quantity	2	6,500	5,000	3,400	2,500	1,800	1,100			
Weight	2	310	355	315	355	310	345			
Quantity	$2\frac{1}{2}$	5,500	3,750	2,800	2,000	1,500	900	525	350	250
Weight	$2\frac{1}{2}$	310	310	315	325	295	330	320	325	280
Quantity	3	4,500	3,000	2,000	1,500	1,100	750	425	300	225
Weight	3	280	315	235	265	280	315	310	315	370
Quantity	4	3,000	2,200	1,600	1,200	900	600	300	250	200
Weight	4	240	265	245	350	255	245	230	225	240
Quantity	5	2,500	1,700	1,250	1,000	800	400	285	240	175
Weight	5	235	255	245	245	265	265	250	235	255
Quantity	6	2,000	1,400	1,000	850	575	300	275	225	150
Weight	6	225	245	235	240	235	235	260	245	270
Quantity	8	2,350	1,600	1,050	1,000	650	500	225	190	200
Weight	8	355	385	390	340	370	405	275	290	285
Quantity	10	1,850	1,300	900	800	550	400	180	150	140
Weight	10	350	345	360	350	385	400	290	280	255
Quantity	12	1,500	1,000	750	650	500	275	150	125	120
Weight	12	335	355	345	355	335	330	265	285	280
Quantity	14	1,100	850	600	500	300	225	120	100	90
Weight	14	310	315	320	340	305	315	270	295	290
Quantity	16	1,000	650	500	450	275	175	90	75	60
Weight	16	315	395	335	335	385	315	245	250	250
Quantity	18	900	500	300	200	150	100	75	60	50
Weight	18	320	290	280	265	240	250	235	225	290
Quantity	20	750	500	350	200	190	100	75	60	50
Weight	20	315	305	325	280	255	285	260	255	310
Quantity	22	600	450	300	200	150	100	75	60	50
Weight	22	325	320	320	300	305	315	295	290	335
Quantity	24	600	500	300	200	150	100	75	60	50
Weight	24	340	330	305	325	335	380	310	305	360

NOTE: Tubes of larger size than $1\frac{3}{4} \times 24$ are usually sold in less than barrel lots, therefore they are not given in this list.

Porcelain Bushings



No. 402 Full Size

Insulators

List No.	Length	Diam. under Head	Diam. Hole
400	$\frac{1}{8}$ inch	$\frac{1}{2}$ inch	$\frac{1}{4}$ inch
401	$\frac{3}{8}$ inch	$\frac{3}{4}$ inch	$\frac{1}{2}$ inch
402	$1\frac{1}{8}$ inches	$1\frac{1}{8}$ inch	$\frac{3}{4}$ inch
403	1 inch	$\frac{3}{4}$ inch	$\frac{1}{2}$ inch

Package Data and List Price

List No.	No. per Bbl.	Ship. Wt. per Bbl.	List Price per 1000
400	15,000	250 lbs.	\$16.10
401	6,000	200 lbs.	14.15
402	5,000	225 lbs.	16.25
403	4,000	275 lbs.	21.35

PORCELAIN CLEATS

Two and Three Wire Cleats

NO. 334 CLEAT

DIMENSIONS: Length, $3\frac{3}{8}$ inches; Height, $1\frac{1}{8}$ inches; Width, $\frac{5}{8}$ inch; Groove $\frac{1}{8}$ inch; Screw Hole, $\frac{1}{16}$ inch.

List No.	Description	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
334	Unglazed, two wire.....	1850	385 lbs.	\$24.00
334	Glazed, two wire.....	1850	395 lbs.	31.20
334	Unglazed, three wire.....	1850	395 lbs.	24.00
334	Glazed, three wire.....	1850	395 lbs.	31.20

NO. 350 CLEAT

DIMENSIONS: Length, $3\frac{3}{8}$ inches; Height, $1\frac{1}{2}$ inches; Width, $\frac{5}{8}$ inch; Groove, $\frac{1}{2}$ inch; Screw Hole, $\frac{1}{16}$ inch.

List No.	Description	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
350	Unglazed, two wire.....	1250	395 lbs.	\$49.20
350	Glazed, two wire.....	1250	395 lbs.	63.60
350	Unglazed, three wire.....	1250	395 lbs.	49.20
350	Glazed, three wire.....	1250	395 lbs.	63.60

Single Wire Cleats

NO. 333 TELEPHONE CLEAT

(Bottom No. 333½)

DIMENSIONS: Length, $1\frac{1}{8}$ inches; Width, $\frac{1}{2}$ inch; Groove, $\frac{1}{4}$ inch. Screw Hole, $\frac{1}{8}$ inch; Height: Top, $\frac{1}{2}$ inch; Bottom, $\frac{1}{4}$ inch.

List No.	Description	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
333	Top, Glazed.....	21500	465 lbs.	\$12.00
333½	Bottom, Glazed.....	22000	475 lbs.	10.80

*B. & D.—STYLE A

List No.	Dimensions				No. per Bbl.	Wgt. per Bbl.	List Price per 1000
	A	B	C	D			
1	$1\frac{1}{4}$ "	$1\frac{1}{8}$ "	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	1800	415 lbs.	\$36.00
1½	$2\frac{1}{4}$ "	$1\frac{1}{8}$ "	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	1250	415 lbs.	50.00
2	$2\frac{1}{4}$ "	$1\frac{1}{8}$ "	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	1175	415 lbs.	60.00
2½	$2\frac{1}{4}$ "	$1\frac{1}{8}$ "	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	750	490 lbs.	45.36
3	$3\frac{1}{8}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	500	440 lbs.	59.86
3½	$3\frac{1}{8}$ "	$1\frac{3}{8}$ "	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	450	440 lbs.	75.60
4	$3\frac{3}{4}$ "	$1\frac{1}{2}$ "	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	350	460 lbs.	100.80

*Glazed unless otherwise specified.

THOMAS STANDARD

One Wire Cleats

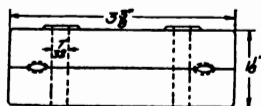
List No.	Length	Width	Groove	Qty. per Bbl.	Wgt. per Bbl.	Old Code Base	A 1" Base	B 1" Base & Top
						List Prices per 1000		
328	2"	$1\frac{1}{8}$ "	$\frac{1}{8}$ "	1800	460	\$28.00	\$36.00	\$46.00
329	2½"	1"	$\frac{1}{8}$ "	1200	450	40.00	50.00	60.00
330	2½"	1"	$\frac{1}{8}$ "	1200	435	48.00	60.00	72.00
331	2½"	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	600	410	37.80	45.36	52.92
331½	2½"	$1\frac{1}{4}$ "	$\frac{1}{8}$ "	600	410	.....	.....	75.60
332	4"	$1\frac{1}{2}$ "	$\frac{1}{8}$ "	300	420	.....	.....	100.80
332½	4"	$1\frac{1}{2}$ "	$\frac{1}{8}$ "	250	410	.....	.....	100.80
332½	4"	$1\frac{1}{2}$ "	$\frac{1}{8}$ "	250	400	.....	.....	100.80

On the above cleats given under heading "Old Code Base" these are less than 1-inch base.

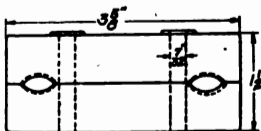
Those given under "A" are 1-inch base and are regular top, the groove being 1 inch from bottom of base.

Those given under "B" are 1-inch base and 1-inch top.

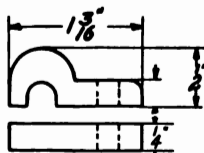
Nos. 332, 332½ and 332½ are the same in every respect except groove.



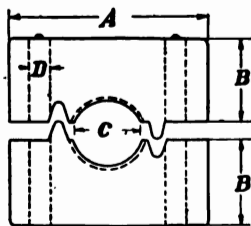
¾ Size
No. 334



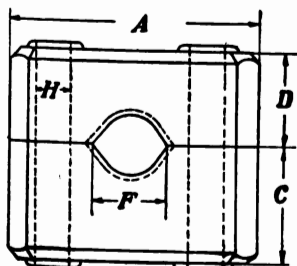
¾ Size
No. 350



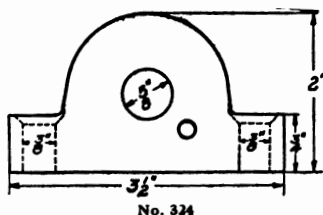
¾ Size
Top No. 333
Bottom No. 333½



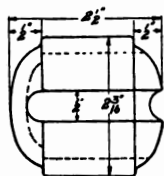
Style A



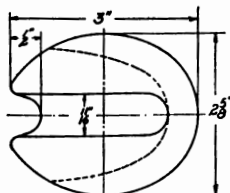
Thomas Standard



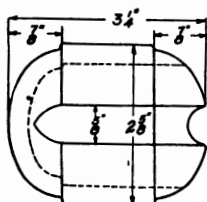
No. 324



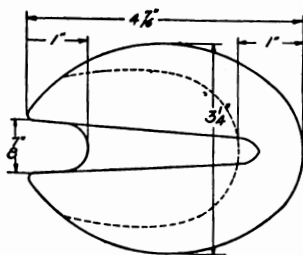
No. 365



No. 361



No. 366



No. 362

Insulators

PORCELAIN INSULATORS

One Wire Cleat

NO. 324 CLEAT

DIMENSIONS: Length, $3\frac{1}{2}$ inches; height, 2 inches over all; width, $1\frac{1}{4}$ inches; screw hole, $\frac{3}{4} \times \frac{3}{8}$ inch; groove, $\frac{1}{8}$ inch.

List No.	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
324 Cleat.....	800	400 lbs.	\$96.80

Strain Insulators

NO. 365

DIMENSIONS: Diameter, $2\frac{1}{8}$ inches; height, $2\frac{3}{4}$ inches; groove, $\frac{1}{2}$ inch.

List No.	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
365 Strain insulator.....	500	500 lbs.	\$75.00

NO. 361

DIMENSIONS: Diameter, $2\frac{3}{4}$ inches; height, 3 inches; groove, $\frac{1}{2}$ inch.

List No.	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
361 Strain insulator.....	350	350 lbs.	\$112.50

NO. 366

DIMENSIONS: Diameter, $2\frac{3}{4}$ inches; height, $3\frac{1}{4}$ inches; groove, $\frac{1}{2}$ inch.

List No.	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
366 Strain insulator.....	350	420 lbs.	\$112.50

NO. 362

DIMENSIONS: Diameter, $3\frac{3}{8}$ inches; height, $4\frac{1}{8}$ inches; groove, $\frac{3}{8}$ inch.

List No.	No. per Bbl.	Shpg. Wgt. per Bbl.	List Price per 1000
362 Strain insulator.....	200	425 lbs.	\$300.00

PORCELAIN INSULATORS

Improved Strain Insulator

The improved porcelain strain insulator has protected end coverings. The wires passing through instead of around the insulator makes it impossible for the ends of the span or dry wires to come in contact with each other or allow any chance for leakage of current.

Test and Weight Data

List No.	Test Voltage	Line Voltage	Tensile Strength	Std. Pkg. Quantity	Pkg. Wgt. Lbs.
500	.....	.....	.....	1000	250
502	20000	5000	12000	350	350
504	24000	7000	15000	250	375
506	21000	8000	20000	125	315
508	.....	.....	.....	150	245

Dimensions and List Price

List No.	Height	Diam.	Hole	Wt. Ea. per 1000
500 Telephone wire insulator...	2 1/4	1 1/2	1/4 in.	4 oz. \$61.76
502 Guy wire insulator.....	3	2 3/8	3/8 in.	14 oz. 127.00
504 Guy wire insulator.....	3 1/2	2 1/2	1/2 in.	22 oz. 154.50
506 Guy wire insulator.....	5 1/2	3 3/8	3/4 in.	44 oz. 295.64
508 Guy wire insulator.....	4 1/2	3 1/4	1/2 in.	30 oz. 211.20

Pony Duplex Insulators

NO. 364

List No.	Height	Diam.	Groove	Pin Hole
364	2 1/4 in.	2 1/2 in.	1/4 in.	1 in. std.

Package Data and List Price

List No.	Std. Pkg.	Wt. per 100	List Price per 100
364	350	72 1/2 lbs.	\$4.40

NO. 363

List No.	Height	Diam.	Groove	Pin Hole
363	2 1/2 in.	2 3/8 in.	3/8 in.	1 in. std.

Package Data and List Price

List No.	Std. Pkg.	Wt. per 100	List Price per 100
363	250	107 1/2 lbs.	\$5.40

Mine Insulator

[NO. 367

List No.	Height	Diam.	Groove	Pin Hole
367	3 3/8 in.	3 in.	1 in.	1 in. std.

Package Data and List Price

List No.	Std. Pkg.	Wt. per 100	List Price per 100
367	200	177 1/2 lbs.	\$11.00

PORCELAIN INSULATORS

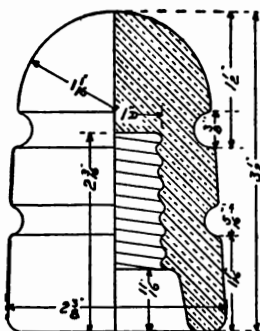
Insulator No. 1011

FOR TELEPHONE AND TELEGRAPH SERVICE

Brown Glaze Furnished Unless Otherwise Specified

Package Data and List Price

List No.	Weight per 1000	Wt. packed per 1000	Quantity per Bbl.	List Price per 100
1011	750 lbs.	925 lbs.	400	\$4.96



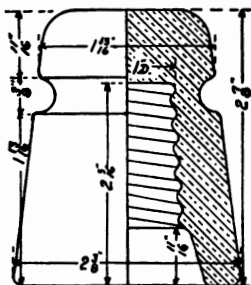
Insulator No. 1012

FOR TELEPHONE AND TELEGRAPH SERVICE

Brown Glaze Furnished Unless Otherwise Specified

Package Data and List Price

List No.	Weight per 1000	Wt. packed per 1000	Quantity per Bbl.	List Price per 100
1012	570 lbs.	700 lbs.	500	\$4.40



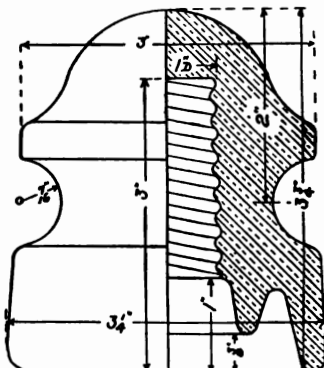
Insulator No. 1101

LINE VOLTAGE 5000

Brown Glaze Furnished Unless Otherwise Specified

Package Data and List Price

List No.	Weight per 1000	Wt. packed per 1000	Quantity per Bbl.	List Price per 100
1101	1250 lbs.	1500 lbs.	225	\$10.94



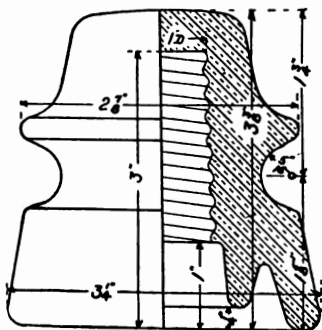
Insulator No. 1111

LINE VOLTAGE 5000

Brown Glaze Furnished Unless Otherwise Specified

Package Data and List Price

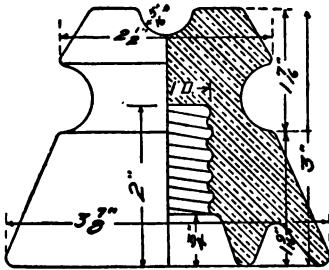
List No.	Weight per 1000	Wt. packed per 1000	Quantity per Bbl.	List Price per 100
1111	1125 lbs.	1400 lbs.	275	\$10.94



Insulators

PORCELAIN INSULATORS

Brown Glaze Furnished Unless Otherwise Specified



Insulator No. 1010

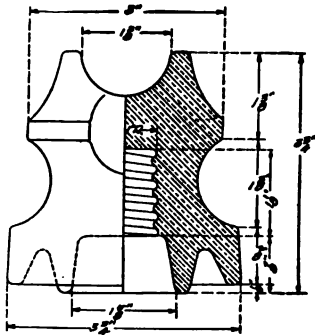
LINE VOLTAGE 5000

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1010	125 lbs.	165 lbs.	200	\$11.46

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
20000	12000	4 ins.	1 1/4 ins.



Insulator No. 1071

LINE VOLTAGE 5000

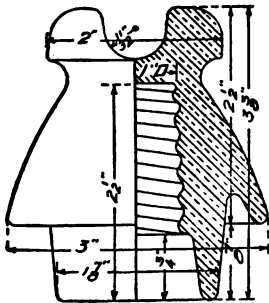
Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1071	150 lbs.	215 lbs.	150	\$16.50

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
25000	10000	3 1/2 ins.	1 1/4 ins.

(Can be furnished with 1 3/8 inch pinhole)



Insulator No. 1025

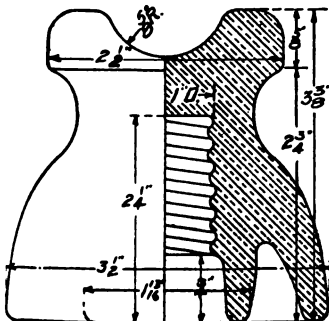
LINE VOLTAGE 5000

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1025	75 lbs.	100 lbs.	325	\$11.46

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
20000	12000	4 ins.	1 in.



Insulator No. 1049

LINE VOLTAGE 5500

Package Data and List Price

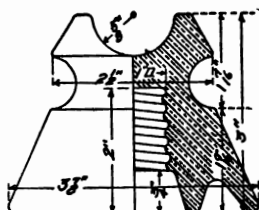
List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1049	115 lbs.	225 lbs.	150	\$11.46

Voltage Data

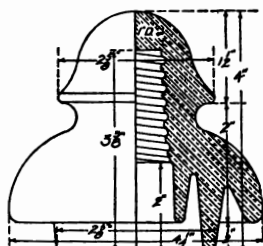
Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
30000	12000	4 1/4 ins.	1 1/4 ins.

PORCELAIN INSULATORS

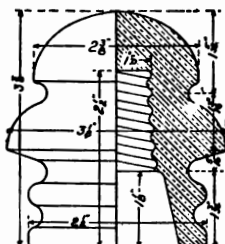
Brown Glazed Furnished Unless Otherwise Specified



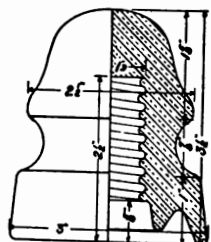
No. 1010A



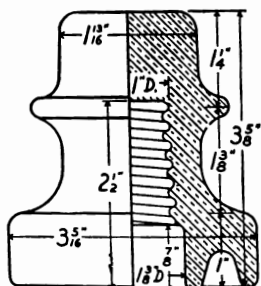
No. 1031



No. 1039



No. 1077



No. 1075

Insulator

Insulator No. 1010A

LINE VOLTAGE 5000

Package Data and List Price

List No.	Weight per 100	Weight Packed per 100	Quantity per Barrel	List Price per 100
1010A	125	165	200	\$11.46

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
20000	12000	4 ins.	1 1/4 ins.

Insulator No. 1031

LINE VOLTAGE 1000

List No.	Weight per 100	Weight Packed per 100	Quantity per Barrel	List Price per 100
1031	175	225	150	\$28.86

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
35000	22000	6 3/4 ins.	1 1/4 ins.

Insulator No. 1039

LINE VOLTAGE

List No.	Weight per 100	Weight Packed per 100	Quantity per Barrel	List Price per 100
1039	125	165	200	\$11.46

Insulator No. 1077

LINE VOLTAGE 5000

List No.	Weight per 100	Weight Packed per 100	Quantity per Barrel	List Price per 100
1077	94	119	300	\$9.94

Insulator No. 1075

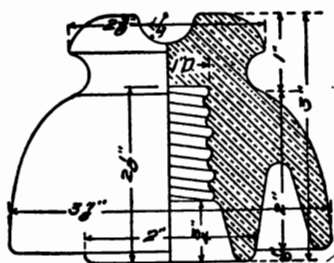
LINE VOLTAGE 5000

List No.	Weight per 100	Weight Packed per 100	Quantity per Barrel	List Price per 100
1075	107	143	250	\$9.94

14-1

PORCELAIN INSULATORS

Brown Glaze Furnished Unless Otherwise Specified



Insulator No. 1009

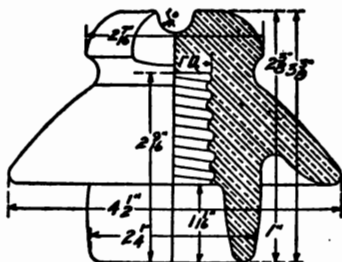
LINE VOLTAGE 6600

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1009	140 lbs.	175 lbs.	200	\$12.44

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
30000	15000	5 1/4 ins.	1 3/4 ins.



Insulator No. 1017

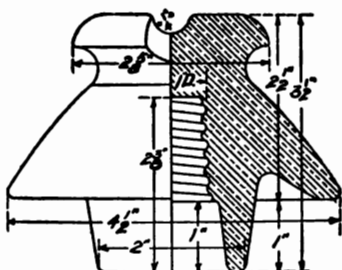
LINE VOLTAGE 7500

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1017	140 lbs.	175 lbs.	175	\$22.40

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
40000	20000	5 1/4 ins.	1 3/4 ins.



Insulator No. 1076

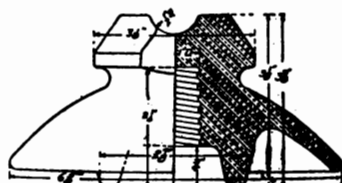
LINE VOLTAGE 7500

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1076	140 lbs.	175 lbs.	175	\$22.40

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
40000	20000	5 1/4 ins.	1 3/4 ins.



Insulator No. 1037

LINE VOLTAGE 10000

Package Data and List Price

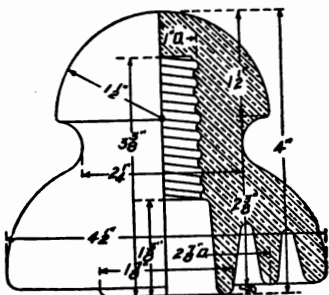
List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1037	240 lbs.	325 lbs.	50	\$29.98

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
40000	22000	6 1/4 ins.	2 3/8 ins.

PORCELAIN INSULATORS

Brown Glaze Furnished Unless Otherwise Specified

**Insulator No. 1103**

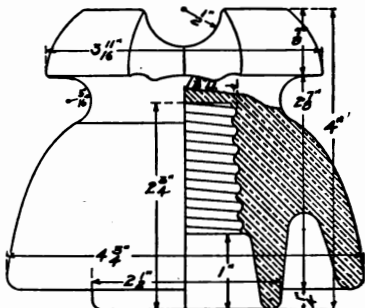
LINE VOLTAGE 11000

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1103	210 lbs.	260 lbs.	150	\$28.86

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
35000	22000	7½ ins.	1½ ins.

**Insulator No. 1100**

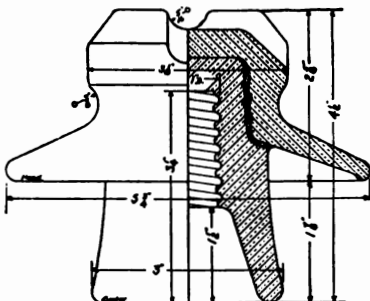
LINE VOLTAGE 10000

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
1100	275 lbs.	335 lbs.	65	\$31.78

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Arcing Distance
35000	22000	6½ ins.	1¾ ins.



Insulator No. 2008

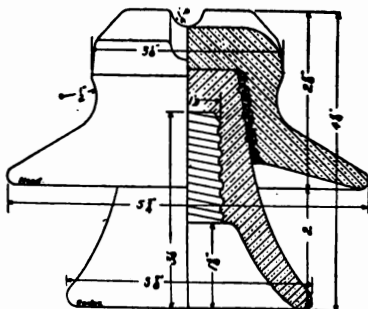
LINE VOLTAGE 15000

Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
2008	225 lbs.	295 lbs.	60	\$37.14

Voltage Data

Volts Dry Test	Volts Rain Test	Leakage Distance	Aring Distance
50000	25000	7½ ins.	2¾ ins.



Insulator No. 2036

LINE VOLTAGE 15000

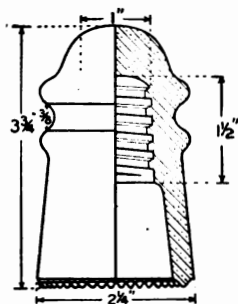
Package Data and List Price

List No.	Weight per 100	Wt. packed per 100	Quantity per Bbl.	List Price per 100
2036	225 lbs.	295 lbs.	60	\$37.14

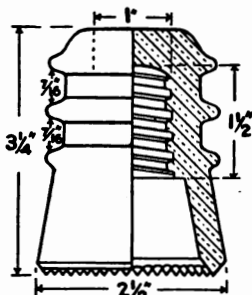
Voltage Data

Volts Dry Test 50000	Volts Rain Test 25000	Leakage Distance 8 ins.	Arcing Distance 3 ins.
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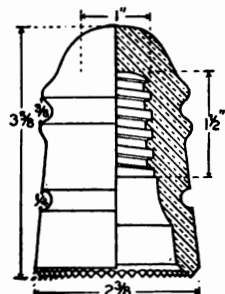
HEMINGRAY GLASS INSULATORS



No. 9

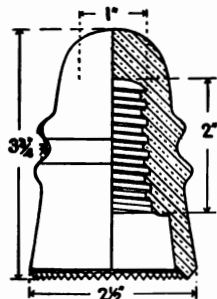


No. 10

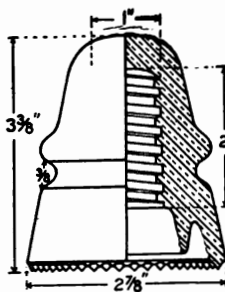


No. 12

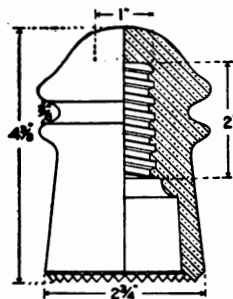
List No.	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Std. Pkg. Quantity
700171	9	Pony	$\frac{3}{8}$ in.	9 ozs.	675 lbs.	400
700172	10	Exchange Line	$\frac{1}{8}$ in.	10 ozs.	720 lbs.	350
700173	12	Double Groove Pony	$\frac{1}{8}$ in.	10 1/2 ozs.	750 lbs.	400



No. 13
(Old No. 4)

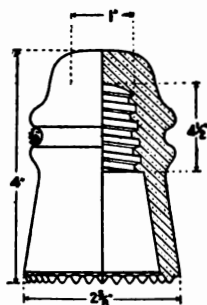


No. 14

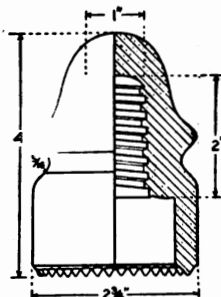


No. 15
(Old No. 5)

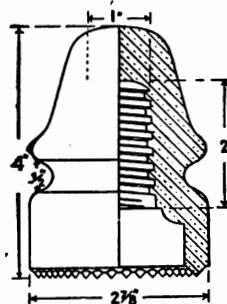
700174	13	National Pony	$\frac{3}{8}$ in.	11 ozs.	825 lbs.	300
700175	14	Deep Groove Double Petticoat Pony	$\frac{3}{8}$ in.	11 1/2 ozs.	865 lbs.	300
700176	15	Western Union	$\frac{3}{8}$ in.	20 ozs.	1450 lbs.	200



No. 16



No. 17
(Old No. 3)

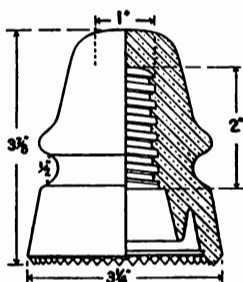


No. 18

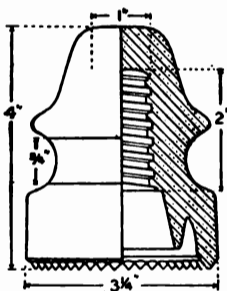
700177	16	Long Distance	$\frac{3}{8}$ in.	14 ozs.	1000 lbs.	300
700178	17	Regular	$\frac{1}{8}$ in.	15 1/2 ozs.	1120 lbs.	250
700179	18	Deep Groove	$\frac{1}{2}$ in.	17 ozs.	1200 lbs.	250

Prices on application. Weights given are approximate.

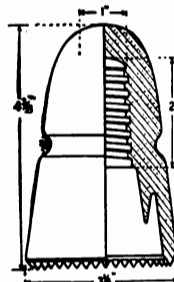
HEMINGRAY GLASS INSULATORS



No. 19



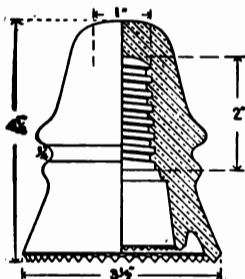
No. 20



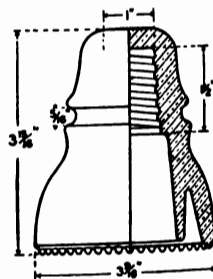
No. 21

List No	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Std. Pkg. Quantity
700180	*19	Deep Groove, Double Petticoat.....	1/2 in.	19 ozs.	1350 lbs.	200
700181	20	Street Railway or Extra Deep Groove, Double Petticoat.....	3/4 in.	20 ozs.	1375 lbs.	200
700182	21	Standard W. U. Double Petticoat.....	1/2 in.	22 ozs.	1550 lbs.	200

* Also made in Amber, Blue, and Crystal Colors.

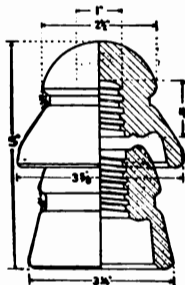


No. 22

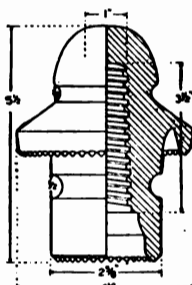
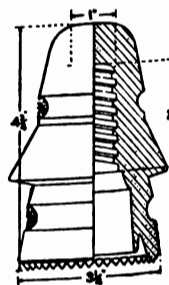


No. 40

700183	22	Western Union Double Petticoat Teat. . .	1/4 in.	21 ozs.	1520 lbs.	200
700184	40	Double Petticoat, new W. U. standard. . .	1/8 in.	22 ozs.	1550 lbs.	200



No. 50

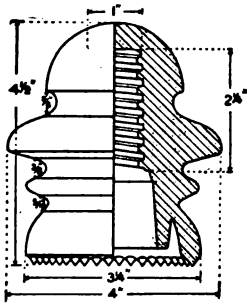
No. 51
(Old No. 1)No. 52
(Old No. 2)

700186	50	Two-piece Transposition	3/8 in.	25 ozs.	1950 lbs.	125
700187	51	Perfect Transposition	3/8 in.	34 ozs.	2500 lbs.	100
700188	52	Transposition.....	3/8 in.	28 ozs.	2100 lbs.	125

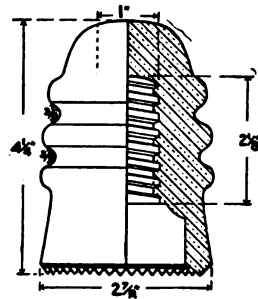
Prices on application. Weights given are approximate.

Insulators

HEMINGRAY GLASS INSULATORS

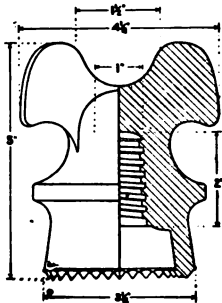


No. 53
(Old Locke No. 14)

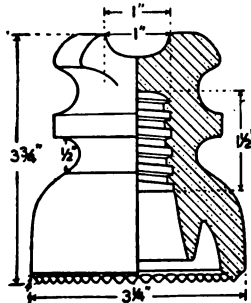


No. 54

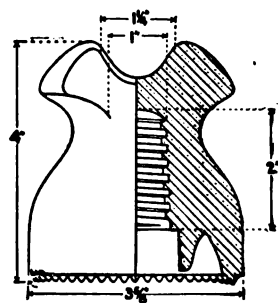
List No.	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Std. Pkg. Quantity
700189	53	Transposition.....	3/8 in.	30 ozs.	2250 lbs.	100
700190	54	Large Double Groove.....	5/8 in.	20 ozs.	1375 lbs.	200



No. 60

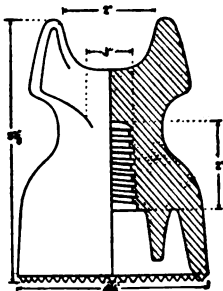


No. 61
(Old No. 1)

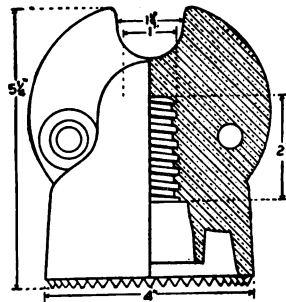


No. 62
(Old No. 2)

700191	60	Cable.....	1 1/2 ins.	30 ozs.	2300 lbs.	100
700192	60A	Cable—same design as No. 60.....	2 ins.	30 ozs.	2300 lbs.	100
700193	61	Cable.....	1 ins.	18 ozs.	1450 lbs.	200
700194	62	Cable.....	1 1/4 ins.	30 ozs.	2200 lbs.	125



No. 63
(Old No. 3)

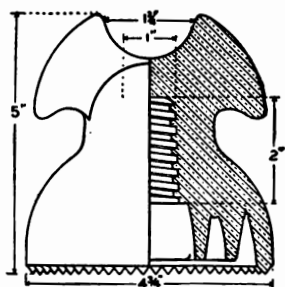


No. 64

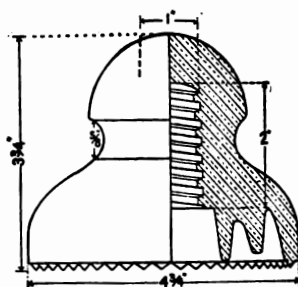
700195	63	Cable.....	2 ins.	48 ozs.	3600 lbs.	65
700196	64	Columbia Double Petticoat.....	1 1/4 ins.	40 ozs.	2800 lbs.	100

Prices on application. Weights given are approximate.

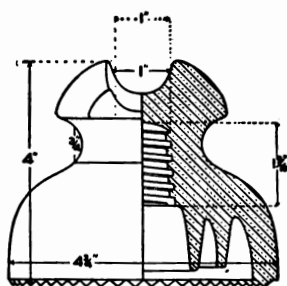
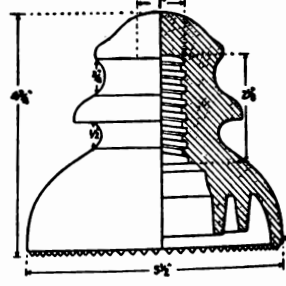
HEMINGRAY GLASS INSULATORS



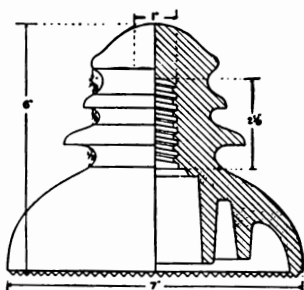
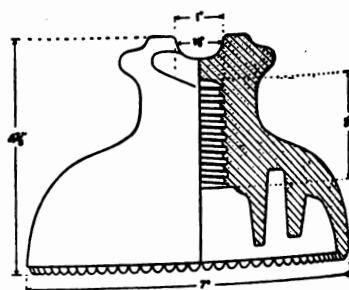
No. 70

No. 71
(Old No. 1)

List No.	Mfr. No.	Description	Voltages			Diam. Groove	Weight Each	Wt. per 1000 Packed	Std. Pkg. Quantity
			Line	Dry Test	Wet Test				
700197	70	High Potential Triple Petticoat Cable.....	10000	61900	37800	1 1/4 in.	43 ozs.	3150 lbs.	65
700198	71	High Voltage.....	10000	58400	31000	3/8 in.	32 ozs.	2500 lbs.	100

No. 72
(Old No. 4)No. 73
(Old No. 2)

700199	72	High Voltage.....	10000	64000	31400	1 in.	35 ozs.	2700 lbs.	100
700200	73	Provo.....	15000	74400	43800	3/4 in.	47 ozs.	3600 lbs.	60

No. 74
(Old No. 1)

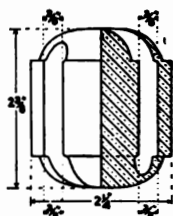
No. 75

700201	*74	Provo.....	19000	93700	55200	5/8 in.	5 1/4 lbs.	7000 lbs.	25
700202	*75	7 Inch Muncie.....	17000	86200	50100	1 1/8 in.	4 3/4 lbs.	6200 lbs.	30

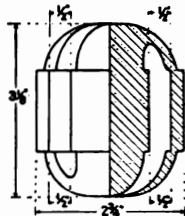
* Made for 1 inch and 1 1/8 inch screws. Weights given are approximate.
Prices on application.

Insulators

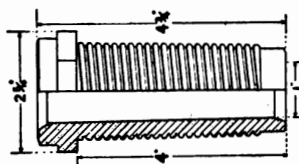
HEMINGRAY GLASS INSULATORS



No. 90



No. 91



Floor Tube

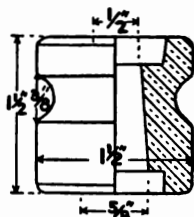
SPAN WIRE INSULATORS

List No.	Mfr. No.	Description	Crushing Strength	Diam. Groove	Weight Each	Wt. per 1000 Packed	Std. Pkg. Quantity
700203	90	Span wire (Old No. 10).....	4912 lbs.	3/8 in.	11 ozs.	720 lbs.	500
700204	91	Span wire (Old No. 15).....	5910 lbs.	1/2 in.	17 1/2 ozs.	1260 lbs.	250

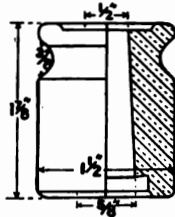
FLOOR TUBES

List No.	Mfr. No.	Length Inches	Bore Inches	Description	List No.	Mfr. No.	Length Inches	Bore Inches	Description
700205	120	2 1/2	3/4	With screw	700212	127	4	1	With screw
700206	121	3	1/2	With screw	700213	128	4 1/2	1	With screw
700207	122	3	1	With screw	700214	129	5	1	With screw
700208	123	3	1 1/4	With screw	700215	130	6	1	With screw
700209	124	3 1/2	3/4	Without screw	700216	131	6	1 1/4	With screw
700210	125	3 1/2	1	With screw	700217	132	6	1	Split plain
700211	126	4	3/4	With screw					

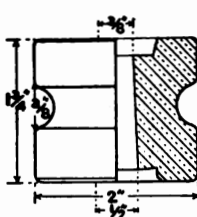
GLASS KNOBS AND MINE INSULATOR



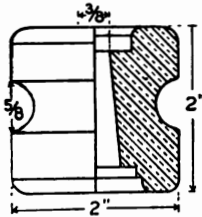
No. 100



No. 101

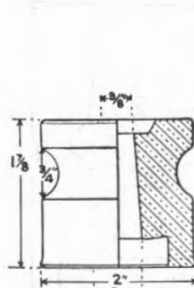


No. 102

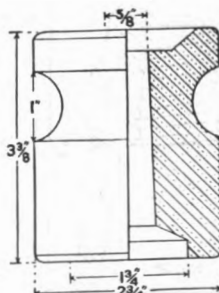


No. 103

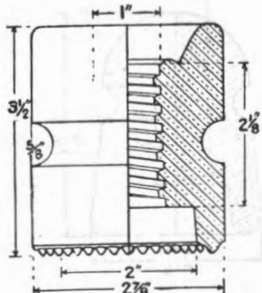
List No.	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Std. Pkg. Quantity
700218	100	Knob (Old No. 1).....	3/8 in.	3 ozs.	200 lbs.	500
700219	101	Knob (Old No. 1 1/2).....	3/8 in.	3 1/2 ozs.	230 lbs.	500
700220	102	Knob (Old No. 2).....	3/8 in.	6 1/2 ozs.	440 lbs.	500
700221	103	Knob (Old No. 3).....	3/8 in.	7 ozs.	460 lbs.	500



No. 107



No. 108

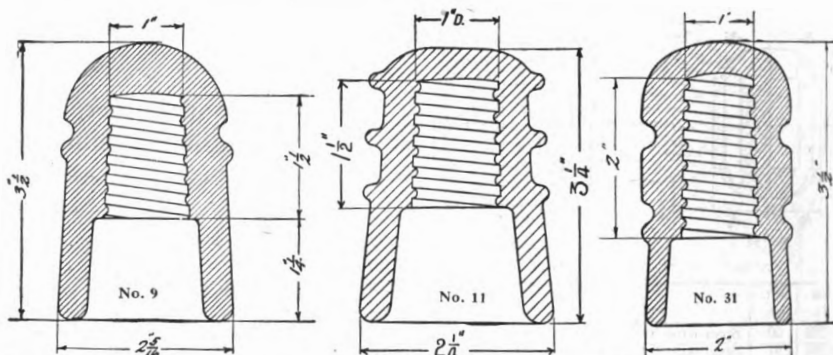


No. 95

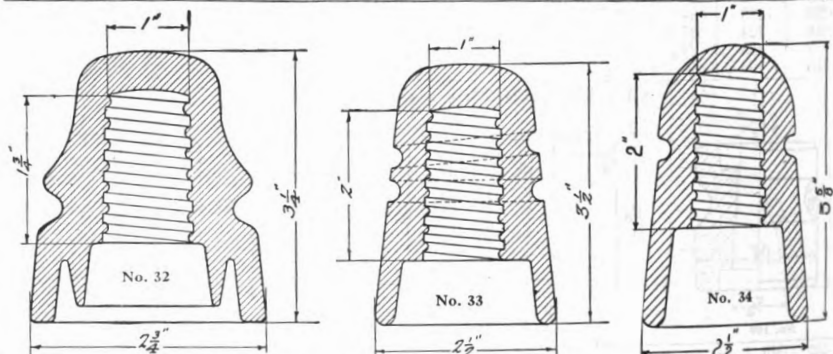
700222	107	Knob (Old No. 7).....	3/4 in.	7 ozs.	460 lbs.	500
700223	108	Knob (Old No. 8).....	1 in.	21 1/2 ozs.	1500 lbs.	200
700224	95	Mine insulator (Old No. 1).....	5/8 in.	20 ozs.	1475 lbs.	200

Prices on application. Weights given are approximate.

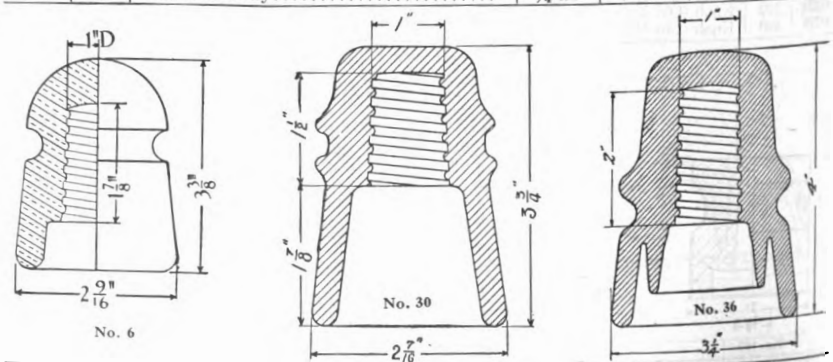
BROOKFIELD GLASS INSULATORS



List No.	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700225	9	Pony, without drip points.....	3/4 in.	10 ozs.	750 lbs.	350
700226	10	Pony, with drip points.....	3/4 in.	10 ozs.	750 lbs.	350
700227	11	Exchange Line.....	3/2 in.	10 ozs.	700 lbs.	400
700228	31	Double Groove Pony.....	3/4 in.	10 ozs.	760 lbs.	340



700229	32	Double Petticoat Pony.....	1 1/8 in.	12 ozs.	950 lbs.	275
700230	33	Pony, external thread.....	1 1/4 in.	11 ozs.	800 lbs.	350
700231	34	National Pony.....	1 1/4 in.	11 ozs.	850 lbs.	360

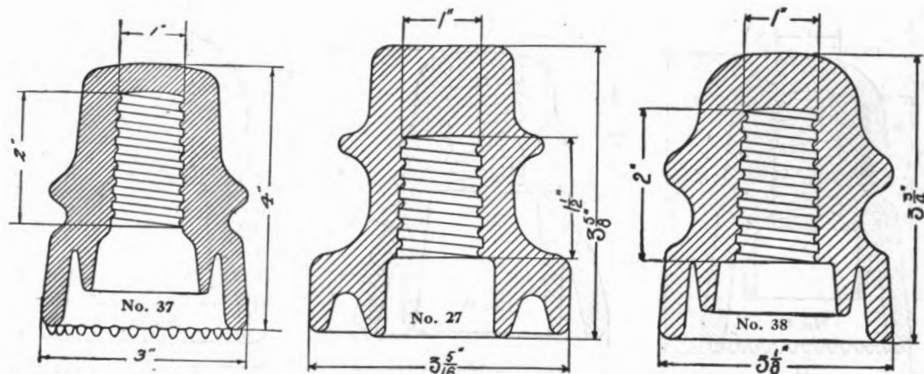


700386	6	Pony.....	1 1/2 in.	13 ozs.	900 lbs.	225
700233	30	Long Distance.....	1 1/4 in.	14 1/2 ozs.	1000 lbs.	175
700234	36	Deep Groove, Double Petticoat.....	5/8 in.	20 ozs.	1450 lbs.	

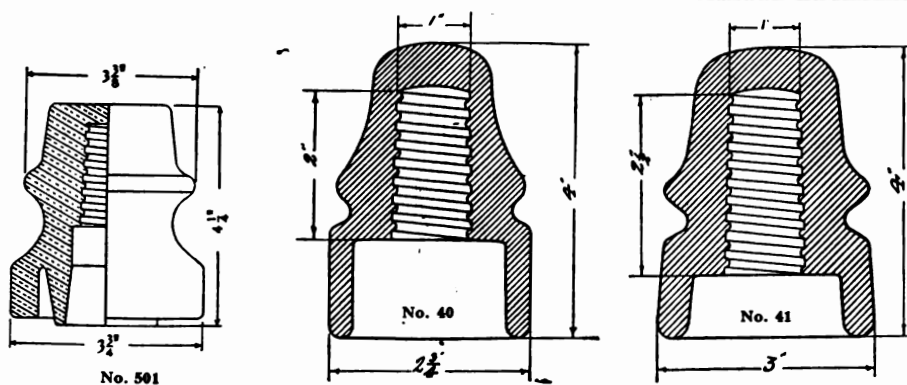
Prices on application.

Insulators

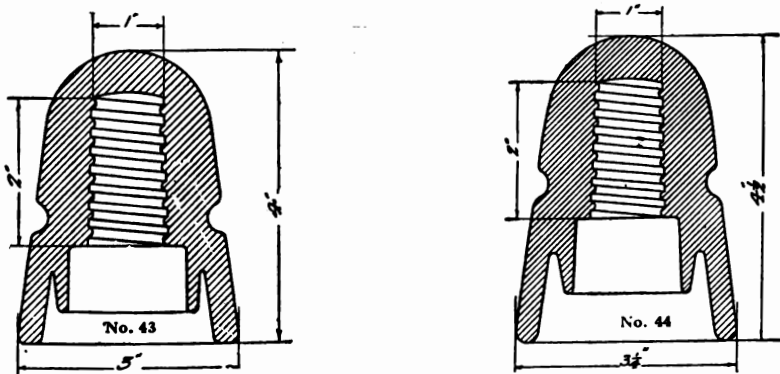
BROOKFIELD GLASS INSULATORS



List No.	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Quantity Per Bbl.
700235	37	Deep Groove, Double Petticoat, drip points.	5/8 in.	20 ozs.	1450 lbs.	175
700236	27	Wide Deep Groove, Double Petticoat.....	1 1/2 ins.	19 ozs.	1375 lbs.	175
700237	38	Extra Deep Groove, Double Petticoat.....	1 1/8 in.	19 ozs.	1375 lbs.	165



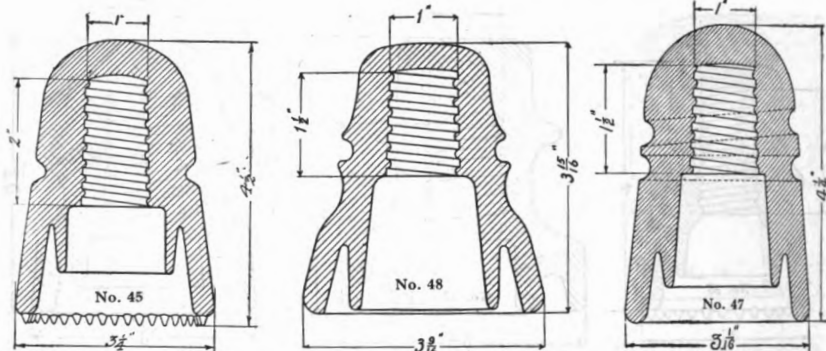
700387	501	Transposition.....	1 1/4 in.	32 ozs.	2550 lbs.	120
700239	40	Regular.....	1 1/4 in.	15 ozs.	1100 lbs.	250
700240	41	Deep Groove.....	1 1/2 in.	17 ozs.	1275 lbs.	200



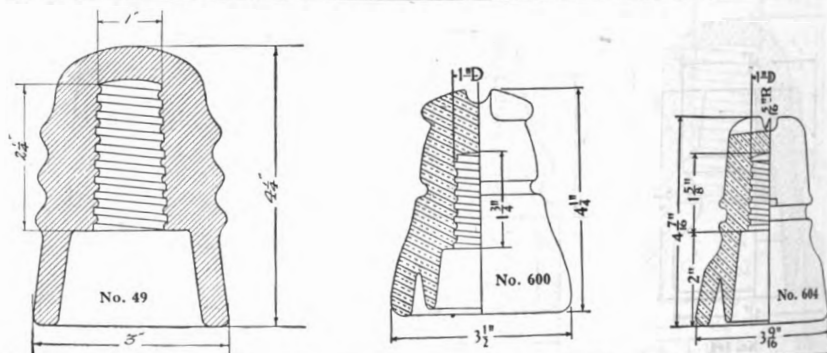
700242	43	Double Petticoat.....	1 1/4 in.	20 ozs.	1500 lbs.	165
700243	44	Western Union Double Petticoat.....	1 1/4 in.	22 ozs.	1700 lbs.	200

Prices on application.

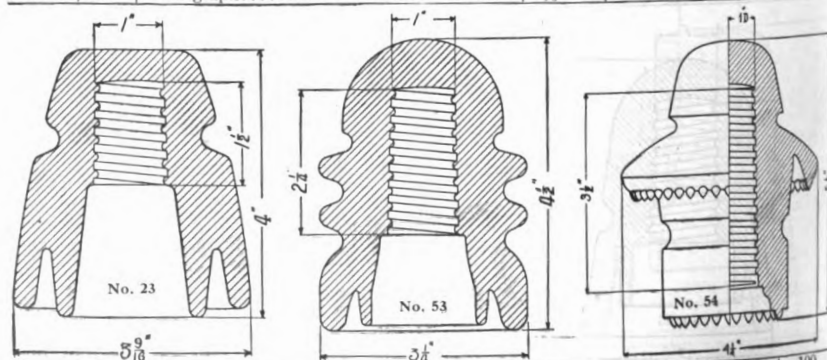
BROOKFIELD GLASS INSULATORS



List No.	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700244	45	Western Union Double Petticoat, drip point	1/4 in.	22 ozs.	1700 lbs.	200
700245	48	New Western Union	1/4 in.	21 ozs.	1550 lbs.	200
700246	47	Western Union Double Petticoat, external thread	1/4 in.	22 ozs.	1700 lbs.	200



700249	49	Large Double Groove	1/4 in.	22 ozs.	1700 lbs.	165
700388	600	Standard Postal Telegraph	1/2 in.	24 ozs.	1700 lbs.	200
700389	604	Telegraph	1/2 in.	24 ozs.	1700 lbs.	175

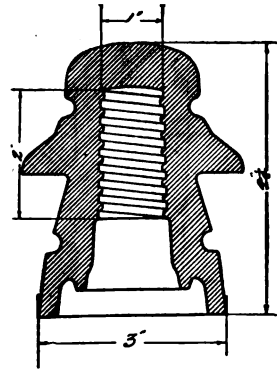
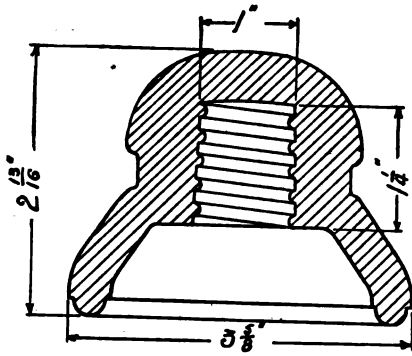


700250	23	Telegraph	5/8 in.	24 ozs.	2200 lbs.	100
700251	53	Transposition	5/8 in.	26 ozs.	1900 lbs.	125
700252	54	Transposition	1/2 in.	32 ozs.	2570 lbs.	110

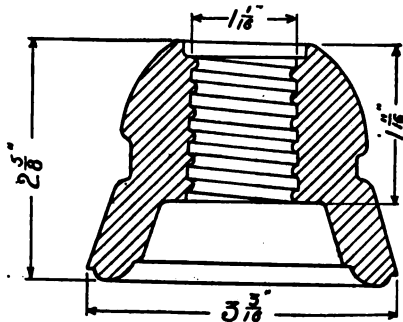
Prices on application.

Insulators

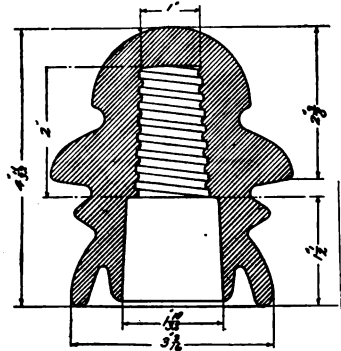
BROOKFIELD GLASS INSULATORS



No. 52

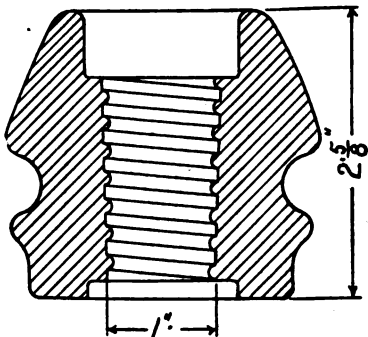


No. 50—Upper and Lower Parts

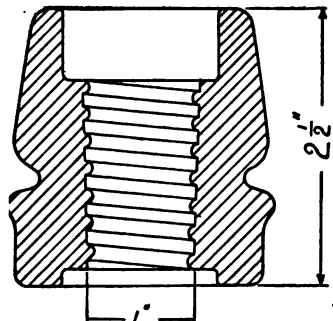


No. 51

List No.	Mfr. No.	Description	Diam. Groove	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700259	50	Two Piece Transposition.....	1/4 in.	27 ozs.	2000 lbs.	125 prs.
700260	52	Transposition.....	1/4 in.	22 ozs.	1700 lbs.	125
700261	51	Transposition.....	3/8 in.	29 ozs.	2250 lbs.	100



No. 72

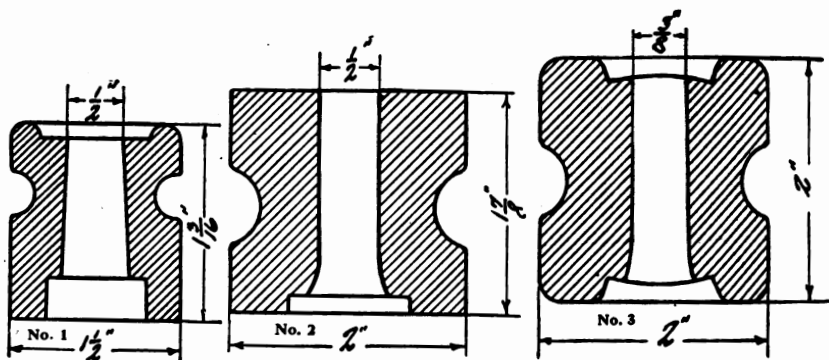


No. 73

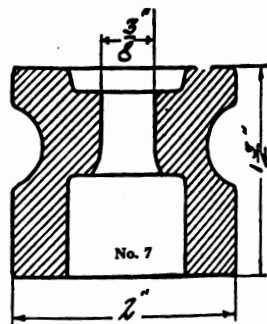
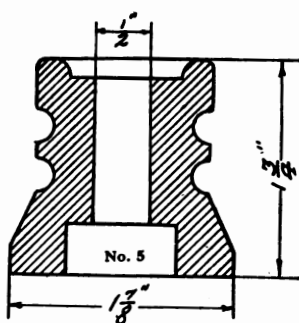
700262	72	Brown or Duplex Deep Groove.....	1/2 in.	14 ozs.	950 lbs.	250
700263	73	Brown or Duplex Pony.....	1/4 in.	10 ozs.	750 lbs.	350

Prices on application.

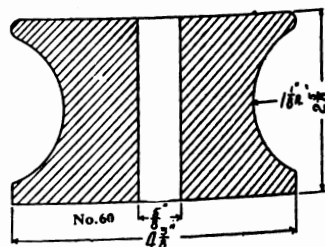
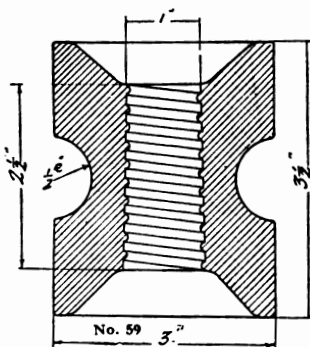
BROOKFIELD GLASS INSULATORS



List No.	Mfr. No.	Description	Diam.	Height	Diam. Groove	Diam. Hole	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700266	1	Knob.....	1 1/2 ins.	1 1/2 ins.	.....	1/2 in.	.....	220 lbs.	600
700267	2	Knob.....	2 ins.	1 1/2 ins.	.....	1/2 in.	.....	500 lbs.	600
700268	3	Knob.....	2 ins.	2 ins.	.....	3/8 in.	.....	530 lbs.	600



700269	5	Knob.....	1 1/8 ins.	1 3/4 ins.	.....	1/2 in.	.....	350 lbs.	500
700270	7	Knob.....	2 ins.	1 3/4 ins.	.....	3/8 in.	.....	530 lbs.	500

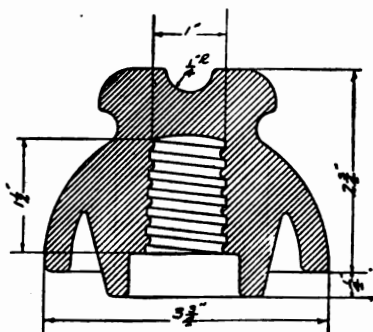


700272	59	Mine Insulator	3 ins.	3 1/2 ins.	1 in.	1 in.	21 oss.	1600 lbs.	150
700273	60	Mine Insulator	4 3/8 ins.	2 1/2 ins.	2 1/4 ins.	5/8 in.	36 oss.	2200 lbs.	125

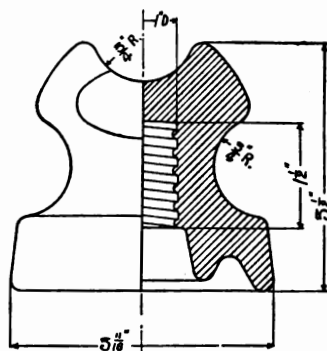
Prices on application.

Insulators

BROOKFIELD GLASS INSULATORS



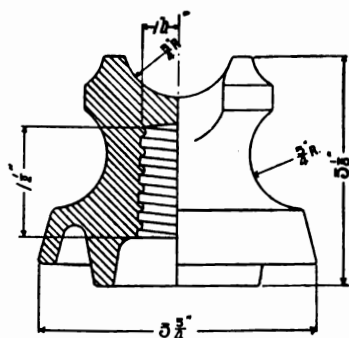
No. 115



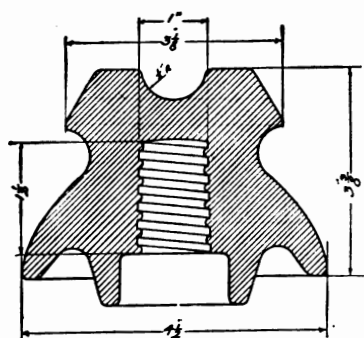
No. 109

List No.	Mfr. No.	Description	Line Voltage	Radius Groove	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700274	115*	Top Groove, Double Petticoat....	5000	1/4 in.	22 ozs.	1750 lbs.	150
700275	109	Top Groove, Double Petticoat....	6600	3/4 in.	23 ozs.	1950 lbs.	160

*Radius side groove 1/8 inch.



No. 117

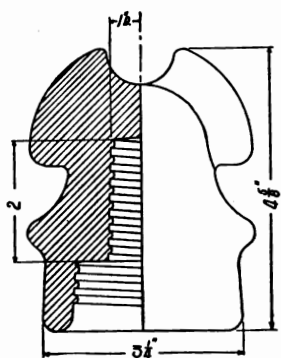


No. 112

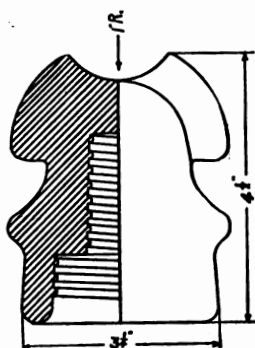
700278	117	Large Top Groove, Double Petticoat	5000	3/4 in.	22 ozs.	1650 lbs.	150
700279	112	Large Top Groove, Double Petticoat	5000	1/2 in.	29 ozs.	2150 lbs.	110

Prices on application.

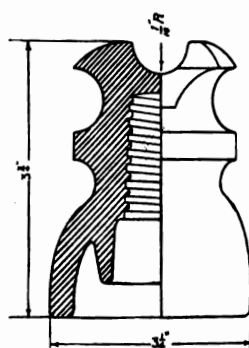
BROOKFIELD GLASS INSULATORS



No. 400

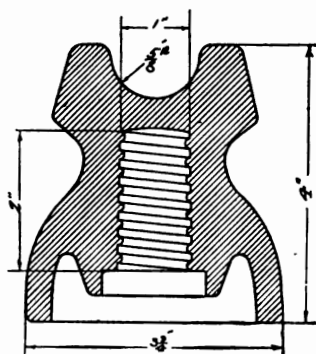


No. 401

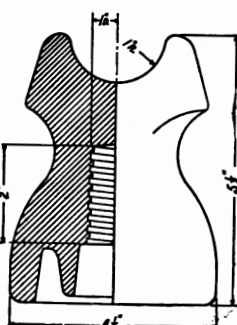


No. 1

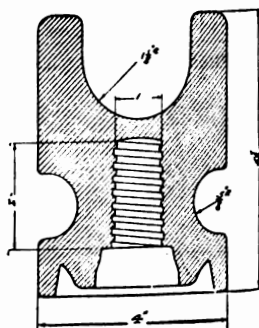
List No.	Mfr. No.	Description	Line Voltage	Radius Groove	Leakage Distance	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700281	400	Cable.....	6600	$\frac{5}{8}$ in.	$4\frac{1}{4}$ ins.	30 ozs.	2100 lbs.	110
700282	401	Cable.....	6600	1 in.	.....	30 ozs.	2100 lbs.	110
700283	1	Cable.....	6600	$\frac{7}{8}$ in.	.....	18 ozs.	1385 lbs.	170



No. 2

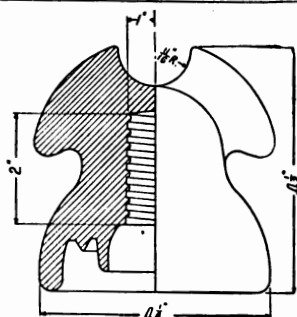


No. 3

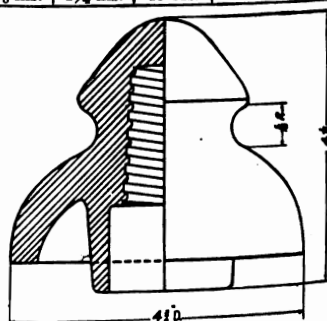


No. 4

700284	2	Cable.....	6600	$\frac{5}{8}$ in.	$4\frac{1}{4}$ ins.	30 ozs.	1925 lbs.	125
700285	3	Cable.....	10000	1 in.	$6\frac{1}{2}$ ins.	48 ozs.	3950 lbs.	50
700286	4	Cable.....	7500	$1\frac{1}{8}$ ins.	$4\frac{1}{4}$ ins.	48 ozs.	3870 lbs.	50



No. 100

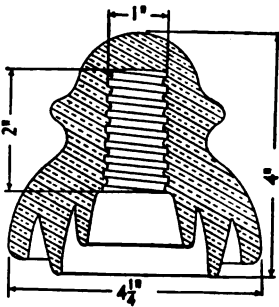


No. 304

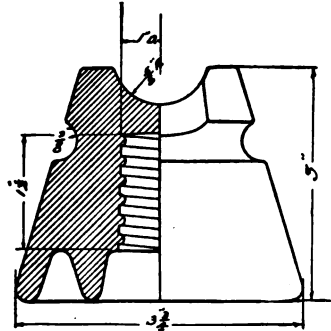
700287	100	Cable.....	6600	$\frac{11}{8}$ in.	.....	36 ozs.	2160 lbs.	60
700288	404	High Voltage, Double Petticoat.....	7500	33 ozs.	2260 lbs.	120

Prices on application.
Insulators

BROOKFIELD GLASS INSULATORS

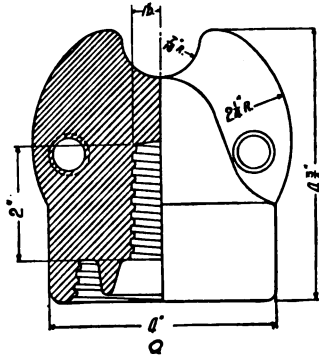


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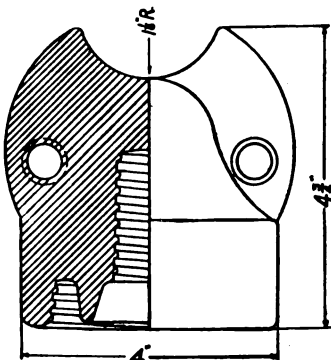
No. 118

List No.	Mfr. No.	Description	Line Voltage	Radius Groove	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700390	135	Triple Petticoat	10000	$\frac{1}{8}$ in.	30 ozs.	2200 lbs.	125
700290	118	Large Top Groove, Double Petticoat	6600	$\frac{5}{8}$ in.	21 ozs.	1650 lbs.	150

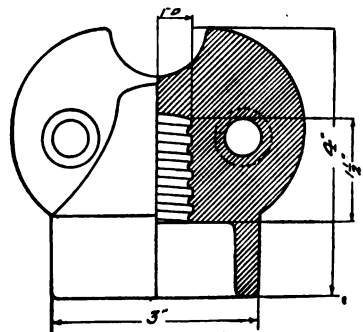


No. 8

700292	8	Columbia Double Petticoat	6600	$\frac{1}{4}$ in.	40 ozs.	2900 lbs.	78
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No. 7

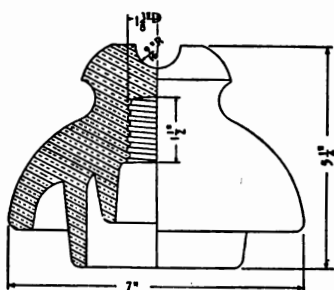


No. 12

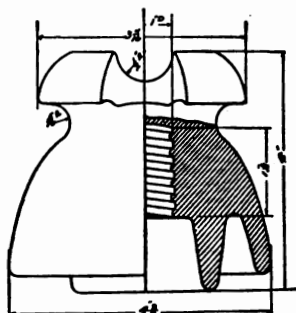
700293	7	Columbia Double Petticoat	6600	$1\frac{1}{8}$ ins.	40 ozs.	2900 lbs.	78
700294	12	Columbia Single Petticoat	5000	$\frac{1}{4}$ in.	22 ozs.	1750 lbs.	110

Prices on application.

BROOKFIELD GLASS INSULATORS

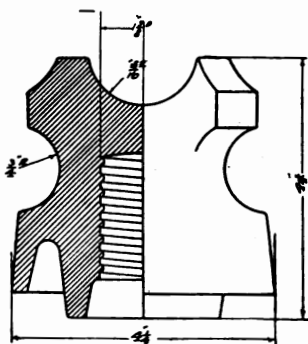


No. 137

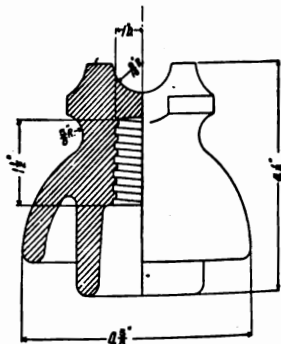


No. 124

List No.	Mfr. No.	Description	Line Voltage	Diam. Groove	Weight Each	Wt. per 1000 Packed	Quantity per Bbl.
700391	137	High Voltage, Triple Petticoat..	20000	1/2 in.	6 lbs.	6535 lbs.	33
700297	124	High Voltage, Double Petticoat..	10000	44 ozs.	3300 lbs.	50

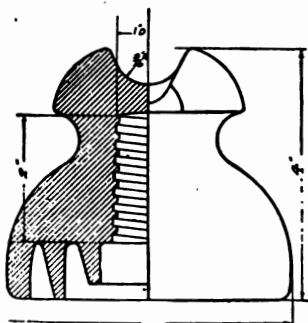


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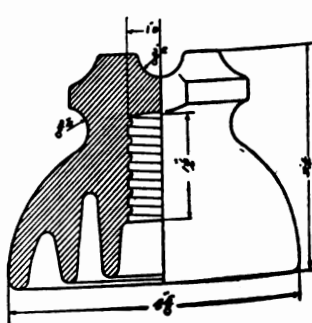


No. 129

700298	130	High Voltage, Double Petticoat..	11000	40 ozs.	3300 lbs.	60
700299	129	High Voltage, Double Petticoat..	10000	1 1/8 in.	33 ozs.	2600 lbs.	75



No. 140



No. 132

700300	140	High Voltage, Triple Petticoat..	10000	1 1/8 in.	32 ozs.	2560 lbs.	125
700301	132	High Voltage, Triple Petticoat..	11000	3/4 in.	32 ozs.	2560 lbs.	125

Prices on application.

Insulators

ELECTROSE "SAFETY STRAIN" INSULATORS

Sectional Views



No. 2
1/4 actual size



No. 1
1/4 actual size



No. 7
1/4 actual size



New No. 10
1/4 actual size

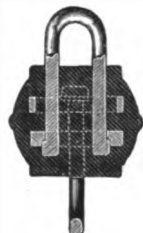


No. 77 Regular
1/8 actual size

General Description

Electrose "Safety Strain" insulators are adapted for all the requirements of electrical transmission, railway service and for use in every relation where currents of high tension are employed.

The mechanical construction is such that all direct strain is confined entirely to the metal parts and to the insulating material disposed between the metal disks, insuring a tensile strength far in excess of ordinary requirements. All metal parts, such as loops, clevises and disks are made of galvanized drop forged steel, and placed in such relation to each other as to insure the highest possible degree of electrical resistance combined with the greatest mechanical strength.



Sectional View
Showing Loop

The metal parts are so interlinked that, if all of the insulation were removed from between them, they would engage one another and still hold the strain to which they were subjected, and thus prevent lines falling and consequent serious damage.

The corrugated and disk designs, as shown by Nos. 10, 77 and 14, are such as to prevent creepage under rated conditions, or deposits of foreign material such as dust, etc., forming a conduction path between terminals.

The eyes of all strains are extra large and of sufficient size to meet all present requirements.

All mechanical and electrical testing is done at a well equipped electrical testing laboratory, and each insulator bears the standard inspection stamp.

Cross and longitudinal sectional views, as shown, clearly illustrate the interior construction. The cross section view shows the methods of anchoring the loop, while the longitudinal view shows the method of interlocking same to prevent the line from falling.

Illustrations Showing Loops, Studs and Clevises



With Loop
and Socket



With Loop
and Stud



With Two
Studs



With Loop
and Clevis



With Two
Clevises

No. 2 "Safety Strain" Insulators



No. 2

Diam. of Body
2 1/4 ins.

Length of Body
1 3/4 ins.

Length Over All
4 1/4 ins.

Tensile Strength

Test
4000 lbs.

Ultimate
7000 lbs.

Electrical Value

Test
5000 volts

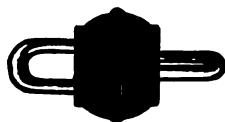
Ultimate
12000 volts

List No.	Description	Wt. Lbs.*List Price per 100	per 100
700314	With two loops having inside diam. 5/8 x 1 in., outside diam. 1 1/8 x 1 3/8 ins.	87 1/2	\$56.88

*Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.

ELECTROSE "SAFETY STRAIN" INSULATORS

No. 1 "Safety Strain" Insulators



No. 1

Diam. of Body
2¾ ins.Length of Body
2¾ ins.Length Over All
5½ ins.

Tensile Strength	
Test	Ultimate
5000 lbs.	10000 lbs.

Electrical Value	
Test	Ultimate
7000 volts	20000 volts

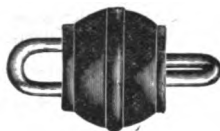
List No.

Description

Wt. Lbs.*List Price
per 100 per 100

700323	With two loops having inside diam. 1¼ x ¾ in., outside diam. 1 1/8 x 1 1/8 ins.	143	\$76.62
700326	With loop having inside diam. 1¼ x ¾ in., outside diam. 1 1/8 x 1 1/8 ins. and standard clevis having opening 1/8 in. Diam. clevis bolt ½ in.	170	95.42
700327	With two standard clevises having opening 1/8 in. Diam. clevis bolt ½ in.	170	114.22
700329	With loop having inside diam. 1¼ x ¾ in., opening diam. 1 1/8 x 1 1/8 ins. and stud 5/8 in.	170	87.88
700331	With loop having inside diam. 1¼ x ¾ in., outside diam. 1 1/8 x 1 1/8 ins. and socket 5/8 in.	170	87.88
700332	With 5/8 in. stud and 5/8 in. socket.	170	99.18
700333	With 5/8 in. stud each end.	170	99.18
700334	With 5/8 in. stud and standard clevis having opening 1/8 in. Diam. clevis bolt ½ in.	170	106.68

No. 7 "Safety Strain" Insulators



No. 7

Diam. of Body
3½ ins.Length of Body
2¾ ins.Length Over All
5½ ins.

Tensile Strength	
Test	Ultimate
6000 lbs.	10000 lbs.

Electrical Value	
Test	Ultimate
10000 volts	25000 volts

List No.

Description

Wt. Lbs.*List Price
per 100 per 100

700335	With two loops having inside diam. 1 1/8 x 1 in., outside diam. 1 1/8 x 1 1/8 ins.	175	\$79.20
700338	With loop having inside diam. 1 1/8 x 1 in., outside diam. 1 1/8 x 1 1/8 ins. and standard clevis having opening 1/8 in. Diam. clevis bolt ½ in.	200	98.00
700339	With two standard clevises having opening 1/8 in. Diam. clevis bolt ½ in.	200	116.80
700342	With loop having inside diam. 1 1/8 x 1 in., outside diam. 1 1/8 x 1 1/8 ins. and 5/8 in. stud.	200	90.48
700343	With loop having inside diam. 1 1/8 x 1 in., outside diam. 1 1/8 x 1 1/8 ins. and 5/8 in. socket.	200	90.48
700344	With 5/8 in. stud and 5/8 in. socket.	200	101.76
700345	With 5/8 in. stud each end.	200	101.76
700346	With 5/8 in. stud and standard clevis having opening 1/8 in. Diam. clevis bolt ½ in.	200	108.28

New No. 10 "Safety Strain" Insulators



New No. 10

Diam. of Body
4 ins.Length of Body
3 ins.Length Over All
7 1/8 ins.

Tensile Strength	
Test	Ultimate
10000 lbs.	20000 lbs.

Electrical Value	
Test	Ultimate
20000 volts	45000 volts

List No.

Description

Wt. Lbs.*List Price
per 100 per 100

700347	With two loops having inside diam. 1¼ x 1 1/8 ins., outside diam. 2 1/8 x 1 1/8 ins.	210	\$240.64
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*Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.
Insulators

ELECTROSE "SAFETY STRAIN" INSULATORS

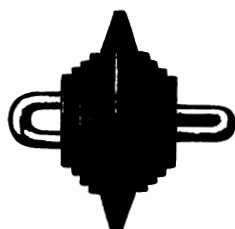
Old No. 10 "Safety Strain" Insulators



Old No. 10

Diam. of Body 4 ins.		Length of Body 4 $\frac{1}{8}$ ins.	Length Over All 8 $\frac{1}{8}$ ins.	
Tensile Strength		Electrical Value		
Test	Ultimate	Test	Ultimate	
10000 lbs.	20000 lbs.	15000 volts	40000 volts	

List No.	Description	Wt. Lbs.*List Price	
		per 100	per 100
700352	With loops having inside diam. 1 x 1 $\frac{1}{4}$ ins., outside diam. 1 $\frac{1}{8}$ x 1 $\frac{1}{8}$ ins.....	210	\$184.24

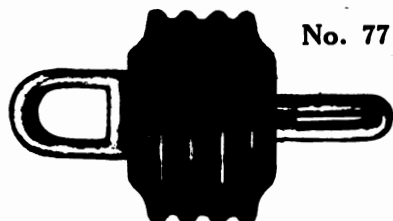


No. 14

No. 14 "Safety Strain" Disk Insulators

Diam. of Body 5 ins.	Length of Body 2 $\frac{5}{8}$ ins.	Length Over All 5 $\frac{1}{4}$ ins.	
Tensile Strength		Electrical Value	
Test	Ultimate	Test	Ultimate
6000 lbs.	10000 lbs.	15000 volts	25000 volts

List No.	Description	Wt. Lbs.*List Price	
		per 100	per 100
700357	With two loops having inside diam. $\frac{1}{8}$ x $\frac{1}{8}$ in., outside diam. 1 $\frac{1}{8}$ x 1 $\frac{1}{8}$ ins.....	210	\$132.54
700360	With loop having inside diam. $\frac{1}{8}$ x $\frac{1}{8}$ in., outside diam. 1 $\frac{1}{8}$ x 1 $\frac{1}{8}$ ins. and standard clevis having opening $\frac{1}{8}$ in. Diam. clevis bolt $\frac{1}{2}$ in.....	235	151.34
700361	With two standard clevises having opening $\frac{1}{8}$ in. Diam. clevis bolt $\frac{1}{2}$ in.....	235	170.14
700364	With loop having inside diam. $\frac{1}{8}$ x $\frac{1}{8}$ in., outside diam. 1 $\frac{1}{8}$ x 1 $\frac{1}{8}$ ins. and $\frac{5}{8}$ in. stud.....	235	142.82
700365	With loop having inside diam. $\frac{1}{8}$ x $\frac{1}{8}$ in., outside diam. 1 $\frac{1}{8}$ x 1 $\frac{1}{8}$ ins. and $\frac{5}{8}$ in. socket.....	235	142.82
700366	With $\frac{5}{8}$ in. stud and $\frac{5}{8}$ in. socket.....	235	155.10
700367	With $\frac{5}{8}$ in. studs at each end.....	235	155.10
700368	With $\frac{5}{8}$ in. stud and standard clevis having opening $\frac{1}{8}$ in. Diam. clevis bolt $\frac{1}{2}$ in.....	235	163.30



No. 77 Regular

No. 77 Regular "Safety Strain" Insulators

Diam. of Body 7 $\frac{1}{4}$ ins.	Length of Body 5 $\frac{1}{4}$ ins.	Length Over All 13 $\frac{1}{4}$ ins.	
Tensile Strength		Electrical Value	
Test	Ultimate	Test	Ultimate
20000 lbs.	40000 lbs.	40000 volts	75000 volts

List No.	Description	Wt. Lbs.*List Price	
		Each	Each
700369	With loop having inside diam. 1 $\frac{1}{8}$ x 2 $\frac{5}{8}$ ins., outside diam. 4 $\frac{1}{4}$ ins.....	21	\$35.72

*Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.

ELECTROSE BUSHINGS

Electrose lead-in bushings and connectors are designed for high tension work. These devices are adapted for various voltages as listed below.

The locking feature consists of the threaded portion of the insulator having a shoulder on one side and a threaded ring on the other, which allows the insulator to be locked on the wall or barrier by a few turns of the ring.



No. 6206



No. 6200

NO. 6206 LOCKING BUSHING

This is a single end locking bushing, used for insulating the wire passing through a wall, or may be used for any other purpose requiring a high voltage insulating bushing. On account of its locking feature no cement is required for placing in position. It possesses great mechanical strength and very high insulating value.

List No.	Mfr. No.	Description	Length	Diam. of Body	Diam. of Hole	Test Voltage Dry	Test Voltage Rain	Wt. Lbs.	*List Price Each
700371	6206	Locking bushing.....	6 1/4 ins.	2 1/2 ins.	3/8 in.	43000	30000	1 1/2	\$3.00

NO. 6200 LOCKING BUSHING

This is a double end locking bushing, used for insulating the wire passing through a wall, or may be used for any other purpose requiring a high voltage insulating bushing. On account of its locking feature no cement is required for placing in position. It possesses great mechanical strength and very high insulating value.

700372	6200	Locking bushing.....	23 ins.	4 1/4 ins.	1 1/2 ins.	90000	60000	13 1/4	\$18.54
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No. 6222



No. 6224

NO. 6222 LOCKING BUSHING

Is similar in every respect to No. 6200 except smaller in size.

List No.	Mfr. No.	Description	Length	Diam. of Body	Diam. of Hole	Test Voltage Dry	Test Voltage Rain	Wt. Lbs.	*List Price Each
700373	6222	Locking bushing.....	15 ins.	2 1/2 ins.	1/2 in.	75000	50000	4 1/4	\$7.36

NO. 6224 LOCKING BUSHING

This is a locking, water and gas tight bushing, used for insulating the wire passing through a wall partition, bulkhead or cover of transformer, etc. These bushings have been adopted by the U. S. Navy for use as bulkhead bushings. Soft rubber gaskets are clamped into each end which prevents moisture from entering bushing.

700374	6224	Locking bushing.....	24 3/8 ins.	4 1/2 ins.	1 in.	100000	65000	16	\$21.40
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No. 6011



No. 6811

NO. 6011 BUSHING

This bushing is used for insulating the wire passing through a wall, or may be used for any other purpose requiring a high voltage bushing. Cement is required for securing bushing into operative position. It possesses great mechanical strength and high insulating value.

List No.	Mfr. No.	Description	Length	Diam. of Body	Diam. of Hole	Test Voltage Dry	Test Voltage Rain	Wt. Lbs.	*List Price Each
700375	6011	Bushing.....	23 ins.	4 1/4 ins.	1 1/2 ins.	90000	60000	12 1/4	\$11.40

NO. 6811 LOCKING CONNECTOR

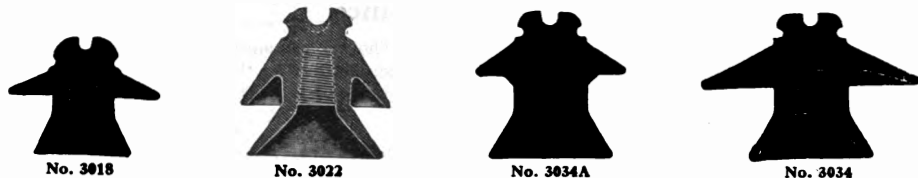
This insulating connector has the same locking feature as the above bushings. It has a conducting member, in the shape of a copper or brass rod permanently imbedded in the electrose, which makes the connector water and gas tight. The line wire is secured to both ends of the connector by various forms of connector clamps.

700376	6811	Locking connector.....	15 ins.	2 1/2 ins.	1/2 in.	75000	50000	5 1/4	\$10.00
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*Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.

Insulators

ELECTROSE INSULATORS



PIN TYPE LINE INSULATORS

List No.	Mfr. No.	Overall Height	Diameter of Largest Hood	Test Voltage		Weight Lbs.	List Price Each
				Dry	Rain		
700815	3018	5½ ins.	7 ins.	80,000 v.	45,000 v.	3¼	\$3.46
700816	3022	7 ins.	7 ins.	85,000 v.	55,000 v.	5¼	5.14
700817	3034A	7½ ins.	8 ins.	90,000 v.	66,000 v.	8	7.62
700818	3034	7½ ins.	12 ins.	110,000 v.	76,000 v.	10½	9.52

These insulators can be provided with various sizes and types of pinholes.

LEAD-IN INSULATORS FOR ROOFS, TRANSFORMERS, WALLS, ETC.

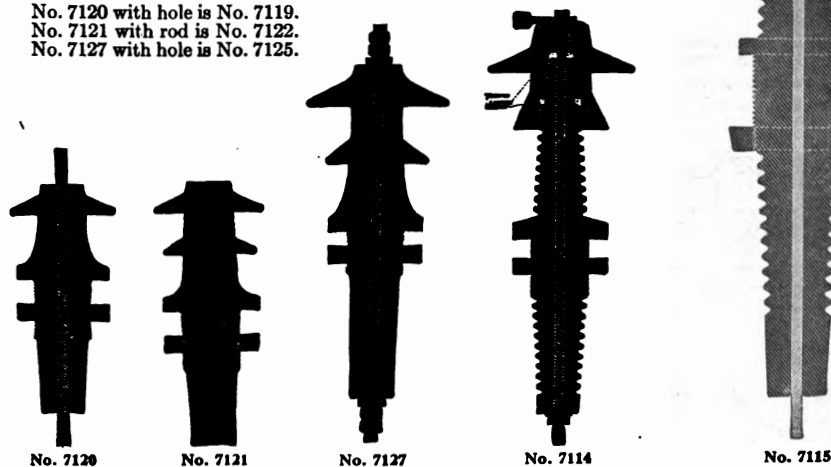
These insulators are adapted for either indoor or outdoor service. The types 7120, 7121 and 7127 can be furnished with either a through-hole or a permanently imbedded conductor rod.

List No.	Height	Largest Diameter	Locking Space	Dimensions	
				Diameter of Rod or Hole	
7120	10½ ins.	5¼ ins.	2 ins.	½ in.	
7121	13 ins.	6 ins.	2 ins.	1¼ ins.	
7127	16 ins.	7 ins.	2 ins.	1¼ ins.	
7114	19½ ins.	7 ins.	2 ins.	½ in.	
7115	32½ ins.	12 ins.	3½ ins.	½ in.	

No. 7120 with hole is No. 7119.

No. 7121 with rod is No. 7122.

No. 7127 with hole is No. 7125.



List No.	Mfr. No.	Test Voltage		Weight Lbs.	List Price Each
		Dry	Rain		
700819	7119	70,000 v.	40,000 v.	3¼	\$7.32
700820	7120	70,000 v.	40,000 v.	5½	10.00
700821	7121	90,000 v.	50,000 v.	6	10.00
700822	7122	90,000 v.	50,000 v.	7¾	12.84
700823	7125	115,000 v.	65,000 v.	8½	15.68
700824	7127	115,000 v.	65,000 v.	11	19.94
700825	7114	120,000 v.	70,000 v.	9½	21.38
700826	7115	175,000 v.	100,000 v.	33	57.00

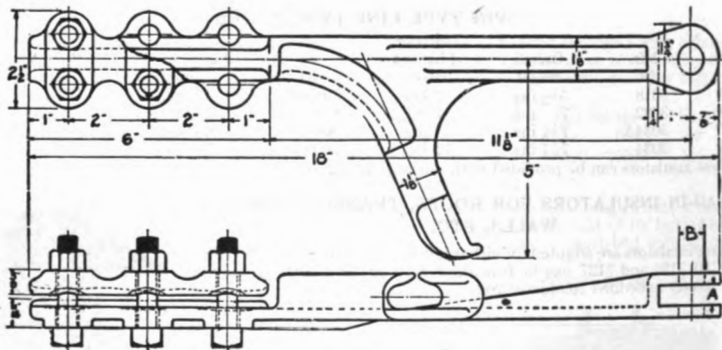
Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.

SUSPENSION STRAIN CLAMPS

For Power Lines

These clamps are made of malleable iron. All parts are hot dip galvanised. The clamps are attached to the cable in the direct line of pull; therefore they (when supplied with a thin protecting shield) are suitable for use with aluminum cable. They are used in connection with disc strain insulators for strains going around angles, also for dead ending.

Dimensions A and B will be made to suit the dimensions of the fittings on the insulator with which it is to be used.



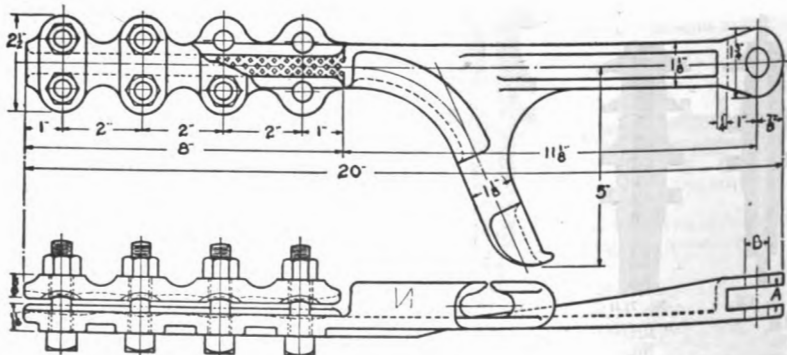
No. 33

TYPES NOS. 33 AND 34

These clamps are made to grip firmly all sizes of copper cables up to and including No. 0000 B. & S. Gauge Stranded and the equivalent aluminum.

List No.	Mfr. No.	Type	Approx. Wt. per 100	List Price per 100
720000	33	Suspension Strain Clamp..... Clevis	700 lbs.	Special
720001	34	Suspension Strain Clamp..... Loop	700 lbs.	Special

NOTE: When provided with a loop instead of clevis attachment this clamp is known as No. 34. (For use with insulators 1053 and 2052.)



TYPE NO. 5002

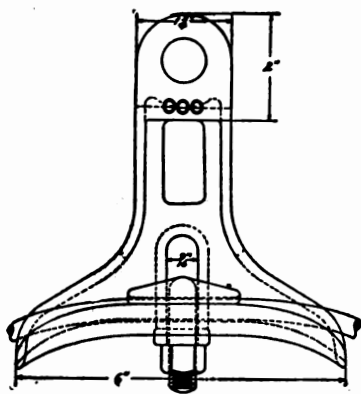
The design of the gripping part of this clamp is such as to provide for very heavy loads. It is made for Nos. 000 and 0000 B. & S. Gauge Stranded Cable, and the equivalent aluminum.

List No.	Mfr. No.	Type	Approx. Wt. per 100	List Price per 100
720002	5002	Suspension Strain Clamp..... Clevis	800 lbs.	Special

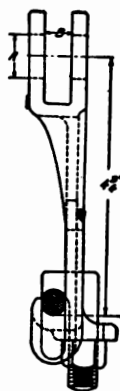
When ordering specify size of wire with which clamp is to be used.

Power Transmission Accessories

LINE SUSPENSION CLAMPS



No. 5007

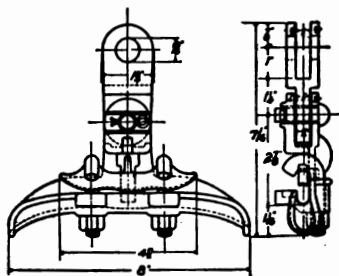


No. 5007

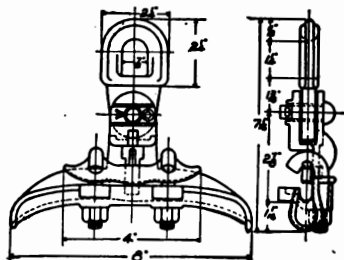
Suspension Clamps—Solid

No. 5007 and 5013 clamps are for sizes to grip No. 00 B. & S. copper cable and smaller. No. 5007 and 5013 are clevis types but can be made in the loop type.

List No.	Mfr. No.	For Wire	Type Connection	Approx. Wt. per 100	List Price per 100
720003	5007	No. 00 and Smaller.....	Clevis	400 lbs.	Special
720004	5013	No. 00 and Smaller.....	Clevis	400 lbs.	Special



No. 29



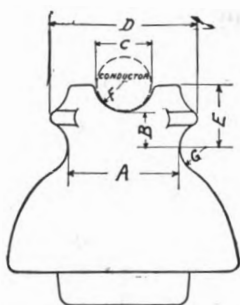
No. 30

Suspension Clamps

These clamps are intended for supporting the line wire in connection with high tension lines and are designed to be attached to the bottom of suspension type disc insulators. They are made from the best high grade malleable iron and are hot galvanized. The clamping bolts are drop-forged steel. Designed to hold No. 0 B. & S. Gauge Copper Cable and smaller. For sizes larger than No. 0 up to and including 250,000 C. M. Cable, ask for Mfr. No. 5020, the same design as illustration shown, but has wire groove 9 inches long instead of 8 inches.

List No.	Mfr. No.		Type Connection	Approx. Wt. per 100	List Price per 100
720006	29	Suspension Clamp.....	Clevis	350 lbs.	Special
720007	30	Suspension Clamp.....	Hook	350 lbs.	Special
720008	5020	Suspension Clamp.....	Clevis or Hook	400 lbs.	Special

In ordering specify size of wire with which clamp is to be used.



INSULATOR CLAMPS

Clark Insulator Clamps (Patented)

These clamps are supplied of either special high tensile strength red bronze or of the best grade malleable iron protected by a heavy coating of zinc and with steel bolts and nuts heavily copper plated or sherardized. Their use is for firmly attaching conductors to insulators. The following information should be given when ordering:

- 1st. Name and number of insulator (or fill in dimensions as shown on sketch).
- 2d. Solid wire or cable used.
- 3d. Conductor, bare or insulated.
- 4th. Exact outside diameter of conductor.

NOTE: Malleable iron clamps cannot be supplied in lots less than 100.

TYPE "A" CLAMP

This clamp is designed for use with standard insulators and provides flexible construction. The clamp is firmly attached to the conductor on either side of the insulator by means of bolt and nut. The projecting arms, engaging the groove of the insulator, transfer the end strain to a broad surface of porcelain in an effective manner. The loops surrounding the neck of the insulator, which are connected to the clamping parts by large countersunk heads, hold the clamp firmly in position. This clamp may be readily adjusted to meet any slight variations in the diameter of the insulator neck.



Type "A"



Type "B"

Dimension A	DIMENSION C OR DIAMETER OF CONDUCTOR										Dimension B
	¼ in.		⅜ in.		½ in.		⅝ in.		¾ in.		
	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100	
	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	
4 ins.	132.00	120.00	144.00	132.00	156.00	144.00	168.00	144.80	180.00	156.00	1 in.
to	144.00	132.00	156.00	144.00	168.00	148.80	180.00	153.60	192.00	158.40	1¼ ins.
4½ ins.	156.00	144.00	168.00	148.80	180.00	153.60	192.00	158.40	204.00	163.20	1½ ins.
	144.00	132.00	156.00	144.00	168.00	148.80	180.00	156.00	192.00	160.80	1 in.
5 ins.	156.00	144.00	168.00	148.80	180.00	156.00	192.00	163.20	204.00	168.00	1¼ ins.
to	168.00	156.00	180.00	163.20	192.00	168.00	204.00	172.80	216.00	180.00	1½ ins.
8 ins.	180.00	163.20	192.00	168.00	204.00	172.80	216.00	180.00	228.00	192.00	1¾ ins.

TYPE "B" CLAMP

This clamp is especially designed for use with small insulators and where rigid construction is desired.

DIMENSION C OR DIAMETER OF CONDUCTOR												Dimension B
Dimension A	1/8 in.		1/4 in.		3/8 in.		1/2 in.		5/8 in.			
	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100		
	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.		
1 1/2 ins. to 2 1/8 ins.	96.00 108.00	84.00 88.80	108.00 120.00	88.80 91.20	120.00 132.00	91.20 93.60	132.00 144.00	93.60 96.00	144.00 156.00	96.00 98.40	3/4 in. 1 in. 1 1/4 ins.	
2 1/2 ins. to 3 1/8 ins.	120.00 124.80	93.60 96.00	129.60 139.20	96.00 98.40	136.80 148.80	98.40 100.80	144.00 156.00	100.80 103.20	156.00 168.00	103.20 105.60	3/4 in. 1 in. 1 1/4 ins.	
3 1/2 ins. to 4 1/8 ins.	132.00 144.00	98.40 103.20	144.00 151.20	100.80 105.60	156.00 160.80	103.20 108.00	168.00 170.40	105.60 110.40	180.00 180.00	108.00 112.80	1 in. 1 1/4 ins. 1 1/2 ins.	
4 1/2 ins. to 6 ins.	156.00 144.00	105.60 103.20	163.20 151.20	108.00 105.60	170.40 160.80	110.40 108.00	182.40 172.80	112.80 110.40	192.00 180.00	115.20 112.80	1 in. 1 1/4 ins. 1 1/2 ins. 1 3/4 ins.	

Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.
Power Transmission Accessories

INSULATOR CLAMPS

Clark Insulator Clamps (Patented)



Type "C"

TYPE "C" CLAMP

This clamp is especially adapted for use in power houses for holding bus bars in place. Suitable bushings of soft copper or aluminum are provided, when desired, depending upon the conductor. It is designed for use with small sizes of standard insulators and with bare or insulated wire or cables. When insulated conductors are used, a lead bushing is provided to prevent abrading the insulation. This clamp provides rigid construction and is often used at crossings over railroad right of way.

(See dimension cut on preceding page.)

Dimension A	DIMENSION C OR DIAMETER OF CONDUCTOR								Dimension B
	$\frac{1}{8}$ in.		$\frac{1}{4}$ in.		$\frac{3}{8}$ in.		$\frac{1}{2}$ in.		
	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100	List	Pr. per 100	
	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	Br'nze	Mal. Ir.	
$1\frac{1}{2}$ ins. } to $1\frac{1}{8}$ ins. }	84.00	79.20	96.00	84.00	108.00	88.80	120.00	91.20	$\frac{1}{2}$ in. $\frac{3}{4}$ in. 1 in.
	96.00	84.00	108.00	88.80	120.00	91.20	132.00	93.60	
	108.00	88.80	120.00	91.20	132.00	93.60	144.00	96.00	
2 ins. } to $2\frac{1}{8}$ ins. }	112.80	91.20	124.80	93.60	136.80	96.00	148.80	98.40	$\frac{3}{4}$ in. 1 in. $1\frac{1}{4}$ ins. $1\frac{1}{2}$ ins.
	124.80	93.60	136.80	96.00	148.80	98.40	160.80	100.80	
	136.80	96.00	148.80	98.40	160.80	100.80	172.80	105.60	
	148.80	100.80	160.80	103.20	172.80	105.60	184.80	110.40	
3 ins. } to $3\frac{1}{8}$ ins. }	132.00	98.40	144.00	100.80	156.00	103.20	168.00	108.00	$\frac{3}{4}$ in. 1 in. $1\frac{1}{4}$ ins. $1\frac{1}{2}$ ins.
	144.00	103.20	156.00	105.60	168.00	108.00	180.00	110.40	
	156.00	108.00	168.00	110.40	180.00	112.80	192.00	115.20	
	168.00	112.80	180.00	115.20	192.00	120.00	204.00	122.40	
4 ins. } to $4\frac{1}{8}$ ins. }	156.00	103.20	168.00	105.60	180.00	110.40	192.00	112.80	1 in. $1\frac{1}{4}$ ins. $1\frac{1}{2}$ ins.
	168.00	110.40	180.00	115.20	192.00	120.00	204.00	122.40	
	180.00	120.00	192.00	124.80	204.00	129.60	216.00	134.40	

TYPE "C" CLAMP—Cont'd

Dimension A	DIMENSION C OR DIAMETER OF CONDUCTOR										Dimension B
	5⁄8 in.		¾ in.		1 in.		1¼ in.		1½ in.		
	List Pr. per 100		List Pr. per 100		List Pr. per 100		List Pr. per 100		List Pr. per 100		
	Brnze	Mal. Ir.	Brnze	Mal. Ir.	Brnze	Mal. Ir.	Brnze	Mal. Ir.	Brnze	Mal. Ir.	
1½ ins. } to 1¼ ins. }	132.00	93.60	144.00	96.00	156.00	98.40	168.00	100.80	180.00	103.20	½ in. ¾ in. 1 in.
	144.00	96.00	156.00	98.40	168.00	100.80	180.00	103.20	192.00	105.60	
	156.00	98.40	168.00	100.80	180.00	103.20	192.00	105.60	204.00	108.00	
2 ins. } to 2⅛ ins. }	160.80	100.80	172.80	103.20	184.80	105.60	196.80	110.40	208.80	112.80	¾ in. 1 in. 1¼ ins. 1½ ins.
	172.80	103.20	184.80	105.60	196.80	108.00	208.80	112.80	220.80	115.20	
	184.80	108.00	196.80	110.40	208.80	115.20	220.80	117.60	232.80	124.80	
	196.80	115.20	208.80	120.00	220.80	124.80	232.80	129.60	252.00	132.00	
3 ins. } to 3⅛ ins. }	180.00	110.40	192.00	112.80	204.00	115.20	216.00	117.60	228.00	120.00	¾ in. 1 in. 1¼ ins. 1½ ins.
	192.00	112.80	204.00	115.20	216.00	120.00	228.00	124.80	240.00	127.20	
	204.00	120.00	216.00	122.40	228.00	127.20	240.00	129.60	252.00	134.40	
	216.00	127.20	228.00	129.60	240.00	134.40	252.00	139.20	264.00	144.00	
4 ins. } to 4⅛ ins. }	204.00	117.60	216.00	120.00	228.00	122.40	240.00	124.80	252.00	127.20	1 in. 1¼ ins. 1½ ins.
	216.00	124.80	228.00	129.60	240.00	134.40	252.00	139.20	264.00	144.00	
	228.00	139.20	240.00	141.60	252.00	144.00	264.00	151.20	276.00	156.00	

NOTE: Above prices do not include bushings, which are supplied at \$12.80 per hundred clamps extra.
Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.

CROSSING CLAMPS

Type "Q"—Angle Clamp



Type Q

This clamp is designed for use with standard insulation, holding the conductor in the side groove in turning curves.

It is made for curves varying from 0° to 45° and within this range presents no sharp points which might cause abrasion of the conductor.

Malleable iron clamps cannot be supplied in lots of less than 100.

DIRECTIONS FOR ORDERING

The following information should be given when placing orders.

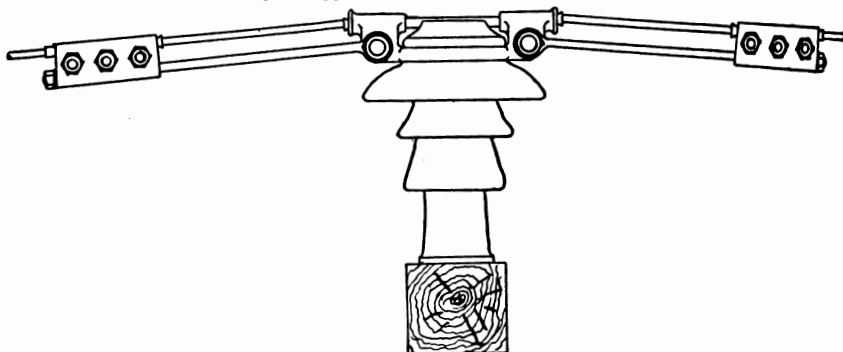
1st. List No. or maker's name and number of insulator used (or send dimensioned drawings of insulator head).

2nd. State if conductor is bare or insulated and give exact outside diameter of conductor.

List No.	Diameter of Insulator Neck	List Price Each					
		Conductors Size $\frac{1}{4}$ inch or less		Conductors $\frac{1}{4}$ inch to $\frac{1}{2}$ inch		Conductors $\frac{1}{2}$ inch to $\frac{3}{4}$ inch	
		Galvanized Mal. Iron	Copper Composition	Galvanized Mal. Iron	Copper Composition	Galvanized Mal. Iron	Copper Composition
720009	1½ ins. to 2¼ ins.	\$0.84	\$1.08	\$1.20	\$1.44	\$1.44	\$1.92
720010	2¼ ins. to 3½ ins.	1.08	1.32	1.32	1.66	1.66	2.16
720011	3½ ins. to 4½ ins.	1.20	1.56	1.44	1.92	1.80	2.62
720012	4½ ins. to 5½ ins.	1.32	1.80	1.56	2.16	2.04	3.00

NOTE: Prices on sizes not covered in the above table will be furnished on application.

Galvanized iron can usually be supplied in six weeks.



Type "M" Line Crossing Clamp

Type "M" Line Crossing Clamp

These sets are designed to meet the requirements where high tension lines cross other lines, streets, railroads, or where special, secure and approved fastenings are desired.

The clamping members are furnished of high tensile strength copper composition or malleable iron, sherardized or galvanized. All bolts and nuts sherardized.

The conductor is protected with suitable bushings of copper, aluminum or lead, depending upon the character of the conductor used.

This form of construction provides the effect of dead end fastening while leaving the conductor continuous.

Malleable iron requires usually six weeks for delivery and orders cannot be handled in malleable iron in quantities of less than twenty-five clamps.

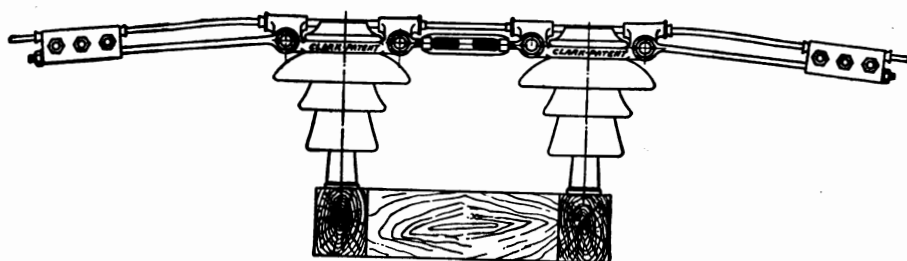
Required Information.—Maker's name and number of insulator. Size and character of the conductor.

List No.	Diameter of Insulator Neck	List Price Each	
		Copper Composition	Galvanized Malleable Iron
720862	1½ ins. to 2½ ins.	\$6.60	\$5.20
720863	2½ ins. to 3½ ins.	8.30	6.90
720864	3½ ins. to 4½ ins.	9.10	7.30
720865	4½ ins. to 6 ins.	10.30	8.26

NOTE: Conductor not to exceed $\frac{1}{2}$ inch in diameter.

Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.

CLARK INSULATOR CLAMPS



Type "T" Line Crossing Clamp

Type "T"—Line Crossing Clamp

For Circuits of 2500 Volts and Over

This clamping set is designed for use where lines cross at such points where it is essential that the conductor be fastened in a most efficient manner to insulator.

The insulator and extension clamps are usually supplied of a copper composition of high copper content and tensile strength, when used with copper conductor. Soft annealed copper split bushings protect the conductor at these clamps.

The insulator and extension clamps are joined together by extension eyebolts of galvanized iron. A turnbuckle is provided to take up any variations in dimensions between the insulators, but this may be replaced by a flat steel member, bolt, etc., as desired. The insulator and extension clamps can be supplied of galvanized malleable iron, which is recommended for use with steel conductor.

The illustration shows insulator clamp having only lower bolts, but upper bolts may be supplied if desired.

DIRECTIONS FOR ORDERING

The following information should be given when placing orders:

- 1st. List No. or maker's name and number of insulator used (or send dimensioned drawings of insulator head).
- 2nd. Whether copper, steel, aluminum, or insulated conductor is used, give exact outside diameter of conductor.
- 3rd. Distance between center line of insulator. (Maximum spacing at list prices 24 inches.)

List Prices and Data

List No.	Diameter of Insulator Neck	List Price per Set	
		Copper	Galv. Mal. Iron
1T	Up to 2 ins.	\$10.00	\$9.00
2T	Over 2 ins. to 3½ ins.	12.00	9.60
3T	Over 3½ ins. to 4½ ins.	14.00	11.00
4T	Over 4½ ins. to 6 ins.	16.00	12.40

NOTE: Galvanized iron sets cannot usually be supplied in less than six weeks.

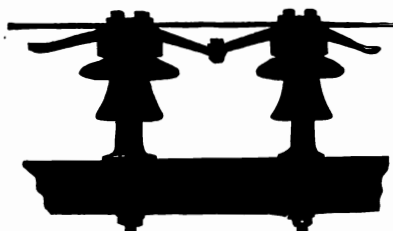
Malleable iron cannot be furnished in lots of less than 50.

Delivery F. O. B. Factory, Brooklyn, N. Y. For warehouse deliveries write nearest house.

THOMAS LINE WIRE PROTECTORS



Single Protector



Two Protectors Bolted Together

Crossing Protectors

This protector installed at the end of those spans that cross above other power circuits, as well as telephone and telegraph lines and railroad rights of way, will eliminate the danger caused by the accidental burning off of the line wire, thus allowing it to drop and come into contact with lines below.

The protector is designed to be installed at the ends of all such spans, either singly or in tandem, depending on the mechanical strains to be carried. Provision is made for bolting together if more than one unit is used. The protector consists of a malleable iron cap with wings extending in the direction of the line wire, and also at right angles to it, of proper size and proportion to fit the various sized insulators as listed below. This cap is fitted to the top of insulator by cementing, the size depending upon the line voltage.

The shape of the wings is such that should an accidental arc form over the insulator, or the insulator be punctured, the cap will take the upper terminus of the arc and hold same until the line trouble causing the arc is removed and the arc extinguished. Most severe tests have shown that in no case was the line wire injured when this device was used.

This protector meets all the requirements of the National Electric Light Association, the American Railway, Engineering and Maintenance Association and the American Electric Railway Association.

The following prices are for all parts galvanized by the hot dip process; bolts and nuts have threads recut after galvanizing.

COMPLETE WITH PROTECTOR PLATE, INSULATOR AND PIN

List No.	For Voltage	No. Ins.	No. Pin	Diam. of Base	*List Price per 100—	
					Gray Iron	Mal. Iron
41711	14000 and less	2041	9007	3 ins.	Special	Special
41711	14000 and less	2041	9007	3 1/4 ins.		
61511	15000 to 23000	3050	9009	3 1/2 ins.		
61511	15000 to 23000	3050	9009	4 ins.		
71311	25000 to 33000	3002	9011	3 1/2 ins.		
71311	25000 to 33000	3002	9011	4 ins.		
71111	35000 to 44000	3020	9013	4 1/4 ins.		
71111	35000 to 44000	3020	9013	5 ins.		
62311	45000 to 60000	4002	9013	4 1/2 ins.		
62311	45000 to 60000	4002	9013	5 1/4 ins.		

The crossing protectors can be furnished with various other insulators. Prices on application.

PROTECTOR ONLY, COMPLETE WITH CLAMP STUDS AND NUTS

List No.	For Voltage	*List Price per 100—	
		Gray Iron	Mal. Iron
41711	14000 and less	Special	Special
61511	15000 to 23000		
71311	25000 to 33000		
71111	35000 to 44000		
62311	45000 to 60000		

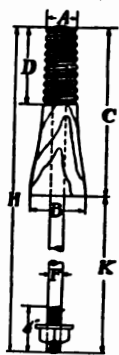
In ordering specify size of wire with which protector is to be used.

*Delivery F. O. B. Factory, East Liverpool, O. For warehouse deliveries write nearest house.
Power Transmission Accessories

WOOD TOP PINS

With Steel Bolts

Furnished in unpainted locust, unless specified paraffined or otherwise treated. The length of bolt can be furnished to suit cross arm of any size. The size of cross arm should always be specified when ordering. Bolts, nuts and washers are always furnished plain. They can be furnished galvanized or sherardized. Always specify.



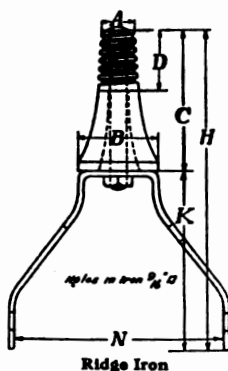
Wood Top Pin

List No.	A inches	B inches	C inches	D inches	F inch	H inches	K inches
9306.....	1 1/8	2 1/4	4	1 1/2	5/8	9	5
9307.....	1 1/8	2 1/4	4 1/2	2	5/8	10 1/2	6
9308.....	1	1 7/8	4 1/2	2	1/2	9 1/2	5
9315.....	1	2 1/4	5 1/4	2 1/4	1/2	10 1/2	5 1/4
9317.....	1 1/8	2 1/4	5 1/4	2 1/4	5/8	10 1/2	4 3/4
9318.....	1	1 7/8	4 1/2	2	1/2	5 1/2	1
9319.....	1	2 1/4	5 1/4	2 1/4	1/2	6 1/2	1 1/4

List No.	Approximate Weight per 100	List Price per 100	
		Plain Bolt	Galvanized Bolt
9306.....	165 lbs.	\$17.34	Special
9307.....	190 lbs.	18.86	
9308.....	100 lbs.	13.42	
9315.....	125 lbs.	15.26	
9317.....	190 lbs.	19.14	
9318.....	65 lbs.	11.16	
9319.....	75 lbs.	12.30	

NOTE: When pins are ordered paraffined add 10 per cent. to list price.

Pole Top Ridge Iron



Ridge Iron

List No.	A inches	B inches	C inches	D inches	H inches	K inches	N inches	Size Strap Iron inches
9800.....	1	2 1/4	5	2 3/4	12	7	6	1/2 x 2 1/4
9803.....	1 1/8	2 3/8	5 1/4	2 3/4	13 1/4	8	7	3/4 x 2 1/4
9805.....	1 3/8	3	7	3 1/2	15	8	7	1 x 2 1/4

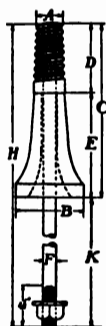
List No.	Use Pin No.	Approximate Wgt. per 100	List Price per 100
9800.....	101	240 lbs.	Special
9803.....	119	325 lbs.	
9805.....	122	425 lbs.	

NOTE: The above prices cover galvanized ridge iron and galvanized bolt and nut. Washers are furnished when ridge irons are ordered with porcelain pins Nos. 101, 104, 105, 119, 120, 122 only. Furnished also of proper dimensions for using any porcelain base pins, as shown on following page, or all wood top pins, as listed above, at special prices. Iron base pins can be furnished if desired. Prices on plain material furnished on application. Through bolts not included in above prices, but can be furnished.

Delivery F. O. B. Factory, East Liverpool, O. For warehouse deliveries write nearest house.

PORCELAIN BASE PINS

With Wood Thimbles



Made with porcelain base and wood thimble having screw thread for attaching insulator. The bolt passes through the thimble and base. Bolt head is of button shape and below the head are two wings on the bolt proper which engage the wood thimble and prevent turning of the bolt. The porcelain base adds insulation, as the creeping surface and arcing distance are thereby increased. The small hole required in cross-arm effects a saving by permitting the use of smaller dimension arms.

NOTE 1: Bolts, nuts and washers furnished galvanized unless plain is specified.

NOTE 2: Length of bolt can be made to suit any crossarm. Please specify cross-arm dimensions. Variation 1 inch does not change price.

NOTE 3: Nos. 130, 130-A, 130-B and 142 Special and made to order, balance Porcelain Base Pin material listed carried in stock.

Dimension Data

List No.	A inches	B inches	C inches	D inches	E inches	F inches	H inches	Base No.	Wgt. per C lbs.
101	1	2 1/4	4 1/2	2 1/4	2 1/4	1 1/2	9 1/2	6000	125
103	1	2 5/8	5 1/2	2 1/2	3	1 1/2	10 1/2	6001	165
105	1 3/8	2 1/4	4 1/2	2 1/4	2 1/4	5/8	10 1/2	6000	175
116	1 3/8	2 5/8	5 1/2	2 1/2	3	5/8	10 1/2	6001	200
118	1 3/8	3 1/2	9	3	6	5/8	15	6005	450
120	1	2 1/4	4 1/2	2 1/4	2 1/4	1 1/2	5 1/2	6001	100
122	1 3/8	3 1/2	8	3	5	5/8	14	6003	375
124	1 3/8	2 5/8	5 1/2	2 1/2	3	5/8	6 1/2	6001	175
125	1 3/8	3 1/2	8	3	5	5/8	9	6003	325
127	1	2 5/8	5 1/2	2 1/2	3	1 1/2	6 1/2	6001	130
128	1 3/8	3 1/2	9	3	6	5/8	10 1/2	6005	410
130	1 3/8	4 1/4	10 1/2	4 1/2	6	3/4	17	6006	600
130A	1 3/8	3	10 1/2	4 1/2	6	3/4	17	6004	325
130B	1 3/8	3 1/2	10 1/2	4 1/2	6	3/4	17	6005	450
142	1 3/8	4 1/2	11 1/2	3 1/2	8	3/4	18	6007	800

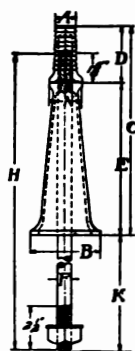
List Prices per 100

List No.	Approx. Weight per 100	List Price per 100		List No.	Approx. Weight per 100	List Price per 100	
		Plain Bolt	Galv. Bolt			Plain Bolt	Galv. Bolt
101	125 lbs.	\$16.74	Special	125	190 lbs.	\$35.02	Special
103	165 lbs.	20.94	Special	127	115 lbs.	18.68	Special
105	190 lbs.	21.78	Special	128	400 lbs.	42.72	Special
116	200 lbs.	25.38	Special	130	600 lbs.	81.60	Special
118	550 lbs.	46.44	Special	130A	525 lbs.	55.80	Special
120	115 lbs.	14.50	Special	130B	415 lbs.	57.88	Special
122	265 lbs.	38.60	Special	142	800 lbs.	80.92	Special
124	175 lbs.	22.60	Special				

Delivery F. O. B. Factory, East Liverpool, O. For warehouse deliveries write nearest house.
Power Transmission Accessories

ALL METAL "LEE" PINS

With Separable Thimbles



All Metal "Lee"
Pin

The top of the base or body of this pin is threaded and the thimble is attached by means of the bolt, which passes through the base threading, through the top, and projecting a proper distance to act as a stud for attaching the thimble. When both pins and insulators are furnished by us the thimbles are cemented into the insulator at the factory without extra charge. This adds one pound to weight of insulator. The great convenience of having thimbles cemented into insulator at the factory is worthy of consideration. When extra insulators are wanted with the thimble cemented in, the list price of thimbles is \$16.70 per 100. Insulators with $1\frac{1}{2}$ inch pin take $1\frac{1}{2}$ inch thimble and 1 inch pin hole takes $\frac{3}{4}$ inch thimble.

Note: "H" and "K" dimensions made to suit cross-arms. Please specify. "A" can be furnished $\frac{3}{4}$ inch for insulator having 1 inch pin hole. "D" can be furnished $3\frac{1}{2}$ inch.

No. 03, $1\frac{1}{2}$ inch thimble always furnished unless otherwise specified. Thimbles are always furnished plain, as they are cemented into the insulators.

On prices given bolts can be decreased or increased 1 inch in length without extra charge.

Bolt can be furnished either hot galvanized, threads cut and recut, or sherardized, as desired.

Bolts are always threaded $2\frac{1}{8}$ inch at top and $2\frac{1}{2}$ inch at bottom, unless otherwise specified, and are fitted with standard hot pressed square nuts and standard washers.

Where pin hole in insulators is 1 inch in diameter No. 01, $\frac{3}{4}$ inch thimble will be furnished.

When ordering always specify the size cross-arm to be used.

The approximate weights given below are for complete pin, but when thimble is cemented in the insulator, which is usually the case, this weight is reduced by approximately 100 lbs. per 100 pins.

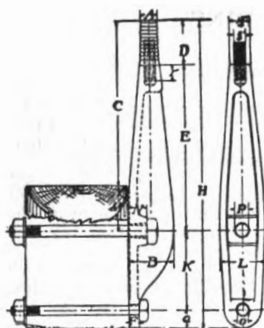
List No.	A Inches	B Inches	C Inches	D Inches	E Inches	F-H Inches	N Inches
9006	$1\frac{1}{8}$	3	$6\frac{1}{4}$	3	$3\frac{1}{4}$	$\frac{3}{4} \times 10\frac{1}{2}$	$1\frac{3}{4}$
9007	$1\frac{1}{8}$	3	$7\frac{1}{2}$	3	$4\frac{1}{2}$	$\frac{3}{4} \times 11\frac{1}{2}$	$1\frac{3}{4}$
9007	$1\frac{1}{8}$	$3\frac{3}{4}$	$7\frac{1}{2}$	3	$4\frac{1}{2}$	$\frac{3}{4} \times 12\frac{1}{2}$	$1\frac{3}{4}$
9007	$1\frac{1}{8}$	$4\frac{1}{4}$	$7\frac{1}{2}$	3	$4\frac{1}{2}$	$\frac{3}{4} \times 12\frac{1}{2}$	$1\frac{3}{4}$
9008	$1\frac{1}{8}$	$2\frac{1}{2}$	$8\frac{1}{4}$	3	$5\frac{1}{4}$	$\frac{3}{4} \times 13$	$1\frac{3}{4}$
9008	$1\frac{1}{8}$	3	$8\frac{1}{4}$	3	$5\frac{1}{4}$	$\frac{3}{4} \times 13$	$1\frac{3}{4}$
9008	$1\frac{1}{8}$	$3\frac{3}{4}$	$8\frac{1}{4}$	3	$5\frac{1}{4}$	$\frac{3}{4} \times 13$	$1\frac{3}{4}$
9009	$1\frac{1}{8}$	$3\frac{3}{4}$	9	3	6	$\frac{3}{4} \times 13\frac{1}{2}$	$1\frac{3}{4}$
9009	$1\frac{1}{8}$	$4\frac{1}{4}$	9	3	6	$\frac{3}{4} \times 14$	$1\frac{3}{4}$
9010	$1\frac{1}{8}$	$3\frac{3}{4}$	10	3	7	$\frac{3}{4} \times 14\frac{1}{2}$	$1\frac{3}{4}$
9010	$1\frac{1}{8}$	$4\frac{1}{4}$	10	3	7	$\frac{3}{4} \times 14\frac{1}{2}$	$1\frac{3}{4}$
9011	$1\frac{1}{8}$	$3\frac{3}{4}$	11	3	8	$\frac{3}{4} \times 15\frac{1}{2}$	$1\frac{3}{4}$
9011	$1\frac{1}{8}$	$4\frac{1}{4}$	11	3	8	$\frac{3}{4} \times 16\frac{1}{2}$	$1\frac{3}{4}$
9012	$1\frac{1}{8}$	$3\frac{3}{4}$	13	3	10	$\frac{3}{4} \times 17$	$1\frac{3}{4}$
9012	$1\frac{1}{8}$	$4\frac{1}{4}$	13	3	10	$\frac{3}{4} \times 17\frac{1}{2}$	$1\frac{3}{4}$
9013	$1\frac{1}{8}$	$4\frac{1}{4}$	14	3	11	$\frac{3}{4} \times 18\frac{1}{2}$	$1\frac{3}{4}$
9016	$1\frac{1}{8}$	$4\frac{1}{4}$	16	3	13	$\frac{3}{4} \times 20\frac{1}{2}$	$1\frac{3}{4}$

List No.	Approximate Weight per 100	*List Price per 100		
		Complete Pin, Plain	Body and Bolt Galvanized	Plain Body and Galv. Bolt
9006	400 lbs.	\$47.26	Special	Special
9007	450 lbs.	51.94	Special	Special
9007	500 lbs.	54.90	Special	Special
9007	550 lbs.	59.40	Special	Special
9008	500 lbs.	55.54	Special	Special
9008	510 lbs.	60.00	Special	Special
9008	550 lbs.	56.12	Special	Special
9009	600 lbs.	59.40	Special	Special
9009	650 lbs.	62.42	Special	Special
9010	650 lbs.	63.32	Special	Special
9010	700 lbs.	66.30	Special	Special
9011	725 lbs.	68.72	Special	Special
9011	750 lbs.	73.22	Special	Special
9012	800 lbs.	79.20	Special	Special
9012	850 lbs.	83.70	Special	Special
9013	900 lbs.	99.88	Special	Special
9016	1000 lbs.	106.52	Special	Special

*Delivery F. O. B. Factory, East Liverpool, O. For warehouse deliveries write nearest house.

POLE TOP PINS

Malleable Iron Pins—Separable Thimble



Pole Top Pin, Malleable Iron

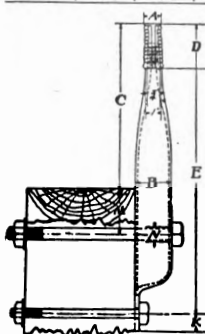
Made of malleable iron of channel design. The top of base or body is threaded and the thimble is attached by means of a $\frac{3}{4}$ inch threaded stud, one end of which threads into the base and the other into the thimble. When both pins and insulators are furnished by us the thimbles are cemented into the insulators at the factory without extra charge. This adds one pound to weight of insulator. Thimbles are always furnished plain, not galvanized. Through bolts for fastening pins to pole are not included in price; these are standard machine bolts. The great convenience of having thimbles cemented into the insulator at the factory is worthy of special consideration. When extra insulators are wanted with thimbles cemented in, the list price of thimbles is \$16.70 per 100. Insulators with $1\frac{1}{2}$ inch pin hole take $1\frac{1}{2}$ inch thimble and 1 inch pin hole takes $\frac{3}{4}$ inch thimble.

NOTE: Thimble No. 03, $1\frac{1}{2}$ inch, furnished unless otherwise specified. Thimbles always furnished plain.

In ordering, always specify whether plain or galvanized wanted.

Price of through bolts not included in above, but we can quote on such bolts, either plain, galvanized, or sherardized. Please give length of through bolt required.

List No.	A inches	B inches	C inches	D inches	E inches	H inches	F inches	K inches	L inches	M inches	N inches	O inches	P inches	Q inches
9550	$1\frac{1}{2}$	$2\frac{1}{4}$	$6\frac{1}{4}$	3	$5\frac{1}{2}$	13	$\frac{1}{2}$	$3\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{1}{4}$	1	$\frac{3}{8}$	$\frac{3}{8}$	1
9551	$1\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{1}{2}$	3	7	15	$\frac{5}{8}$	4	$2\frac{1}{2}$	$2\frac{1}{2}$	1	$\frac{1}{2}$	$\frac{1}{2}$	1
9552	$1\frac{1}{2}$	$2\frac{3}{4}$	9	3	$8\frac{3}{4}$	$17\frac{1}{2}$	$\frac{5}{8}$	$4\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{3}{4}$	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{4}$
9553	$1\frac{1}{2}$	3	11	3	11	$20\frac{1}{2}$	$\frac{3}{4}$	$5\frac{1}{4}$	3	3	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{4}$
9554	$1\frac{1}{2}$	$3\frac{1}{4}$	13	3	13	$23\frac{1}{4}$	$\frac{3}{4}$	6	$3\frac{1}{4}$	3	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{4}$
9555	$1\frac{1}{2}$	$3\frac{1}{2}$	15	3	$15\frac{1}{2}$	27	$\frac{3}{4}$	7	$3\frac{1}{2}$	$3\frac{1}{2}$	$1\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{2}$



Pole Top Pin

List No.	Approximate Wgt. per 100	List Price per 100	
		Plain	Galvanized
9550	500 lbs.	\$58.50	Special
9551	670 lbs.	70.52	Special
9552	700 lbs.	79.52	Special
9553	775 lbs.	91.54	Special
9554	875 lbs.	103.50	Special
9555	1300 lbs.	121.50	Special

Pole Top Pins—Separable Thimble

These are hollow, being drawn from steel tube. A threaded $\frac{3}{4}$ inch stud is sweated into the top, and the thimble is screwed on this stud. Bottom part of pin is closed and securely welded; thus the lower bolt hole passes through one solid piece of flat metal, while the upper hole passes through a hollow tube. When both pins and insulators are furnished by us the thimbles are cemented into the insulators at the factory without extra charge. This adds one pound to weight of insulator. The great convenience of having thimbles cemented into the insulators at the factory is worthy of special consideration. When extra insulators are wanted with thimbles cemented in, the list price of thimbles is \$16.70 per 100. Insulators with $1\frac{1}{2}$ inch pin hole take $1\frac{1}{2}$ inch thimble and 1 inch pin hole takes $\frac{3}{4}$ inch thimble.

NOTE: Thimble No. 03, $1\frac{1}{2}$ inch, furnished unless otherwise specified. Thimbles always furnished plain.

In ordering, always specify whether plain or galvanized.

Price of through bolts not included in list, but we can quote on such bolts, either plain, galvanized, or sherardized. Please give length of through bolts required.

We can furnish all sizes of pipe pins for pole top or cross-arm, such as 2 inch, $2\frac{1}{2}$ inch, and 3 inch standard and extra heavy. Prices made on application.

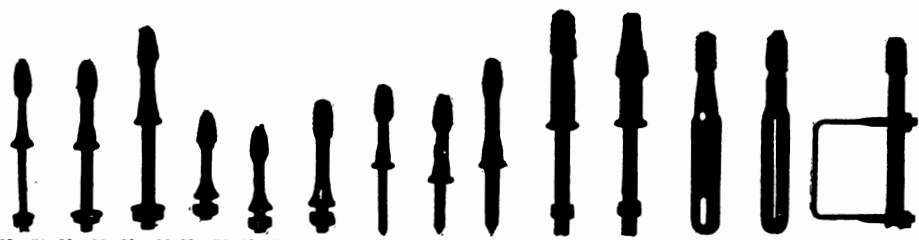
List No.	A inches	B inches	C inches	D inches	E inches	K inches	M inches	Apprx. Wt. per 100 lbs.	Diam. and Length of Bolt, inches		List Price per 100	
									Upper	Lower	Plain	Gal'd
9600	$1\frac{1}{2}$	2	$6\frac{1}{4}$	3	9	1	$2\frac{1}{4}$	460	$\frac{1}{2}$ x 11	$\frac{1}{2}$ x 9	\$70.20	Special
9601	$1\frac{1}{2}$	2	$7\frac{1}{2}$	3	11	1	$2\frac{1}{2}$	475	$\frac{5}{8}$ x $11\frac{1}{2}$	$\frac{1}{2}$ x 9	78.30	Special
9602	$1\frac{1}{2}$	2	9	3	$13\frac{1}{4}$	$1\frac{1}{2}$	$2\frac{3}{4}$	580	$\frac{5}{8}$ x $11\frac{1}{2}$	$\frac{1}{2}$ x 9	86.40	Special
9603	$1\frac{1}{2}$	2	11	3	$16\frac{1}{4}$	$1\frac{1}{2}$	3	670	$\frac{5}{8}$ x $11\frac{1}{2}$	$\frac{1}{2}$ x 9	97.20	Special
9604	$1\frac{1}{2}$	2	13	3	19	$1\frac{1}{2}$	3	760	$\frac{5}{8}$ x $11\frac{1}{2}$	$\frac{1}{2}$ x 9	105.30	Special
9605	$1\frac{1}{2}$	2	15	3	$22\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{2}$	880	$\frac{3}{4}$ x $11\frac{1}{2}$	$\frac{1}{2}$ x 9	113.40	Special

Delivery F. O. B. Factory, East Liverpool, O. For warehouse deliveries write nearest house.

Power Transmission Accessories

PEIRCE STEEL PINS

HOT GALVANIZED



No. 71 No. 80 No. 90 No. 72 No. 86 No. 93 No. 73 No. 88 No. 94 No. 2605 No. 2705 No. 4300 No. 4400 Assembly for Wood Arms

Peirce Forged Steel Pins

Long Shank Type For Wood Cross Arms—With 1 Inch Spring Thread

List No.	Mfr. No.	Diameter	Above Shoulder	Below Shoulder	Total Length	Weight Lbs.	*List Price per 100
720674	71	$\frac{1}{2}$ in.	$4\frac{3}{4}$ ins.	$4\frac{3}{4}$ ins.	$9\frac{1}{4}$ ins.	81	\$12.00
720675	74	$\frac{1}{2}$ in.	$4\frac{3}{4}$ ins.	$5\frac{1}{2}$ ins.	$10\frac{1}{4}$ ins.	86	13.60
720676	80	$\frac{5}{8}$ in.	$4\frac{3}{4}$ ins.	$4\frac{3}{4}$ ins.	$9\frac{1}{4}$ ins.	115	17.60
720677	81	$\frac{5}{8}$ in.	$4\frac{3}{4}$ ins.	$5\frac{1}{2}$ ins.	$10\frac{1}{4}$ ins.	122	18.80
720678	81A	$\frac{5}{8}$ in.	$4\frac{3}{4}$ ins.	$6\frac{1}{2}$ ins.	$11\frac{1}{4}$ ins.	129	20.00
720679	82	$\frac{5}{8}$ in.	6 ins.	$4\frac{3}{4}$ ins.	$10\frac{1}{4}$ ins.	126	19.20
720680	84	$\frac{5}{8}$ in.	6 ins.	$5\frac{1}{2}$ ins.	$11\frac{1}{4}$ ins.	132	20.00
720681	83	$\frac{5}{8}$ in.	6 ins.	$6\frac{1}{2}$ ins.	$12\frac{1}{4}$ ins.	140	20.80
720682	95	$\frac{3}{4}$ in.	6 ins.	5 ins.	11 ins.	183	26.80
720683	90	$\frac{3}{4}$ in.	6 ins.	$5\frac{1}{2}$ ins.	$11\frac{3}{4}$ ins.	192	28.80
720684	91	$\frac{3}{4}$ in.	6 ins.	$6\frac{1}{2}$ ins.	$12\frac{3}{4}$ ins.	205	29.60

Short Shank Type For Steel Cross Arms—With 1 Inch Spring Thread

720685	72	$\frac{1}{2}$ in.	$4\frac{3}{4}$ ins.	$1\frac{1}{4}$ ins.	6 ins.	54	\$11.76
720686	86	$\frac{5}{8}$ in.	$4\frac{3}{4}$ ins.	$1\frac{1}{4}$ ins.	6 ins.	85	16.00
720687	87	$\frac{5}{8}$ in.	6 ins.	$1\frac{1}{4}$ ins.	$7\frac{1}{4}$ ins.	96	17.20
720688	93	$\frac{3}{4}$ in.	6 ins.	$1\frac{1}{2}$ ins.	$7\frac{1}{2}$ ins.	123	23.20

Log Screw Type For Poles, Etc.—With 1 Inch Spring Thread

720689	73	$\frac{1}{2}$ in.	$4\frac{3}{4}$ ins.	3 ins.	$7\frac{3}{4}$ ins.	65	\$11.76
720690	88	$\frac{5}{8}$ in.	$4\frac{3}{4}$ ins.	3 ins.	$7\frac{3}{4}$ ins.	88	18.40
720691	89	$\frac{5}{8}$ in.	$7\frac{1}{2}$ ins.	4 ins.	$11\frac{1}{2}$ ins.	120	20.80
720692	94	$\frac{3}{4}$ in.	6 ins.	4 ins.	10 ins.	130	25.60

Peirce Hot Galvanized Pipe Pins

					With 1½ Inch Spring Thread			With 1½ Inch Drawn Steel Separable Thimble		
Diameter Bolt	Diameter Pipe	Above Shoulder	Below Shoulder	Total Length	List No.	Mfr. No.	List Price per 100	List No.	Mfr. No.	*List Price per 100
¾ in.	1⅞ ins.	4¾ ins.	5¾ ins.	10½ ins.	720693	2605	\$35.20	720697	2705	\$38.40
¾ in.	1⅞ ins.	4¾ ins.	6¾ ins.	11½ ins.	720694	2606	36.00	720698	2706	39.20
¾ in.	1⅞ ins.	6 ins.	5¾ ins.	11¾ ins.	720695	2608	36.80	720699	2708	40.00
¾ in.	1⅞ ins.	6 ins.	6¾ ins.	12¾ ins.	720696	2609	37.60	720700	2709	40.80

Clamp Pins

List No.	Mfr. No.	Size of Arms	Size of Channel	Height Above Arm	Type of Thimble	Std. Pkg.	Wt. per 100	*List Price per 100
720701	4300	4 ins. x 5 ins. and smaller	Sheet	$4\frac{1}{2}$ ins.	1 in. spring thread	200	67	\$24.64
720702	4400	4 ins. x 5 ins. and smaller	$\frac{3}{4}$ in.	$4\frac{1}{2}$ ins.	1 in. spring thread	200	120	29.26
720703	4401	$3\frac{1}{2}$ ins. x $4\frac{1}{2}$ ins. and smaller	$\frac{3}{4}$ in.	$4\frac{1}{2}$ ins.	1 in. spring thread	200	105	27.72
720704	4402	4 ins. x 5 ins. and smaller	$\frac{3}{4}$ in.	6 ins.	1 in. spring thread	200	145	36.96

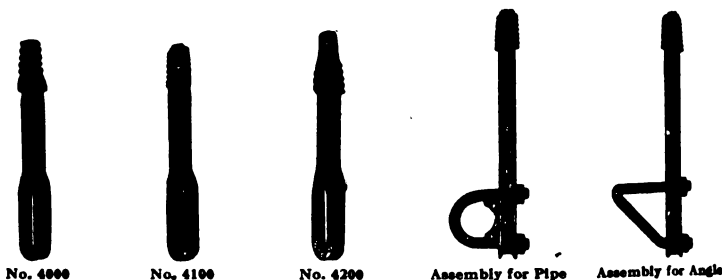
*Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

PEIRCE CLAMP PINS

STEEL CROSSARM TYPE

Hot Galvanized

We recommend the use of these pins for the "Bo-Arrow" high tension arms as being strong and light and cheaper than any pin of the through bolt type. They are also for service for use on steel towers and terminal structures. By their use on the latter, stock angles may be used in place of specially fabricated angles, and the pins may be spaced as desired. If changes are desired later, they may be made without re-drilling the arms. Pins of these types can be furnished in special dimensions and with clamps to fit any desired size or shape of angle, channel, beam, pipe or rail section.



Peirce Clamp Pins

List No.	Mfr. No.	For Angle Up To	For Pipe Up To	Size of Channel	Height Above Arm	Type of Thimble	Std. Pkg.	Wt. per 100 Lbs.	List Price per 100
720706	4000	3 x 3 ins.	1 1/2 ins.	1 in.	8 ins.	1 3/8 in. cast sep. thimble	150	195	\$36.96
720706	4002	3 x 3 ins.	1 1/2 ins.	1 in.	10 ins.	1 3/8 in. cast sep. thimble	150	221	46.20
720707	4004	3 x 3 ins.	1 1/2 ins.	1 in.	12 ins.	1 3/8 in. cast sep. thimble	100	248	50.40
720708	4006	3 x 3 ins.	1 1/2 ins.	1 1/4 ins.	14 ins.	1 3/8 in. cast sep. thimble	100	309	57.60
720709	4008	3 x 3 ins.	1 1/2 ins.	1 1/4 ins.	16 ins.	1 3/8 in. cast sep. thimble	100	340	66.24
720710	4100	3 x 3 ins.	1 1/2 ins.	1 in.	8 ins.	1 3/8 in. spring thread	150	194	33.88
720711	4102	3 x 3 ins.	1 1/2 ins.	1 in.	10 ins.	1 3/8 in. spring thread	150	220	43.12
720712	4104	3 x 3 ins.	1 1/2 ins.	1 in.	12 ins.	1 3/8 in. spring thread	100	248	47.52
720713	4106	3 x 3 ins.	1 1/2 ins.	1 1/4 ins.	14 ins.	1 3/8 in. spring thread	100	309	54.72
720714	4108	3 x 3 ins.	1 1/2 ins.	1 1/4 ins.	16 ins.	1 3/8 in. spring thread	100	340	63.36
720715	4200	3 x 3 ins.	1 1/2 ins.	1 in.	8 ins.	1 3/8 in. drawn steel sep. thimble	150	193	36.96
720716	4202	3 x 3 ins.	1 1/2 ins.	1 in.	10 ins.	1 3/8 in. drawn steel sep. thimble	150	219	46.20
720717	4204	3 x 3 ins.	1 1/2 ins.	1 in.	12 ins.	1 3/8 in. drawn steel sep. thimble	100	247	50.40
720718	4206	3 x 3 ins.	1 1/2 ins.	1 1/4 ins.	14 ins.	1 3/8 in. drawn steel sep. thimble	100	308	57.60
720719	4208	3 x 3 ins.	1 1/2 ins.	1 1/4 ins.	16 ins.	1 3/8 in. drawn steel sep. thimble	100	339	66.24

Actual diameter of 1 3/8 inch separable thimbles is 1 1/4 inch, leaving room for cementing into insulators of 1 3/8 inch bore.

No. 165
Pipe ClampNo. 161
Angle Clamp

Pipe Clamp and Angle Clamp

List No.	Mfr. No.		Wt. Lbs. per 100	List Price per 100
720720	165	Pipe Clamp, 5/8 in. bolt, for 1 1/4 in. pipe	160	\$15.40
720721	161	Angle Clamp, 5/8 in. bolt, for 3 in. angle	100	8.64

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

Power Transmission Accessories

PEIRCE CLAMP AND STEEL PINS

Hot Galvanized



No. 4500



No. 4600



No. 4700



No. 2810

Clamp Pins

Wood Cross Arm Types

These pins are made from one piece channel steel bent double to form slot for cross arm strap. They are furnished with separable thimbles and with Peirce spring threads. We recommend the latter for insulators up to 33,000 volts, as on the smaller sizes of insulators the cost of cementing may thus be avoided. If in doubt as to the length of pin necessary for a high tension insulator, add to the length of insulator bore one-half the diameter of the lower skirt. The sum will give the minimum height of pin above cross arm.

List No.	Mfr. No.	Size of Arms, ins.	Size of Channel	Height Above Arm	Type of Thimble	Std. Pkg.	Wt. per 100	Lbs. per 100	List Price per 100
720722	4500	4 x 5 and smaller	1 in.	8 ins.	1 3/8 in. spring thread	150	225	\$39.20	
720723	4502	4 x 5 and smaller	1 in.	10 ins.	1 3/8 in. spring thread	150	253	47.60	
720724	4504	4 x 5 and smaller	1 in.	12 ins.	1 3/8 in. spring thread	100	280	50.70	
720725	4506	4 x 5 and smaller	1 1/4 ins.	14 ins.	1 3/8 in. spring thread	100	345	57.20	
720726	4508	4 x 5 and smaller	1 1/4 ins.	16 ins.	1 3/8 in. spring thread	100	376	65.00	
720727	4600	4 x 5 and smaller	1 in.	8 ins.	1 3/8 in. cast sep. thimble	150	226	42.00	
720728	4602	4 x 5 and smaller	1 in.	10 ins.	1 3/8 in. cast sep. thimble	150	254	50.40	
720729	4604	4 x 5 and smaller	1 in.	12 ins.	1 3/8 in. cast sep. thimble	100	281	53.30	
720730	4606	4 x 5 and smaller	1 1/4 ins.	14 ins.	1 3/8 in. cast sep. thimble	100	316	59.80	
720731	4608	4 x 5 and smaller	1 1/4 ins.	16 ins.	1 3/8 in. cast sep. thimble	100	377	67.60	
720732	4700	4 x 5 and smaller	1 in.	8 ins.	1 3/8 in. drawn steel sep. thimble	150	224	42.00	
720733	4702	4 x 5 and smaller	1 in.	10 ins.	1 3/8 in. drawn steel sep. thimble	150	252	50.40	
720734	4704	4 x 5 and smaller	1 in.	12 ins.	1 3/8 in. drawn steel sep. thimble	100	279	53.30	
720735	4706	4 x 5 and smaller	1 1/4 ins.	14 ins.	1 3/8 in. drawn steel sep. thimble	100	344	59.80	
720736	4708	4 x 5 and smaller	1 1/4 ins.	16 ins.	1 3/8 in. drawn steel sep. thimble	100	375	67.60	

Actual diameter of 1 3/8 inch separable thimbles is 1 1/4 inch, leaving room for cementing into insulators of 1 3/8 inch bore.

Peirce Forged Steel Pins

With 1 3/8 Inch Malleable Iron Separable Thimble—Hot Galvanized

These pins are composed of one solid steel forging with nut and separable thimble.

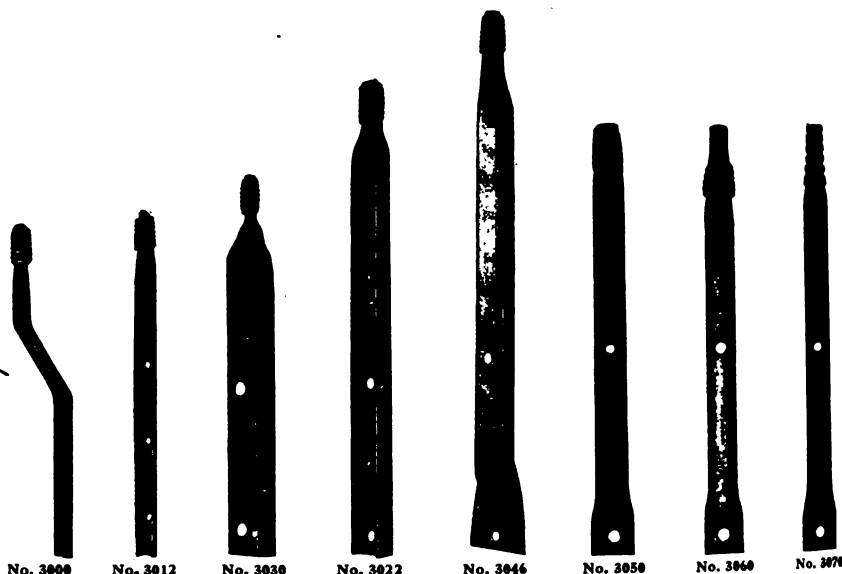
List No.	Mfr. No.	Length Above Shoulder	Length of Bolt	Length of Shoulder	Diameter Above Shoulder	Below Shoulder	Wt. Lbs.	List Price per 100
720737	2806	6 ins.	6 3/4 ins.	2 1/2 ins.	1 in.	3/4 in.	175	\$37.50
720738	2807	7 ins.	6 3/4 ins.	2 1/2 ins.	1 in.	3/4 in.	200	52.50
720739	2808	8 ins.	6 3/4 ins.	3 3/4 ins.	1 1/4 ins.	3/4 in.	260	66.00
720740	2809	10 ins.	6 3/4 ins.	3 3/4 ins.	1 1/4 ins.	3/4 in.	320	87.00
720741	2810	12 ins.	6 3/4 ins.	3 3/4 ins.	1 1/2 ins.	3/4 in.	570	121.50
720742	2811	14 ins.	6 3/4 ins.	3 3/4 ins.	1 1/2 ins.	3/4 in.	680	132.00
720743	2812	16 ins.	6 3/4 ins.	3 3/4 ins.	1 1/2 ins.	3/4 in.	800	142.50
720744	2813	6 ins.	1 1/2 ins.	2 1/2 ins.	1 in.	3/4 in.	115	36.00
720745	2814	7 ins.	1 1/2 ins.	2 1/2 ins.	1 in.	3/4 in.	140	51.00
720746	2815	8 ins.	1 1/2 ins.	3 3/4 ins.	1 1/4 ins.	3/4 in.	200	64.50
720747	2816	10 ins.	1 1/2 ins.	3 3/4 ins.	1 1/4 ins.	3/4 in.	260	85.50
720748	2817	12 ins.	1 1/2 ins.	3 3/4 ins.	1 1/2 ins.	3/4 in.	510	120.00
720749	2818	14 ins.	1 1/2 ins.	3 3/4 ins.	1 1/2 ins.	3/4 in.	620	130.50
720750	2819	16 ins.	1 1/2 ins.	3 3/4 ins.	1 1/2 ins.	3/4 in.	780	141.00

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PEIRCE POLE TOP PINS

HOT GALVANIZED

While pole top pins of any desired weight, length and hole spacing can be furnished, the sizes shown below cover usual practice for most types of construction. Many engineers are now insulating the ground wire from the high tension fixture and for this purpose are using the pole top pins in place of standard bayonets.

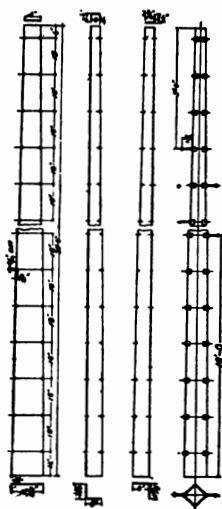


Pole Top Pins

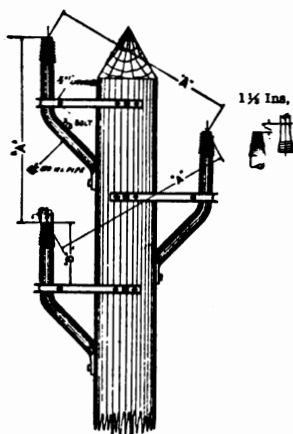
List No.	Mfr. No.	Material	Length Inches	Thimble	Size of Hole Inches	Between Holes Inches	Wt. Lbs. per 100	*List Price per 100
720751	3000	1 x 1/2 in. channel	18	1 in. spring	1/8	4	140	\$42.24
720752	3010	1 x 1/2 in. channel	12	1 in. spring	1/8	4	74	25.08
720753	3012	1 x 1/2 in. channel	18	1 in. spring	1/8	4	140	42.24
720754	3020	Two 1 1/4 in. channels	18	1 1/2 in. spring	1/8	8	369	95.04
720755	3023	Two 1 1/4 in. channels	36	1 1/2 in. spring	1/8	10	725	167.04
720756	3030	2 x 2 x 1/4 in. angle	18	1 in. spring	1/8	8	366	79.20
720757	3022	Two 1 1/4 in. channels	25	1 1/2 in. spring	1/8	8	480	118.08
720758	3031	2 x 2 x 1/4 in. angle	24	1 in. spring	1/8	8	488	105.12
720759	3033	2 x 2 x 1/4 in. angle	36	1 in. spring	1/8	10	732	125.28
720760	3035	2 x 2 x 1/4 in. angle	48	1 in. spring	1/8	12	1276	201.60
720761	3040	No. 10 pressed steel	18	1 in. spring	1/8	8	227	64.80
720762	3041	No. 10 pressed steel	18	1 1/2 in. spring	1/8	8	303	87.84
720763	3045	No. 10 pressed steel	24	1 in. spring	1/8	8	303	87.84
720764	3046	No. 10 pressed steel	24	1 1/2 in. spring	1/8	8	336	96.40
720765	3050	1 1/4 in. steel pipe	18	1 1/2 in. spring	1/8	8	448	109.44
720766	3052	1 1/4 in. steel pipe	24	1 1/2 in. spring	1/8	8	672	154.08
720767	3054	1 1/4 in. steel pipe	36	1 1/2 in. spring	1/8	10	896	192.96
720768	3056	1 1/4 in. steel pipe	48	1 1/2 in. spring	1/8	12	896	192.96
720769	3060	1 1/4 in. steel pipe	18	1 1/2 in. drawn steel sep. thimble	1/8	8	336	93.60
720770	3062	1 1/4 in. steel pipe	24	1 1/2 in. drawn steel sep. thimble	1/8	8	448	116.64
720771	3064	1 1/4 in. steel pipe	36	1 1/2 in. drawn steel sep. thimble	1/8	10	672	161.28
720772	3066	1 1/4 in. steel pipe	48	1 1/2 in. drawn steel sep. thimble	1/8	12	896	200.16
720773	3070	1 1/4 in. steel pipe	18	1 1/2 in. cast iron sep. thimble	1/8	8	336	93.60
720774	3072	1 1/4 in. steel pipe	24	1 1/2 in. cast iron sep. thimble	1/8	8	448	116.64
720775	3074	1 1/4 in. steel pipe	36	1 1/2 in. cast iron sep. thimble	1/8	10	672	161.28
720776	3076	1 1/4 in. steel pipe	48	1 1/2 in. cast iron sep. thimble	1/8	12	896	200.16

*Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.
Power Transmission Accessories

POLES AND BRACKETS



Presteel Pole



No. 2510

Hubbard "Presteel" Poles

The "Presteel" pole is composed of two high carbon steel plates, pressed into angle form and held together with diagonal through bolts and drop forged reinforcing clips.

Where poles are desired, furnished with steps, a special through bolt, with shoulder and extended end, is used. We list only one weight of pole, in four lengths but the method of manufacture permits of the use of any desired thickness of plate and of top and bottom dimensions.

List No.	Mfr. No.	Length	Thickness of Plate	Square Top	Square Bottom	Approx Wt.	List Price Each	
							Without Steps	With Steps
720777	Order by Length	27 ft.	1/4 in.	3 3/4 ins.	7 1/2 ins.	470	\$25.80	\$26.40
720778		30 ft.	1/4 in.	3 3/4 ins.	8 ins.	525	29.00	29.60
720779		35 ft.	1/4 in.	3 3/4 ins.	8 3/4 ins.	637	35.00	36.00
720780		40 ft.	1/4 in.	3 3/4 ins.	9 1/2 ins.	795	44.20	45.40

Peirce Hi-Ten Brackets

Hot Galvanized

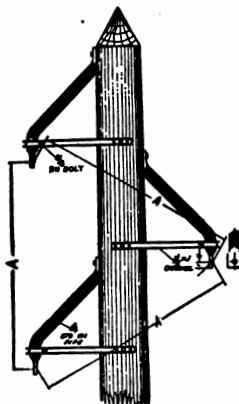
These brackets are sufficiently strong and with proper spacing for carrying the high tension distributing circuits in voltages of 33,000 and less. They may be arranged on the pole in any manner desired. They may be used with or without ground wire bayonets. Because of their truss bracing they will meet any service strain, even at sharp corners. The brace can be bent to fit almost any diameter of pole, and is provided with three holes on each side of pole to meet such adjustment, spring threads may be 1 inch or 1 1/8 as desired.

List No.	Mfr. No.	Style	Style of Thimble	A	B	Wt. Lbs.	List Price Per 100 Single Bkts.
720781	2510	24 in. triangle	Spring	24	8	535	\$154.08
720782	2511	24 in. triangle	Separable thimble	24	8	535	156.24
720783	2512	36 in. triangle	Spring	36	10	735	211.68
720784	2513	36 in. triangle	Separable thimble	36	10	735	213.84
720785	2514	52 in. triangle	Spring	52	12	1133	325.44
720786	2515	52 in. triangle	Separable thimble	52	12	1133	327.60

The Peirce drawn steel separable thimbles, shown on these brackets, are drawn from 18 gauge sheet steel into a seamless shell with rolled thread. They are stronger than cast iron thimbles.

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PEIRCE HI-TENSION BRACKETS AND FIXTURES

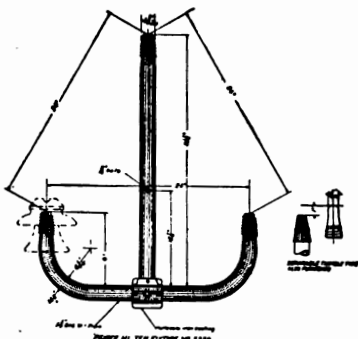


No. 2500

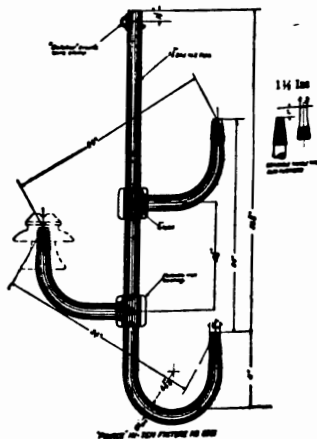
Hi-Tension Brackets
Suspension Type Hot Galvanized

These brackets correspond in every way with the pin type brackets, but are made for suspension insulator unit; they will meet conditions on high tension distributing circuits of 33,000 volts and less; also made in larger sizes for higher voltage.

List No.	Mfr. No.	Style	A	Wt. Lbs.	List Price per 100 Single Bkts.
720787	2500	36 in. triangle	36 ins.	635	\$182.88
720788	2501	52 in. triangle	52 ins.	1000	288.00



No. 2350

**Peirce Hi-Ten Fixtures**

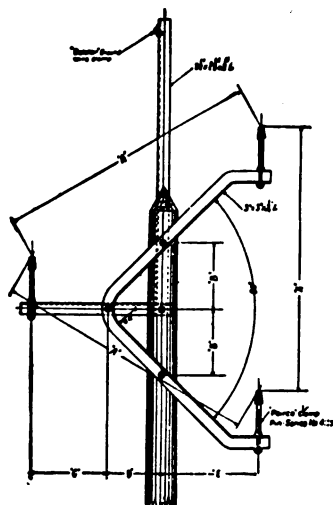
These fixtures are for high tension distributing lines below 22,000 volts. They are fastened to the poles with two through bolts. The malleable castings are very heavy with reinforcing webs and fillets, and are strengthened by one leg of the pipe which extends through the casting the back of which is arranged to fit the pole face, thus doing away with the necessity for cutting gains. The fixtures are hot galvanized inside and out after assembly.

List No.	Mfr. No.	No. 2350	Wt. Lbs.	List Price Each
720789	2350	Style Thimble	15	\$4.98
720790	2360	Spring 1 in. or 1 1/4 ins.	15	5.24
		Separable Thimble	15	
		No. 2351		
720791	2351	Spring 1 in. or 1 1/4 ins.	22	\$7.32
720792	2361	Separable Thimble	22	7.56

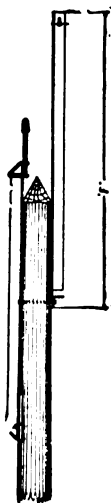
Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

Power Transmission Accessories

HUBBARD BO-ARROW ARMS



No. 2400



No. 2403

Hubbard Bo-Arrow Arms

Plain or Hot Galvanized

For high tension circuits from 33,000 to 66,000 volts, the Bo-Arrow Arm represents the latest practice on single circuit poles. It is fastened with but three through bolts, which also hold the ground wire bayonets. The holes go straight through the poles at right angles to the arm instead of going at three different angles. With this design of arm, maximum strength is secured with minimum weight. The arm is made for 36 inch, 52 inch and 72 inch triangles, and in two styles as shown, one for through bolt pins and one for Peirce clamp pins. Arms are made from 3 x 3 x 1/4 inch steel angle.

List No.	Mfr. No.	Triangle Spacing	Style	Wt. Lbs.	List Price Each	
					Plain	Galvanized
720794	2400	36 ins.	For Peirce clamp pins	39		
720795	2401	52 ins.	For Peirce clamp pins	52	Price	Price
720796	2402	72 ins.	For Peirce clamp pins	69	On	On
720797	2403	36 ins.	For through bolt pins	39	Application	Application
720798	2404	52 ins.	For through bolt pins	52		
720799	2405	72 ins.	For through bolt pins	69		

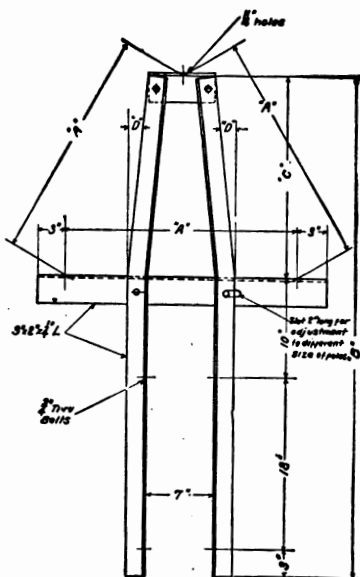
Bayonets

List No.	Mfr. No.	Length	Size Angle	Wt. Lbs.	List Price Each	
					Plain	Galvanized
720800	3100	50 ins.	2 1/2 x 2 1/2 x 1/4 in.	17	Price	Price
720801	3103	66 ins.	2 1/2 x 2 1/2 x 1/4 in.	22 1/2	On	On
720802	3105	75 ins.	3 x 3 x 1/4 in.	31	Application	Application

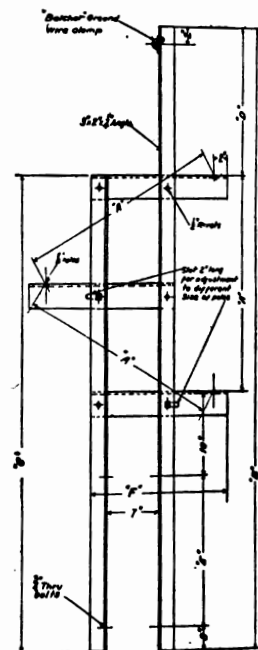
For Bayonets complete with "Belcher" ground wire clamp, add to list 24 cents.

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

PEIRCE HIGH TENSION EXTENSIONS



No. 2370



No. 2380

Hi-Tension Extension

Hot Galvanized

For bringing in a high tension circuit on an existing pole route without replacing the poles or lowering the wires. Fastened to the pole with two through bolts. Adjustable to pole of from 7 to 10 inches diameter. When bolted to the pole the fixture is very rigid. It is arranged for use with either Peirce clamp pins or any pins of the through bolt type. Can be furnished to any special dimensions. Made from 3 x 2 inch steel angle and thoroughly galvanized.

List Prices and Data

List No.	Mfr. No.	Style	A	B	C	Wt. Lbs.	List Price Each
720803	2370	24 in. triangle	24 ins.	52 ins.	21 ins.	35	\$5.94
720804	2371	36 in. triangle	36 ins.	62 ins.	31 ins.	45	7.64

Hi-Tension Extension

WITH BAYONET

Hot Galvanized

This extension provides for the three circuit wires, and the grounded guard wire above. To bring in a high tension circuit over an existing route without replacing the poles or lowering the present wires. It is adjustable to any diameter of pole from 7 to 10 inches. Arranged for use with Peirce clamp pins or pins of the through bolt type. Made from 3 x 2 inch angle and thoroughly galvanized. Extension of special dimensions can be furnished promptly.

List Prices and Data

List No.	Mfr. No.	Style	A	B	C	D	E	Wt. Lbs.	List Price Each
720805	2380	26 in. triangle	26 ins.	75 ins.	57 ins.	18 ins.	18 ins.	50	\$8.48
720806	2381	36 in. triangle	36 ins.	91½ ins.	67½ ins.	24 ins.	18 ins.	61	10.32
720807	2382	52 in. triangle	52 ins.	127 ins.	95 ins.	32 ins.	30 ins.	80	13.56

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.
Power Transmission Accessories

WOOD POLES

Poles

The Western Electric Company is noted for the quality of the poles it handles and the service it renders. Our facilities for securing stock, our large and numerous concentrating yards, make it possible for us to meet any demand at a moment's notice. Our record has given us an enviable reputation in the pole business throughout the United States and Canada.

In order to give our friends and patrons a more intimate knowledge of what we can supply in the way of poles and pole-line material, we have assembled in these pages a representative list of the standard stocks carried by us.



Section of One of Our Many Pole Yards

Large Posts and Small Poles

Northern White Cedar Association Specification

"Sizes 4 inch 10 foot to 4 inch 18 foot inclusive. Sizes at top may be $\frac{1}{4}$ inch less than the diameter specified. Four inch 20 foot poles circumference measurement at top end 12 inches for seasoned stock and $12\frac{1}{2}$ inches for green or water soaked stock, 5 inch top and larger 20 foot poles take same circumference top measurement as longer poles of same size. Lengths may be two inches scant. On posts and poles 10, 12, 14, 16 feet long, 4 inch crook one way allowed. Eighteen and 20 foot poles, 4 inch crook one way allowed, the sweep to be measured from a point 4 feet from the butt. Pipe holes in top allowed. Must be cut from live timber and in other respects, except as above mentioned, conform to post specifications. Green, fresh cut or water soaked stock must be plump measure for the diameter or circumference specified."

Standard Telegraph, Telephone and Electric Poles

Northern White Cedar Association Specification

"Sizes 4 inch 25 feet and upwards. Above poles must be cut from live growing timber, peeled and reasonably well proportioned for their length. Tops must be reasonably sound, must measure in circumference as follows: seasoned 4 inch poles, 12 inches; 5 inch poles, 15 inches; 6 inch poles, $18\frac{1}{2}$ inches; 7 inch poles, 22 inches. If poles are green, fresh cut or water soaked, then 4 inch poles must measure $12\frac{1}{2}$ inches; 5 inch poles, 16 inches; 6 inch poles, $19\frac{1}{2}$ inches; 7 inch poles, $22\frac{1}{4}$ inches in circumference at top end. Lengths may be $\frac{1}{2}$ inch scant for each 5 feet in length and 6 inches long for any length from 20 feet up.

"One way sweep allowable not exceeding 1 inch for every 5 feet, for example, in a 25 foot pole, sweep not to exceed 5 inches, and in a 40 foot pole, 8 inches. Measurement for sweep shall be taken as follows: That part of the pole when in the ground (6 feet) not being taken into account in arriving at sweep, tightly stretch a tape line on the side of the pole where the sweep is greatest, from a point 6 feet from the butt to the upper surface at top, and having so done measure widest point from tape to surface of pole and if, for illustration, upon a 25 foot pole said widest point does not exceed 5 inches, said pole comes within the meaning of these specifications. Butt rot in the center including small ring rot outside of the center; total rot must not exceed 10 per cent. of the area of the butt. Butt rot of a character which plainly seriously impairs the strength of the pole above ground is a defect. Wind twist is not a defect unless very unsightly and exaggerated. Rough, large knots if sound and trimmed smooth are not a defect."

WOOD POLES

Northern White Cedar Poles

Northern White Cedar Association Specifications

List No.	Diameter Top Inches	Length Feet	Weight Lbs.	No. to Carload		List No.	Diameter Top Inches	Length Feet	Weight Lbs.	No. to Carload	
				From	To					From	To
740001	4	16	85	340	400	740995	5	35	400	75	100
740002	5	16	105	300	400	741531	5½	35	400	75	100
740987	6	16	135	230	300	740017	6	35	450	75	100
740003	4	18	95	325	400	740996	6½	35	450	60	80
740004	5	18	125	250	300	740018	7	35	600	50	75
740005	6	18	155	200	250	740997	8	35	850	40	60
740006	4	20	100	300	400	740019	6	40	625	50	75
740007	5	20	130	230	300	740998	6½	40	625	45	60
740988	5½	20	130	230	300	740020	7	40	850	40	60
740008	6	20	190	150	225	740999	8	40	1100	30	45
740989	5	22	175	175	250	Following sizes require two cars for shipping.					
740009	4	25	150	200	250	741000	6	45	900	60	80
740010	5	25	200	150	225	741001	7	45	1100	50	70
740011	5½	25	200	135	190	741002	8	45	1350	45	60
740012	6	25	250	125	150	741003	6	50	1150	50	70
740990	6½	25	250	100	130	741004	7	50	1350	45	60
740013	7	25	350	90	125	741005	8	50	1700	35	45
740991	8	25	425	90	125	741781	6	55	1400	40	50
740014	5	30	275	110	175	741006	7	55	1700	35	45
740992	5½	30	275	100	130	741007	8	55	2200	25	35
740015	6	30	350	90	125	741008	7	60	2200	25	35
740993	6½	30	350	75	100	741009	8	60	2500	22	30
740016	7	30	450	75	100	741010	7	65	2500	22	30
740994	8	30	600	50	75	741011	8	65	3000	18	25

Prices on application.

A. T. and T. Co., Western Union and Nat. Electric Light Association Specifications

List No.	Class	Length Feet	Circum. Top Inches	Circum. 6 Feet from Butt Inches	Weight Lbs.	List No.	Class	Length Feet	Circum. Top Inches	Circum. 6 Feet from Butt Inches	Weight Lbs.
741012	G	20	12½	....	100	741034	A	35	24	43	850
741013	F	20	15½	....	130	741035	E	40	18½	....	625
741014	D	20	17½	....	130	741036	D	40	18½	....	625
741015	C	20	18½	27	190	741037	C	40	18½	40	625
741016	E	22	15½	....	175	741038	B	40	22	43	850
741017	D	22	17½	....	175	741039	A	40	24	47	1100
741018	C	22	18½	28½	250	Following sizes require two cars for shipping.					
741019	B	22	22	30	275	741040	E	45	22	....	1100
741020	G	25	12½	....	150	741041	D	45	22	....	1100
741021	F	25	15½	....	200	741042	C	45	18½	43	900
741022	E	25	17½	....	200	741043	B	45	22	47	1100
741023	D	25	18½	....	250	741044	A	45	24	50	1350
741024	C	25	18½	30	250	741045	E	50	22	....	1350
741025	B	25	22	32	350	741046	D	50	22	....	1350
741026	A	25	24	36	425	741047	C	50	18½	46	1150
741027	D	30	18½	....	350	741048	B	50	22	53	1700
741028	C	30	18½	33	350	741049	A	50	24	53	1700
741029	B	30	22	36	450	741050	B	55	22	53	2200
741030	A	30	24	40	600	741051	A	55	24	56	2200
741031	D	35	18½	....	450	741052	B	60	22	56	2200
741032	C	35	18½	36	450	741053	A	60	24	59	2500
741033	B	35	22	38	600						

Prices on application.
The Construction Material

WOOD POLES

Western or Idaho Cedar Poles

Western Red Cedar Association Specifications

"All poles must be cut from live, growing cedar timber, peeled, knots trimmed close, butts and tops sawed square, tops must be sound and must measure as follows in circumference:

4 in. top, 12 in. circ.	7 in. top, 22 in. circ.	9 in. top, 28 in. circ.
5 in. top, 15 in. circ.	8 in. top, 25 in. circ.	10 in. top, 31 in. circ.
6 in. top, 18½ in. circ.		

"No pole shall have more than one crook and this shall be one way only, the sweep not to exceed 1 inch to every 6 feet in length. Same to be determined in the following manner: Measurement for sweep shall be taken as follows: That part of the pole when in the ground (6 feet) not being taken into account in arriving at sweep, tightly stretch a tape line on the side of the pole where sweep is greatest, from a point 6 feet from butt to the upper surface at top, and having so done measure widest point from tape to surface of pole and if, for illustration, upon a 30-foot pole said widest point does not exceed 5 inches, said pole comes within the meaning of these specifications.

"Butt rot in center, including small ring rot, shall not exceed 10 per cent. of the area of the butt. Butt rot of a character which impairs the strength of the pole above ground is a defect.

"Large knots, if sound and trimmed smooth, are not a defect.

"A perfectly sound, dead or dry streak shall not be considered a defect when it does not materially impair the strength of the pole."

List No.	Diameter Top Inches	Length Feet	Estimated Wt. Lbs.	List No.	Diameter Top Inches	Length Feet	Estimated Wt. Lbs.
741054	4	20	100	Following sizes require two cars for shipping.			
741055	5	20	135	740051	7	45	850
741056	6	20	190	740052	8	45	1000
741062	7	20	260	740053	9	45	1200
741063	8	20	325	741061	7	50	1050
741057	4	25	150	740054	8	50	1200
741058	5	25	200	740055	9	50	1400
740040	6	25	250	740056	8	55	1400
740041	7	25	325	740057	9	55	1600
740042	8	25	400	740058	8	60	1600
740043	6	30	350	740059	9	60	1850
740044	7	30	400	740060	8	65	1850
740045	8	30	500	740061	9	65	2200
741059	6	35	450	741066	8	70	2200
740046	7	35	500	741067	9	70	2600
740047	8	35	625	741069	8	75	2600
741060	9	35	800	741070	9	75	3000
741064	6	40	600	741072	8	80	3000
740048	7	40	650	741786	9	85	3500
740049	8	40	800	741073	8	80	3500
740050	9	40	1000	741787	8	90	4500

Chestnut Poles

A. T. & T. and Western Union Specifications

"All poles shall be of sound, live white chestnut, squared at both ends, reasonably straight, well proportioned, from butt to top, peeled and knots trimmed to the surface of the pole."

List No.	Class	Length Feet	Circum. Top Inches	Circum. 6 Feet From Butt Inches	Weight	List No.	Class	Length Feet	Circum. Top Inches	Circum. 6 Feet From Butt Inches	Weight
741074	D	20	20	24	400	741093	D	45	20	43	2000
741075	C	20	20	27	500	741094	C	45	20	43	2000
741076	B	20	22	31	600	741095	B	45	22	47	2200
741077	D	25	20	27	500	741096	A	45	24	48	2500
741078	C	25	20	30	600	741097	D	50	20	46	2400
741079	B	25	22	33	700	741098	C	50	20	46	2400
741080	A	25	24	36	1000	741099	B	50	22	50	2700
741081	D	30	20	31	900	741100	A	50	24	51	3000
741082	C	30	20	33	1000	741101	C	55	20	49	3100
741083	B	30	22	36	1100	741102	B	55	22	53	3300
741084	A	30	24	40	1350	741103	A	55	22	54	3300
741085	D	35	20	35	1200	741104	B	60	22	56	3900
741086	C	35	20	36	1250	741105	A	60	22	57	3900
741087	B	35	22	40	1400	741106	B	65	22	59	4500
741088	A	35	24	43	1700	741107	A	65	22	60	4500
741089	D	40	20	39	1600	741108	B	70	22	62	5100
741090	C	40	20	40	1600	741109	A	70	22	63	5100
741091	B	40	22	43	1800	741110	B	75	22	65	5900
741092	A	40	24	45	2000	741111	A	75	22	66	5900

NOTE: The above specifications provide a stocky, high grade pole. We can also furnish chestnut poles under top dimension specification only.

Prices on application.

WOOD CROSSARMS

Washington Fir or Yellow Pine

Wood Crossarm

STANDARD ARMS

Size $3\frac{1}{4} \times 4\frac{1}{4}$ ins. Bored for $1\frac{1}{2}$ in. Pins, or $1-\frac{3}{4}$ in. Machine Bolt and $2-\frac{3}{4}$ in. Brace Bolts

Length Feet	Number of Pins	Standard Spacings			Brace	Washington Fir		Yellow Pine	
		Center	Side	End		List No.	Wt. Lbs. Each	List No.	Wt. Lbs. Each
3	2	28		4	25	740092	10.2	740112	13.8
4	4	16	12	4	28	740093	13.6	740113	18.4
5	4	18	17	4	28	740094	17	740114	23
6	4	22	21	4	32	740095	20.4	740115	27.6
6	6	16	12	4	32	740096	20.4	740116	27.6
8	6	18	17½	4	32	740097	27.2	740117	36.8
8	8	16	12	4	32	740098	27.2	740118	36.8
8½	10	16	9¾	4	32	741146	28.9	741148	39.1
10	10	17½	15¾	4	42	740099	34	740119	46
10	10	16	12	4	42	740100	34	740120	46
10	12	16	9¾	3¾	42	741147	34	741149	46

PONY TELEPHONE ARMS

Size $2\frac{1}{2} \times 3\frac{1}{4}$ ins. Bored for $1\frac{1}{4}$ in. Pins, $1-\frac{3}{4}$ in. Machine Bolt and $2-\frac{3}{4}$ in. Brace Bolts

Length Inches	Number of Pins	Standard Spacings			Brace	Washington Fir		Yellow Pine	
		Center	Side	End		List No.	Wt. Lbs. Each	List No.	Wt. Lbs. Each
24	2	17	....	3½	..	740101	5	740122	6.6
30	2	23	....	3½	..	740102	6.2	740123	8.2
36	2	29	....	3½	25	740103	7.5	740124	9.9
42	4	16	9½	3½	28	740104	8.7	740125	11.5
62	6	16	9¾	3½	28	740106	12.9	740126	17
82	8	16	9¾	3¾	28	740108	17	740127	25.5
102	10	16	9¾	4	28	740110	21.2	740129	27.8
120	12	16	9¾	3¾	28	740111	25	740130	33

N. E. L. A. ARMS

Standard Sizes Adopted by the National Electric Light Association

Size $3\frac{1}{2} \times 4\frac{1}{2}$ ins. Bored for $1\frac{1}{2}$ in. Pins, $1-\frac{3}{4}$ in. Machine Bolt and $2-\frac{3}{4}$ in. Brace Bolts

Length Feet	Number of Pins	Standard Spacings			Brace	Washington Fir		Yellow Pine	
		Center	Side	End		List No.	Wt. Lbs. Each	List No.	Wt. Lbs. Each
3 ft. 2 ins.	2	30	....	4	32	740105	12.7	741120	16.9
5 ft. 7 ins.	4	30	14½	4	38	740107	22.3	741121	29.8
8 ft.	6	30	14½	4	38	740109	32	741122	42.8
9 ft. 2 ins.	8	30	12	4	38	741119	36.7	741123	49

RAILROAD ARMS

Size $3 \times 4\frac{1}{4}$ ins. Bored for $\frac{1}{2}$ in. Steel Pins, $1-\frac{3}{4}$ in. Machine Bolt and $2-\frac{3}{4}$ in. Brace Bolts

Length Feet	Number of Pins	Standard Spacings			Brace	Washington Fir		Yellow Pine	
		Center	Side	End		List No.	Wt. Lbs. Each	List No.	Wt. Lbs. Each
6	4	22	21	4	32	741662	19.2	741127	24.6
6	6	16	12	4	32	741124	19.2	741128	24.6
8	6	18	17½	4	32	740128	25.6	741129	32.8
8	8	16	12	4	32	741125	25.6	741130	32.8
10	8	17½	15¾	4	42	741663	32	741131	41
10	10	16	12	4	42	741126	32	741132	41

STANDARD POWER ARMS AND SPECIAL BORED ARMS

List No.	Size	Weight per Lineal Foot	List No.	Size	Weight per Lineal Foot
741133	$3\frac{1}{4} \times 4\frac{1}{4}$	3.4 lbs.	741140	$3\frac{3}{4} \times 5$	4.7 lbs.
741134	$3 \times 4\frac{1}{4}$	3.2 lbs.	741141	$3\frac{3}{4} \times 5\frac{1}{4}$	5.4 lbs.
741135	$2\frac{3}{4} \times 3\frac{3}{4}$	2.5 lbs.	741142	4×5	5 lbs.
741136	$3\frac{1}{2} \times 4\frac{1}{2}$	4 lbs.	741143	4×6	6 lbs.
741137	$3\frac{1}{2} \times 4\frac{3}{4}$	4.2 lbs.	741144	$4\frac{3}{4} \times 5\frac{3}{4}$	6.7 lbs.
741138	$3\frac{1}{2} \times 5$	4.4 lbs.	741145	5×6	7.3 lbs.
741139	$3\frac{3}{4} \times 4\frac{3}{4}$	4.5 lbs.			

Prices on application.

Line Construction Material

INSULATOR PINS



Oak Pin



Locust Pin



Duplex Pin



Duplex Bracket



Wood Bracket



Steel Pin

Wood Pins OAK

List No.	Size	Description	*List Price per 1000
740137	1 1/4 x 8 ins.	Standard Oak Pin	\$12.00
740136	1 1/2 x 9 ins.	Standard Oak Pin	16.00

LOCUST

740139	1 1/4 x 8 ins.	Standard Locust Pin	\$21.08
740140	1 1/4 x 9 ins.	Standard Locust Pin	28.00
741150	1 1/4 x 8 ins.	No. 2 grade Locust Pin	11.34
741151	1 1/2 x 8 ins.	Standard Locust Pin	28.00
741152	1 1/2 x 9 ins.	Standard Locust Pin	30.94
741153	1 1/2 x 9 ins.	No. 2 grade Locust Pin	16.80
741788	1 1/2 x 11 ins.	Standard Locust Pin	43.32

DUPLEX LOCUST

741154	1 1/4 x 12 ins.	Standard Duplex Locust Pin	\$39.34
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TRANSPPOSITION LOCUST

741155	1 1/4 x 9 ins.	Standard Transposition Locust Pin	\$28.00
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CORNER PIN LOCUST

741156	1 1/2 x 9 ins.	Locust Corner Pin, equipped with bolts, nuts and washers	\$122.50
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DUPLEX BRACKETS

741157	Brown Duplex Locust Bracket	\$84.28
741158	Brown Duplex Oak Bracket	44.68
740153	1 1/2 x 2 x 16 ins.	Duplex Oak Bracket, painted or paraffined	42.00

WOOD BRACKETS

740151	1 1/2 x 2 x 10 ins.	Oak Bracket, painted or paraffined	\$22.54
740148	1 1/2 x 2 x 12 ins.	Oak Bracket, painted or paraffined	22.54
740150	1 1/2 x 2 1/4 x 12 ins.	Oak Bracket, painted or paraffined	22.54
740149	2 x 2 1/4 x 12 ins.	Oak Bracket, painted or paraffined	28.00
741159	2 x 2 3/8 x 12 ins.	Oak Bracket, painted or paraffined	30.94

Western Union Steel Pins

List No.	Size	Description	Plain	Galv.	†List Price per 100
740154	1/2 x 8 5/8 ins.	With nut washer and wooden top	\$8.34		\$12.48
740155	5/8 x 8 5/8 ins.	With nut washer and wooden top	10.34		17.08

*F. O. B. Factories, Maryland, Indiana and Wisconsin. †F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

Western Electric Carbolineum

List No.	.....	List Price, per Gal.			
		Eastern, Central & Western Zones	Dallas	Denver & Salt Lake	Pacific Coast
741160	5 gal. cases Carbolineum	\$1.30	\$1.56	\$1.50	\$1.76
741161	1 to 5 bbl. lots	1.10	1.36	1.40	1.36
741162	5 bbl. lots or more	1.06	1.16	1.30	1.22

PEIRCE CROSS ARM BRACKETS

Hot Galvanized

The No. 107 bracket is used to run an extra wire on the end of a filled cross arm. Nos. 200, 221 and 300 are for taking off lamp or service connections. The No. 227 may be used as a "take off" bracket or for running an additional circuit below a filled cross arm. Nos. 100, 101, 103 and 105 are terminal brackets for dead-ending circuits on cross arms, the first two for telephone wires only. No. 104 is used by some companies to run jumper wires from end to end under arms. Nos. 106 and 229 are roof and ceiling brackets.



No. 200



No. 106



No. 107



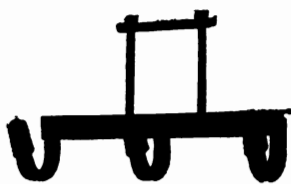
No. 221

Cross Arm Brackets

List No.	Mfr. No.	Length	Size Holes	Size Channel	Spacing	Std. Bundle	Wt. Lbs.	*List Price Each	Per 100
741163	200	0	0	1 in.	16 ins.	10	216	\$0.67	\$64.72
741164	107	18½ ins.	½ in.	1 in.	0	25	164	.50	40.32
741165	106	5 ins.	¾ in.	¾ in.	0	25	68	.22	17.38
741166	221	9½ ins.	¾ in.	¾ in.	8 ins.	20	155	.53	43.20



No. 229



No. 300



No. 227

Cross Arm Brackets

List No.	Mfr. No.	Length	Size Holes	Size Channel	Spacing	Std. Bundle	Wt. Lbs.	*List Price Each	Per 100
741167	229	7½ ins.	¾ in.	¾ in.	8 ins.	10	205	\$0.58	\$47.52
741168	300	0	0	¾ in.	7 ins.	10	340	.69	56.16
741169	227	11½ ins.	0	¾ in.	8 ins.	20	195	.74	60.48



No. 100



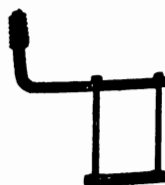
No. 101



No. 103



No. 104



No. 105

Cross Arm Brackets

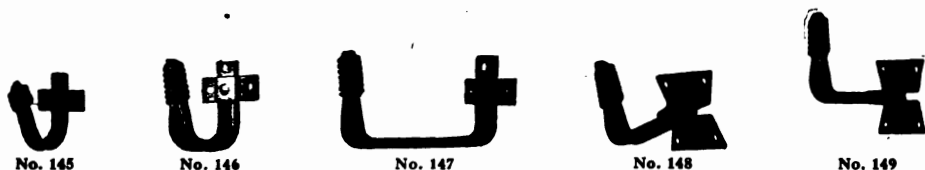
List No.	Mfr. No.	Length	Size Holes	Size Channel	Spacing	Std. Bundle	Wt. Lbs.	*List Price Each	Per 100
741170	100	0	¾ in.	¾ in.	0	25	46	\$0.19	\$15.28
741171	101	0	¾ in.	1 in.	0	25	58	.21	17.00
741172	103	0	¾ in.	¾ in.	0	25	85	.27	21.60
741173	104	8½ ins.	¾ in.	¾ in.	0	25	85	.27	21.60
741174	105	0	0	1 in.	0	10	180	.39	31.68

*F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.
The Construction Material

PEIRCE WALL BRACKETS

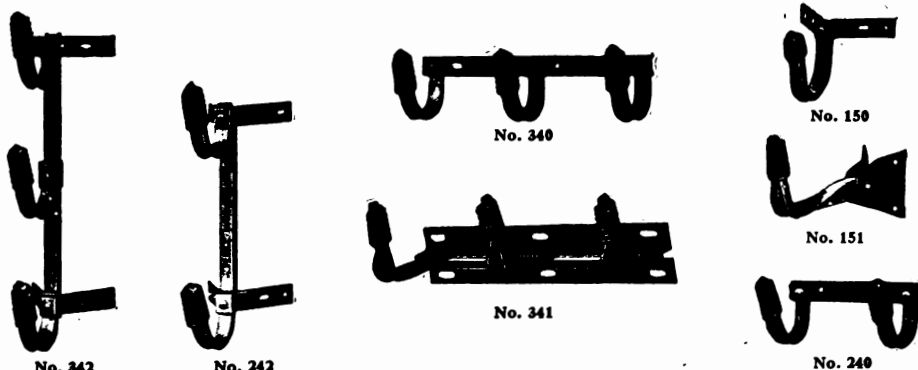
Hot Galvanized

The brackets shown with short springs are designed for telephone wires only, although they may be used on short spans of wires up to No. 6 covered. The No. 149 bracket is adjustable to three positions straight, left or right and may therefore be used as a corner bracket.



Peirce Wall Brackets

List No.	Mfr. No.	Ext.	Size Base	Size Channel	Size Holes	Wire Spacing	Std. Bundle	Wt. Lbs.	*List Price	
									Each	Per 100
741175	145	3 1/2 ins.	3 x 2 ins.	3/4 in.	1/4 in.	0	25	56	\$0.17	\$13.42
741176	146	4 1/2 ins.	3 1/2 x 2 ins.	1 in.	1/4 in.	0	25	100	.30	24.48
741177	147	9 ins.	3 1/2 x 2 1/2 ins.	1 in.	1/4 & 1/8 in.	0	25	141	.43	34.56
741178	148	6 ins.	3 1/2 x 4 ins.	1 in.	3/8 in.	0	15	140	.44	36.00
741179	149	6 ins.	3 1/2 x 4 ins.	1 in.	3/8 in.	0	15	140	.48	38.88



Peirce Wall Brackets

List No.	Mfr. No.	Ext.	Size Base	Size Channel	Size Holes	Wire Spacing	Std. Bundle	Wt. Lbs.	*List Price	
									Each	Per 100
741180	342	3 ins.	0	3/4 in.	1/4 in.	6 1/2 ins.	20	261	\$0.71	\$57.60
741181	242	3 ins.	0	3/4 in.	1/4 in.	9 ins.	20	186	.48	38.88
741182	340	3 1/2 ins.	0	3/4 in.	1/4 in.	6 1/2 ins.	10	220	.62	50.40
741183	341	4 1/2 ins.	3 ins.	1 in.	1/4 in.	6 1/2 ins.	10	460	1.15	93.60
741184	150	3 1/2 ins.	0	3/4 in.	1/4 in.	0	25	74	.23	18.72
741185	151	7 1/2 ins.	3 1/2 x 4 ins.	1 in.	3/8 in.	0	15	150	.43	34.56
741186	240	3 1/2 ins.	0	3/4 in.	1/4 in.	7 ins.	20	125	.41	33.12



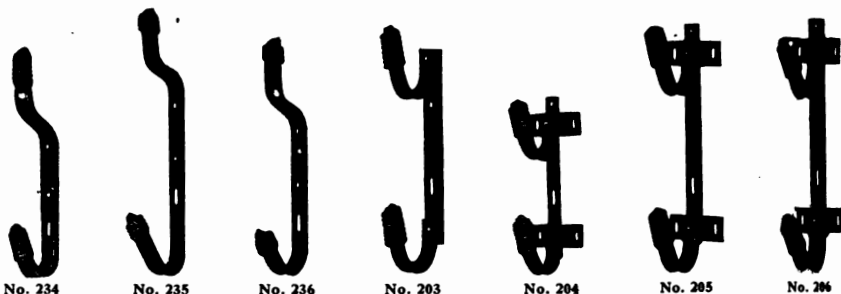
Pierce Wall Brackets

List No.	Mfr. No.	Ext.	Size Base	Size Channel	Size Holes	Wire Spacing	Std. Bundle	Wt. Lbs.	*List Price	
									Each	Per 100
741187	441	4 1/2 ins.	3 ins.	1 in.	3/8 in.	6 1/2 ins.	10	625	\$1.46	\$119.52
741188	241	4 1/2 ins.	3 ins.	1 in.	3/8 in.	7 ins.	10	250	.73	59.04

*F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

PEIRCE WALL BRACKETS AND CORNER IRON

Hot Galvanized



No. 234

No. 235

No. 236

No. 203

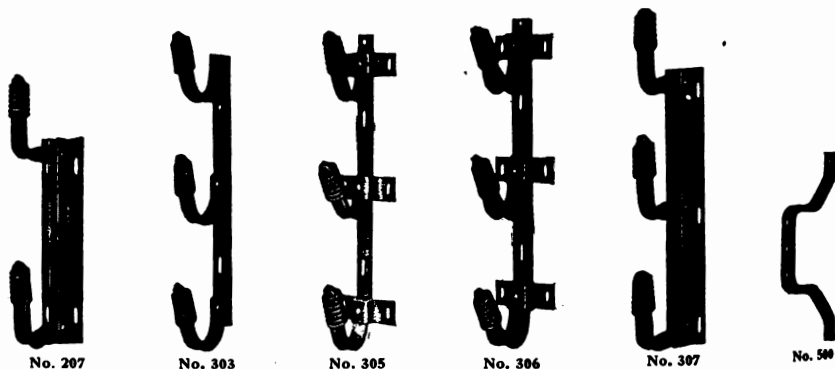
No. 204

No. 205

No. 206

Peirce Wall Brackets

List No.	Mfr. No.	Ext.	Size Channel	Size Holes	Width Back	Wire Spacing	Std. Bundle	Wt. Lbs.	*List Price	
									Each	Per 100
741189	234	3½ ins.	¾ in.	⅝ in.	0	8 ins.	25	90	\$0.30	\$24.48
741190	235	3½ ins.*	¾ in.	⅝ in.	0	12 ins.	25	110	.34	27.36
741191	236	3½ ins.	1 in.	⅝ in.	0	10 ins.	25	143	.36	28.80
741192	203	3 ins.	¾ in.	⅝ in.	0	9 ins.	20	145	.41	33.12
741193	204	3 ins.	¾ in.	⅝ in.	3½ ins.	6½ ins.	20	160	.41	33.12
741194	205	3 ins.	1 in.	⅝ in.	3½ ins.	9 ins.	20	175	.44	36.00
741195	206	3 ins.	1 in.	⅝ in.	3½ ins.	9 ins.	20	225	.69	56.16



No. 207

No. 303

No. 305

No. 306

No. 307

No. 300

Peirce Wall Brackets

List No.	Mfr. No.	Ext.	Size Channel	Size Holes	Width Back	Wire Spacing	Std. Bundle	Wt. Lbs.	*List Price	
									Each	Per 100
741196	207	4½ ins.	¾ in.	⅝ in.	2½ ins.	9 ins.	10	250	\$0.66	\$53.28
741197	303	3 ins.	¾ in.	⅝ in.	0	6½ ins.	20	225	.62	50.40
741198	305	3 ins.	¾ in.	⅝ in.	3½ ins.	6½ ins.	20	260	.60	53.28
741199	306	3 ins.	1 in.	⅝ in.	3½ ins.	6½ ins.	10	330	1.06	86.40
741200	307	4½ ins.	¾ in.	⅝ in.	2½ ins.	6½ ins.	10	350	.90	73.44

Nos. 234 and 235 brackets for telephone wires and pony insulators only. All other styles are for deep-grooved double petticoat insulators. They are made from hearth steel channel and angle which under severe strains will bend but will not break and let the wires down.

Bracket Foot and Corner Iron

List No.	Mfr. No.	Ext.	Size Channel	Width Holes	Spread of Base	Std. Bundle	Wt. Lbs.	*List Price	
								Each	Per 100
741201	500	4½ ins.	1 x ¾ in.	⅝ in.	10½ ins.	20 ins.	85	\$0.22	\$17.28

For use with Nos. 204, 205, 206, 305, 306 wall brackets. Makes brackets extend 8 inches from wall to get around obstructions such as rain conductors. May also be used on corners. Furnished complete with two stove bolts.

*F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.
ine Construction Material

PEIRCE BRACKETS AND BREAK ARMS

Hot Galvanized



No. 201



No. 202



No. 301

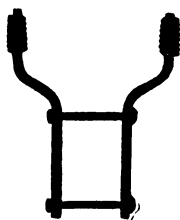


No. 302

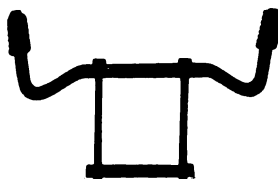
Peirce Spreader Brackets

Peirce Spreader Brackets fasten around the arm with the cross arm strap. The ends of straps fit in the long center slot of bracket.

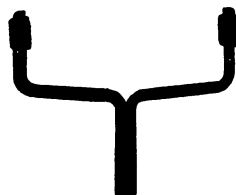
List No.	Mfr. No.	Ext.	Spacing	Width of Back	Size Channel	Diam. Side Holes	Std. Bundle	Wt. Lbs.	*List Price	
									Each	Per 100
741202	201	4 1/2 ins.	10 ins.	2 1/2 ins.	1 in.	1/4 in.	10	290	\$0.88	\$72.00
741203	202	4 1/2 ins.	12 ins.	2 1/2 ins.	1 in.	1/4 in.	10	375	.95	77.76
741204	301	4 1/2 ins.	6 1/2 ins.	2 1/2 ins.	1 in.	1/4 in.	10	390	1.25	102.24
741205	302	4 1/2 ins.	6 1/2 ins.	2 1/2 ins.	1 in.	1/4 in.	10	450	1.32	108.00



No. 222



No. 223



No. 224

Peirce Break Arms

List No.	Mfr. No.	Spacing	Size Channel	Size Bolt	Std. Bundle	Wt. Lbs.	*List Price	
							Each	Per 100
741206	222	9 ins.	3/4 in.	3/8 in.	10	160	\$0.55	\$44.64
741207	223	12 ins.	1 in.	3/8 in.	10	240	.67	54.72
741208	224	12 ins.	1 in.	0	20	200	.67	54.72
741209	225	10 ins.	1 in.	1/2 in.	10	205	.69	56.16

The Nos. 222, 223 and 225 break arms bolt around the arms and are adjustable to any size of arm between 3 1/4 x 4 1/4 ins. and 4 x 5 ins. The No. 224 fits in 1 1/2 in. pin hole.

Peirce Cross Arm Straps

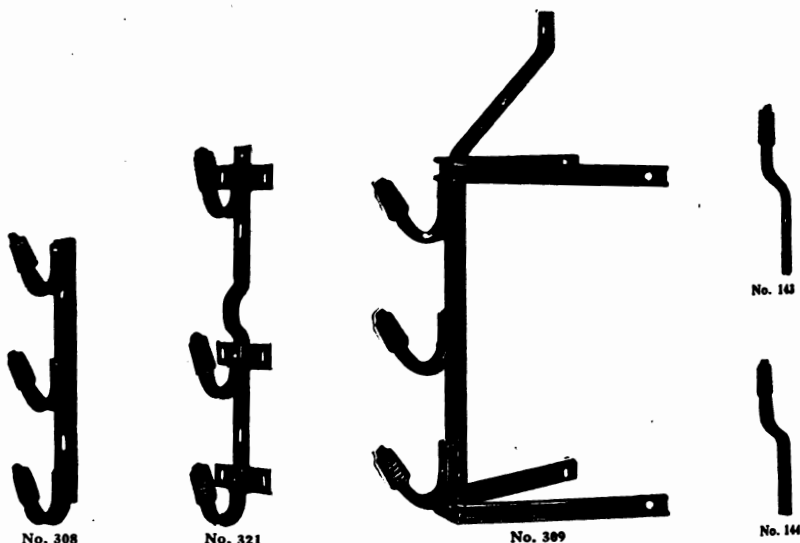
List No.	Mfr. No.	Size Arm	Size Bolt	Std. Bundle	Wt. Lbs.	*List Price	
						Each	Per 100
741210	1	3 1/4 x 4 1/4 ins.	1/2 in.	100 in keg	91	\$0.17	\$15.12
741211	2	3 1/2 x 4 1/2 ins.	1/2 in.	100 in keg	102	.17	15.84
741212	3	3 3/4 x 4 3/4 ins.	1/2 in.	100 in keg	113	.18	16.56
741213	4	4 x 5 ins.	1/2 in.	100 in keg	126	.19	17.28
No. 4	741214	5 x 6 ins.	1/2 in.	100 in keg	148	.22	20.16

*F. O. B. Factory Pittsburgh, Pa. For warehouse deliveries write nearest house.

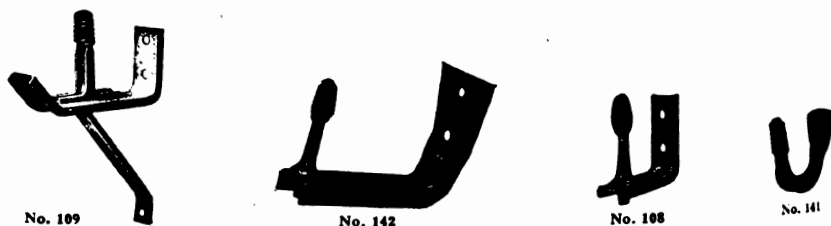
PEIRCE POLE BRACKETS

Hot Galvanized

The No. 308 is a pole bracket for secondary circuits for use instead of secondary racks. The No. 309 is for the same purpose, but brings the wires 14 inches out from center of pole. The No. 321 is used on poles in connection with spreader brackets on the arm for running wires from end to end of the arms. The hump fits over the head of the cross arm through bolts. The No. 109 is a pole bracket for heavy feeder wires.



Pole Brackets									
List No.	Size of Channel	Extension	Spacing	Size of Holes	Std. Bundle	Wt. Lbs.	*List Price		
308	1 in.	3½ ins.	6½ ins.	⅝ in.	20	330	\$1.17	Each	\$95.04
321	¾ in.	3½ ins.	4½ ins.	⅝ in.	20	265	.66	Per 100	53.28
309	1 in.	14 ins.	6½ ins.	⅝ in.	5	900	2.64		216.00
143	¾ in.	3 ins.	0	⅝ in.	25	56	.14		11.10
144	1 in.	3½ ins.	0	⅝ in.	25	108	.30		24.48



Pole Brackets									
List No.	Size of Channel	Extension	Spacing	Size of Holes	Std. Bundle	Wt. Lbs.	*List Price		
109	1¾ ins.	6 ins.	0	⅝ in.	10	302	\$1.10	Each	\$89.28
142	10 ga. sheet	12 ins.	0	⅝ in.	10	365	1.32	Per 100	108.00
108	1¾ ins.	4 ins.	0	⅝ in.	20	186	.62		50.40
141	12 ga. sheet	4½ ins.	0	⅝ in.	20	142	.50		40.32

*F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.
Line Construction Material

COMPANY
TRANSPOSITION BRACKETS
Hot Galvanized



No. 437



No. 237



No. 113



No. 112

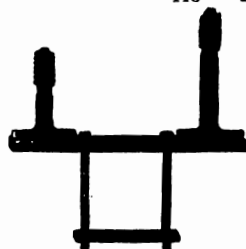


No. 115

Peirce Transposition Brackets

The brackets shown with "U" bolts are furnished with bolts bent for $3\frac{1}{4}$ x 4 inch arm unless otherwise specified, but can be furnished with bolts bent for any size up to 4 x 5 inches. The No. 115 Bracket bolts to the shank of a $\frac{1}{2}$ inch steel pin below the arm and is held by the pin nut. The No. 238 Bracket is for the transposition of telephone lines on routes with extremely long spaces between poles. Two brackets are needed for each "crossover."

List No.	Size of Channel	Size of Back	Size of U Bolt	Std. Bundle	Wt. Lbs.	*List Price Each	Per 100
437	$\frac{3}{4}$ in.	$1\frac{1}{4}$ ins.	$\frac{3}{8}$ in.	10	400	\$1.24	\$100.80
237	$\frac{3}{4}$ in.	1 in.	$\frac{3}{8}$ in.	20	201	.60	48.96
113	$\frac{3}{4}$ in.	$1\frac{1}{4}$ ins.	0	25	156	.44	38.00
112	$\frac{3}{4}$ in.	1 in.	0	25	96	.34	27.36
115	1 in.	0	0	25	135	.39	31.68



No. 238



No. 110



No. 111



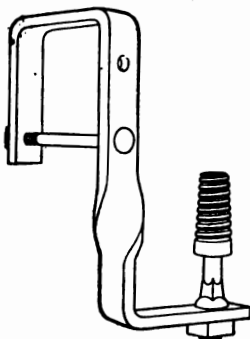
No. 114

Peirce Transposition Brackets

List No.	Size of Channel	Size of Back	Size of U Bolt	Std. Bundle	Wt. Lbs.	*List Price Each	Per 100
238	$\frac{3}{4}$ in.	$1\frac{1}{4}$ ins.	0	10	380	\$1.24	\$100.80
110	$\frac{3}{4}$ in.	0	$\frac{1}{4}$ in.	25	108	.39	31.68
111	1 in.	0	$\frac{3}{8}$ in.	25	170	.51	41.76
114	1 in.	0	$\frac{3}{8}$ in.	25	170	.58	47.52

Transposition Brackets

The No. 325 Transposition Bracket is designed to clamp over the cross arm and is held in place by means of a bolt and nut as shown in illustration. It is furnished with either $\frac{5}{8}$ or $\frac{1}{2}$ inch steel pin attached to the bracket by means of a nut. The pin may be easily replaced if damaged without removing the bracket. The bracket may be used with $3\frac{1}{4}$ or 3 inch cross arms. The No. 325 type Transposition Bracket is fastened by removing nut holding the ordinary W. U. steel pin in place and substituting bracket, or where wood pins are used, bracket may be attached by a $\frac{1}{2}$ inch carriage or machine bolt.



No. 325

List No.	*List Prices Each
325 Bracket with $\frac{1}{2}$ in. steel pin.....	Galv. \$0.64
325 Bracket with $\frac{5}{8}$ in. steel pin.....	.76

Orders should specify whether or not pins are required.
*F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries, write nearest house.

LINE CONSTRUCTION MATERIAL



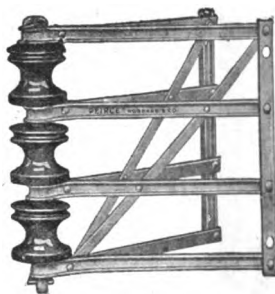
No. 250



No. 350



No. 450



No. 351

Peirce Secondary Racks

Hot Galvanized

Peirce Secondary Racks take the place of secondary cross arms. On them the party secondary circuits are strung with the wires in vertical instead of horizontal alignment, thus allowing the taking off of service wires without crossing of wires and without the aid of buck arms or spreader brackets.

The racks are made of open hearth steel hot galvanized. They may be safely used on wires or cables up to 500,000 circular mils. *They should be attached to the pole with two through bolts in center slots. The outside slots are provided to allow their fastening on buildings for supporting heavy power wires.

List No.	Mfr. No.	Length		Width of Base Inches	Width of Slot Center Inches	Extension to Center of Knob	Std. Pkg.	—Wt. per 100— With Knob Without Knob		*List Price		
		All Inches	Over of Inches					Lbs.	Lbs.	Each	Per 100	Without Knob Each
741243	250	8 3/4	2 3/4	3/4		4 ins.	10	560	360	\$1.16	\$93.60	\$0.90
741244	251	8 3/4	8	0		14 ins. from pole center	5	935	735	2.02	163.80	1.76
741245	350	12 3/4	2 3/4	3/4		4 ins.	10	800	500	1.59	128.70	1.20
741246	450	16 3/4	2 3/4	3/4		4 ins.	10	1020	620	2.05	166.40	1.54
741247	351	12 3/4	8	0		14 ins. from pole center	5	1300	1000	2.79	226.20	2.40
741248	451	16 3/4	8	0		14 ins. from pole center	5	1645	1245	3.49	283.40	2.98

Porcelain Knobs for Secondary Racks

List No.	Length	Diameter	Width of Groove	Wt. per 100 Lbs.	*List Price	
					Each	Per 100
741249	3 ins.	3 1/2 ins.	1 3/4 ins.	100	\$0.13	\$10.40

Porcelain knobs packed 300 to a barrel.

*F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries, write nearest house.



Pole Band, 2-Bolt



Pole Band, 3-Bolt

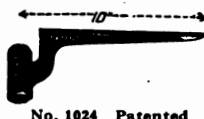
Pole Bands

List No.	Solid Band For	Approx.		List No.	Split Band For	Approx.	
		Wt. Lbs. per 100	*List Price per 100			Wt. Lbs. per 100	*List Price per 100
741575	4 in. pole, single bolt....	155	\$23.74	741583	4 in. pole, two bolt.....	200	\$26.26
741576	5 in. pole, single bolt....	180	26.26	741584	5 in. pole, two bolt.....	225	28.74
741577	6 in. pole, single bolt....	210	28.74	741585	6 in. pole, two bolt.....	235	31.26
741578	7 in. pole, single bolt....	230	31.26	741586	7 in. pole, two bolt.....	275	33.74
741579	4 in. pole, two bolt.....	200	26.26	741587	4 in. pole, three bolt.....	275	28.74
741580	5 in. pole, two bolt.....	225	28.74	741588	5 in. pole, three bolt.....	313	31.26
741581	6 in. pole, two bolt.....	250	31.26	741589	6 in. pole, three bolt.....	330	33.74
741582	7 in. pole, two bolt.....	275	33.74	741590	7 in. pole, three bolt.....	338	36.26

†F. O. B. Factory, Newark, N. J. For warehouse deliveries, write nearest house.

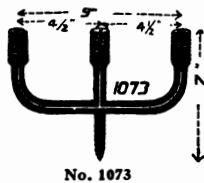
Line Construction Material

FLETCHER IRON BRACKETS



Malleable Drive Brackets

List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion Each	Without Insertion Per 100	With Insertion Each	With Insertion Per 100
1022	Malleable Drive Bracket.....	90	\$0.19	\$18.00	\$0.21	\$19.80
1022G	Galvanized Malleable Drive Bracket.....	95	.26	24.70	.28	26.60
1023	Malleable Drive Bracket.....	90	.19	18.00	.21	19.80
1023G	Galvanized Malleable Drive Bracket.....	95	.26	24.70	.28	26.60
1024	Malleable Drive Bracket for 1 1/2 in. pin.....	180	.31	28.80	.....	.....
1024G	Galvanized Malleable Drive Bracket for 1 1/2 in. pin.....	185	.40	38.00	.....	.....



Malleable Screw Pins and Brackets

List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion Each	Without Insertion Per 100	With Insertion Each	With Insertion Per 100
1025	Malleable Screw Bracket.....	85	\$0.19	\$18.00	\$0.21	\$19.80
1025G	Galvanized Malleable Screw Bracket.....	90	.24	22.80	.26	24.70
1026	Malleable Screw Pin.....	65	.16	14.40	.18	16.20
1026G	Galvanized Malleable Screw Pin.....	70	.20	19.00	.22	20.90
1072	Two-wire Malleable Screw Bracket.....	120	.29	27.00	.33	30.60
1072G	Galvanized Two-wire Malleable Screw Bracket.....	125	.36	34.20	.40	38.00
1073	Three-wire Malleable Screw Bracket.....	165	.44	41.40	.50	46.80
1073G	Galvanized Three-wire Malleable Screw Bracket.....	170	.56	53.20	.62	58.90



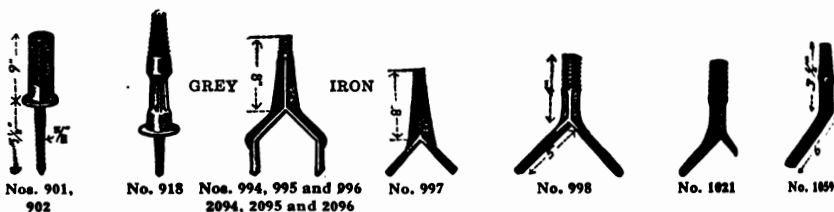
Corner Brackets

List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion Each	Without Insertion Per 100	With Insertion Each	With Insertion Per 100
1027	Gray Iron Corner Bracket, japanned.....	260	\$0.44	\$41.40	\$0.46	\$43.20
1027G	Galvanized Gray Iron Corner Bracket.....	270	.60	57.00	.62	58.90
2027	Gray Iron Corner Bracket, for 1 1/2 in. pin.....	310	.50	46.80	.....	.....
2027G	Galv. Gray Iron Corner Bracket, for 1 1/2 in. pin.....	325	.76	72.20	.....	.....
2028	Gray Iron Corner Bracket, for 1 1/4 in. pin.....	300	.50	46.80	.....	.....
2028G	Galv. Gray Iron Corner Bracket, for 1 1/4 in. pin.....	315	.76	72.20	.....	.....
2017	Malleable Corner Bracket.....	205	.31	28.80	.33	30.60
2017G	Galvanized Malleable Corner Bracket.....	215	.44	41.80	.46	43.70

NOTE: When ordering, specify finish desired and state whether with or without insertion.

*F. O. B. Dayton, O. For warehouse deliveries write nearest house.

FLETCHER PINS AND BRACKETS



Pole Top Material

List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion Each	Per 100	With Insertion Each	Per 100
901	Gray Iron Pole Top Thimble, for 1½ in. pin.....	350	\$0.46	\$43.20	.....	.....
901G	Galvanized Gray Iron Pole Top Thimble, for 1½ in. pin.....	365	.68	64.60	.....	.....
902	Gray Iron Pole Top Thimble, for 1¼ in. pin.....	350	.46	43.20	.....	.....
902G	Galvanized Gray Iron Pole Top Thimble, for 1¼ in. pin.....	365	.68	64.60	.....	.....
918	Gray Iron Pole Top Bracket.....	265	.38	36.00	\$0.40	\$37.80
918G	Galvanized Gray Iron Pole Top Bracket.....	280	.56	53.20	.58	55.10
994	Gray Iron Pole Top Bracket, for 8 in. pole, 1 in. head.....	600	.57	54.00	.59	55.80
994G	Galvanized Gray Iron Pole Top Bracket, for 8 in. pole, 1 in. head.....	630	.96	91.20	.98	93.10
995	Gray Iron Pole Top Bracket, for 6 in. pole, 1 in. head.....	500	.57	54.00	.59	55.80
995G	Galvanized Gray Iron Pole Top Bracket, for 6 in. pole, 1 in. head.....	525	.90	85.60	.92	87.40
996	Gray Iron Pole Top Bracket, for 7 in. pole, 1 in. head.....	550	.57	54.00	.59	55.80
996G	Galvanized Gray Iron Pole Top Bracket, for 7 in. pole, 1 in. head.....	575	.92	87.40	.94	89.30
997	Gray Iron Ridge Bracket, 8 in. extension.....	400	.46	43.20	.48	46.00
997G	Galvanized Gray Iron Ridge Bracket, 8 in. extension.....	420	.72	68.40	.74	70.30
998	Gray Iron Ridge Bracket, 4 in. extension.....	225	.25	23.40	.27	25.20
998G	Galvanized Gray Iron Ridge Bracket, 4 in. extension.....	235	.40	38.00	.42	39.90
2094	Gray Iron Pole Top Bracket, for 8 in. pole, 1½ in. head.....	700	.67	63.00	.69	64.80
2094G	Galvanized Gray Iron Pole Top Bracket, for 8 in. pole, 1½ in. head.....	730	1.12	106.40	1.14	108.30
2095	Gray Iron Pole Top Bracket, for 6 in. pole, 1½ in. head.....	600	.67	63.00	.69	64.80
2095G	Galvanized Gray Iron Pole Top Bracket, for 6 in. pole, 1½ in. head.....	630	1.06	100.80	1.08	102.60
2096	Gray Iron Pole Top Bracket for 7 in. pole, 1½ in. head.....	650	.67	63.00	.69	64.80
2096G	Galvanized Gray Iron Pole Top Bracket, for 7 in. pole, 1½ in. head.....	680	1.08	102.60	1.10	104.50
1021	Gray Iron Ridge Bracket, japanned.....	80	.14	12.60	.16	14.40
1021G	Galvanized Gray Iron Ridge Bracket.....	85	.18	17.10	.20	19.00
1059	Gray Iron Single Prong Bracket, japanned.....	178	.23	21.60	.25	23.40
1059G	Galvanized Gray Iron Single Prong Bracket.....	190	.34	32.30	.36	34.20

NOTE: When ordering, specify finish desired and state whether with or without insertion.
*F. O. B. Dayton, O. For warehouse deliveries write nearest house.

Line Construction Material

FLETCHER IRON BRACKETS

HIGH INSULATION BRACKETS

3 Inch Extension



No. 1018



No. 1028



No. 1019



No. 1029



No. 1058



No. 2058

List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion		With Insertion	
			Each	Per 100	Each	Per 100
1018	Gray Iron Short Wall Bracket.....	210	\$0.19	\$18.00	\$0.21	\$19.80
1018G	Galvanized Gray Iron Short Wall Bracket.....	215	.32	30.40	.34	32.30
1028	Gray Iron Curved-back Pole Bracket.....	210	.19	18.00	.21	19.80
1028G	Galvanized Gray Iron Curved-back Pole Bracket.....	215	.32	30.40	.34	32.30
1019	Gray Iron Short Wall Bracket.....	215	.23	21.60	.25	23.40
1019G	Galvanized Gray Iron Short Wall Bracket.....	220	.36	34.20	.38	38.10
1029	Gray Iron Heavy Wall Bracket.....	285	.35	32.40	.37	34.20
1029G	Galvanized Gray Iron Heavy Wall Bracket.....	290	.50	47.60	.52	49.40
1058	Gray Iron Heavy Curved-back Pole Bracket.....	290	.35	32.40	.37	34.20
1058G	Galv. Gray Iron Heavy Curved-back Pole Bracket.....	295	.54	51.40	.56	53.20



No. 1020



No. 2016



No. 1071



No. 2070

List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion		With Insertion	
			Each	Per 100	Each	Per 100
1020	Short Malleable Wall Bracket.....	85	\$0.16	\$14.40	\$0.18	\$16.20
1020G	Galvanized Short Malleable Wall Bracket.....	90	.22	20.90	.24	22.80
2016	Short Malleable Wall Bracket.....	100	.19	18.00	.21	19.80
2016G	Galvanized Short Malleable Wall Bracket.....	105	.26	24.70	.28	26.60
1071	Short Malleable Wall Bracket.....	85	.19	18.00	.21	19.80
1071G	Galvanized Short Malleable Wall Bracket.....	90	.30	28.50	.32	30.40
2070	Malleable Curved-back Pole Bracket.....	120	.21	19.80	.23	21.60
2070G	Galvanized Malleable Curved-back Pole Bracket.....	125	.28	26.60	.30	28.50

NOTE: When ordering, specify finish desired and state whether with or without insertion.

MALLEABLE IRON, WOOD THIMBLE



No. 1074



No. 1075

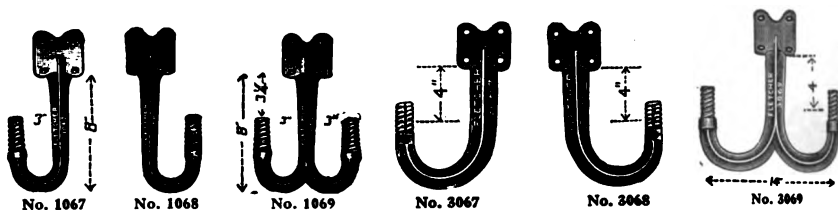


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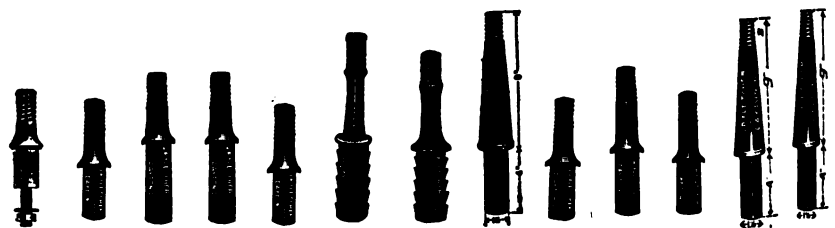
List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion		With Insertion	
			Each	Per 100	Each	Per 100
1074	Malleable Wall Bracket, with paraffined oak head.....	85	\$0.19	\$18.00	...	...
1074G	Galvanized Wall Bracket, with paraffined oak head.....	90	.26	24.70	...	...
1075	Malleable Wall Bracket, with locust head.....	85	.23	21.60	...	...
1075G	Galvanized Wall Bracket, with locust head.....	90	.30	28.50	...	...
3038	Malleable Wall Bracket, with oak head.....	140	.23	21.60	...	...
3038G	Galvanized Wall Bracket, with oak head.....	145	.32	30.40	...	...

*F. O. B. Dayton, O. For warehouse deliveries write nearest house.

FLETCHER BRACKETS AND PINS

PENDANT BRACKETS
4 Inch Drop, 6 Inch Spread

List No.	Description	Shipping Weight per 100	List Price			
			Without Insertion		With Insertion	
			Each	Per 100	Each	Per 100
1067	Gray Iron Left Pendant Bracket.....	300	\$0.38	\$36.00	\$0.40	\$37.80
1067G	Galvanized Gray Iron Left Pendant Bracket.....	315	.56	53.20	.58	55.10
1068	Gray Iron Right Pendant Bracket.....	300	.38	36.00	.40	37.80
1068G	Galvanized Gray Iron Right Pendant Bracket.....	315	.56	53.20	.58	55.10
1069	Gray Iron Double Pendant Bracket.....	360	.46	43.20	.50	46.80
1069G	Galvanized Gray Iron Double Pendant Bracket.....	380	.68	64.60	.72	68.40
3067	Gray Iron Single Pendant Bracket, left.....	700	.76	72.00	.78	73.80
3067G	Galvanized Gray Iron Single Pendant Bracket, left.....	735	1.10	104.60	1.12	106.40
3068	Gray Iron Single Pendant Bracket, right.....	700	.76	72.00	.78	73.80
3068G	Galv. Gray Iron Single Pendant Bracket, right.....	735	1.10	104.60	1.12	106.40
3069	Gray Iron Double Pendant Bracket.....	800	.92	86.40	.95	90.00
3069G	Galvanized Gray Iron Double Pendant Bracket.....	900	1.44	136.80	1.48	140.80



No. 897 No. 900 No. 912 No. 915 No. 916 No. 920 No. 921 No. 923 No. 924 No. 925 No. 934 No. 935 No. 1923

HIGH INSULATION PINS
Gray, Malleable Iron and Die Forged

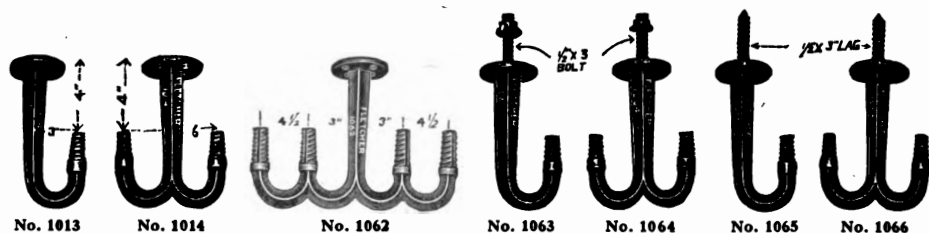
List No.	Diameter Butt	Below Shoulder	Above Shoulder	Shipping Weight per 100	*List Price Each							
					Japan Finish				Galvanized			
					Without Insertion		With Insertion		Without Insertion		With Insertion	
					Each	Per 100	Each	Per 100	Each	Per 100	Each	Per 100
897 Mall.....	1 1/8	4 1/2	5	345	\$0.59	\$55.80	\$0.61	\$57.60	\$0.82	\$78.00	\$0.84	\$79.80
900 Gray.....	1 1/4	5	4 1/8	300	.31	28.80			.50	47.60		
912 D. F.....	1 1/2	4 1/2	4 7/8	425	.76	72.00						
915 D. F.....	1 1/2	5	4 3/8	490	.86	81.00						
916 Gray.....	1 1/2	3 3/8	4 1/8	280	.29	27.00			.46	43.80		
920 Mall.....	1 1/2	3 7/8	4 7/8	125	.19	18.00	.21	19.80	.26	24.70	.28	26.60
921 Mall.....	1 1/4	3 7/8	4 7/8	125	.19	18.00	.21	19.80	.26	24.70	.28	26.60
923 Gray.....	1 1/2	4	9	365	.46	43.20			.76	72.20		
924 Mall.....	1 1/2	3 1/4	4 1/8	280	.38	36.00	.40	37.80	.56	53.20	.58	55.10
925 Mall.....	1 1/2	4	5 1/8	350	.42	39.60	.44	41.40	.64	60.80	.66	62.70
934 Mall.....	1 1/2	3 1/4	4 1/2	150	.29	27.00	.31	28.80	.38	36.10	.40	38.20
935 Mall.....	1 1/2	4	9	365	.69	64.80	.71	66.60	.94	89.40	.96	91.20
1923 Gray.....	1 1/2	4	9	470	.56	52.20	.57	54.00	.84	79.80	.86	81.70

NOTE: When ordering, specify finish desired and state whether with or without insertion.
*F. O. B. Dayton, O. For warehouse deliveries write nearest house.

FLETCHER IRON BRACKETS

Ceiling Brackets

4 Inch Drop, 6 Inch Spread

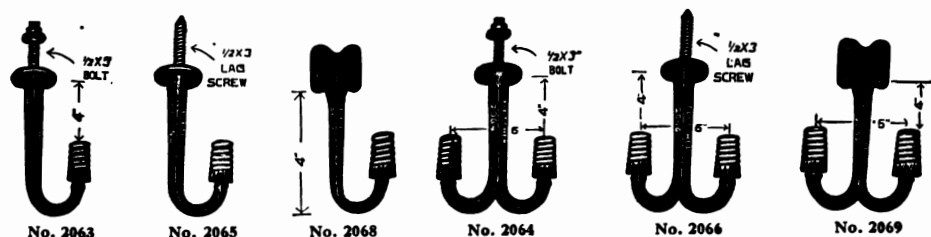


List No.	Description	Shipping Weight per 100	*List Price			
			Without Insertion Each	Without Insertion Per 100	With Insertion Each	With Insertion Per 100
1013	Gray Iron Single Ceiling Bracket, japanned	300	\$0.38	\$36.00	\$0.40	\$37.80
1013G	Galvanized Gray Iron Single Ceiling Bracket	315	.56	53.20	.58	55.10
1014	Gray Iron Double Ceiling Bracket, japanned	350	.46	43.20	.50	46.80
1014G	Galvanized Gray Iron Double Ceiling Bracket	365	.68	64.60	.72	68.40
1062	Gray Iron Four-wire Ceiling Bracket, japanned	545	.88	81.00	.94	88.20
1062G	Galvanized Gray Iron Four-wire Ceiling Bracket	570	1.18	112.20	1.26	119.70
1063	Gray Iron Single Ceiling Bracket, japanned	310	.38	36.00	.40	37.80
1063G	Galvanized Gray Iron Single Ceiling Bracket	325	.56	53.20	.58	55.10
1064	Gray Iron Double Ceiling Bracket	360	.46	43.20	.50	46.80
1064G	Galvanized Gray Iron Double Ceiling Bracket	375	.68	64.60	.72	68.40
1065	Gray Iron Single Ceiling Bracket, japanned	270	.38	36.00	.40	37.80
1065G	Galvanized Gray Iron Single Ceiling Bracket	285	.56	53.20	.58	55.10
1066	Gray Iron Double Ceiling Bracket	360	.46	43.20	.50	46.80
1066G	Galvanized Gray Iron Double Ceiling Bracket	380	.68	64.60	.72	68.40

NOTE: When ordering, specify finish desired and state whether with or without insertion.

4 Inch Drop, 6 Inch Spread

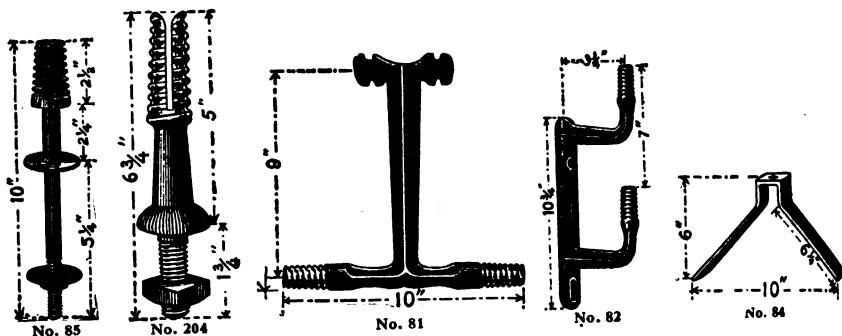
With Wood Thimbles



List No.	Description	Shipping Weight per 100	*List Price	
			Each	Per 100
2063	Malleable Single Ceiling Bracket	250	\$0.48	\$45.00
2063G	Galvanized Malleable Single Ceiling Bracket	255	.56	53.20
2065	Malleable Single Ceiling Bracket	250	.48	45.00
2065G	Galvanized Malleable Single Ceiling Bracket	255	.56	53.20
2068	Malleable Single Pendant Bracket	275	.48	45.00
2068G	Galvanized Malleable Single Pendant Bracket	280	.56	53.20
2064	Malleable Double Ceiling Bracket	350	.52	48.60
2064G	Galvanized Malleable Double Ceiling Bracket	355	.64	60.80
2066	Malleable Double Ceiling Bracket	350	.52	48.60
2066G	Galvanized Malleable Double Ceiling Bracket	355	.64	60.80
2069	Malleable Double Pendant Bracket	340	.52	48.60
2069G	Galvanized Malleable Double Pendant Bracket	345	.64	60.80

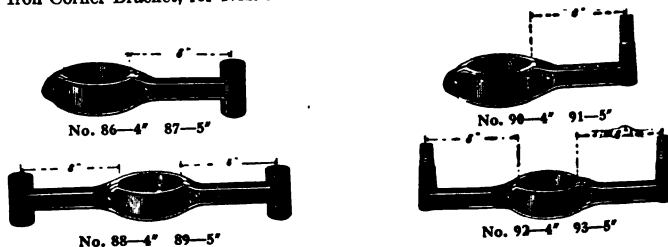
*F. O. B. Dayton, O. For warehouse deliveries write nearest house.

FLETCHER IRON BRACKETS AND PINS



Malleable Iron Pins and Brackets

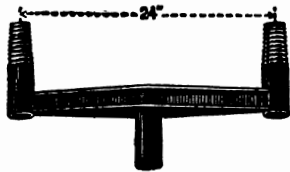
List No.	Mfr. No.	Description	Shipping Weight per 100	*List Price			
				Without Insertion Each	Without Insertion Per 100	With Insertion Each	With Insertion Per 100
85		Malleable Iron Pin, with oak head, 1 in.	90	\$0.18	\$16.20	.....	.....
85G		Galvanized Iron Pin, with oak head, 1 in.	90	.22	20.90	.....	.....
204		Mal. Iron Pin, for bolting to iron plate, 1 in. head.	120	.19	18.00	\$0.21	\$19.80
204G		Galv. Iron Pin, for bolting to iron plate, 1 in. head.	120	.32	30.40	.34	32.30
81		Malleable Iron Ceiling Bracket, 1 in. head.	275	.40	37.80	.44	41.40
81G		Galvanized Iron Ceiling Bracket, 1 in. head.	275	.56	53.20	.60	57.00
82		Malleable Iron Bracket, 1 in. head.	300	.44	41.40	.48	45.00
82G		Galvanized Iron Bracket, 1 in. head.	300	.60	57.00	.64	60.80
83		Malleable Iron Bracket, 1 in. head.	425	.73	68.40	.78	73.80
83G		Galvanized Iron Bracket, 1 in. head.	425	.90	95.60	.96	91.30
84		Mal. Iron Corner Bracket, for Nos. 82 and 83.	110	.16	14.40	.....	.....
84G		Galv. Iron Corner Bracket, for Nos. 82 and 83.	110	.20	19.80	.....	.....

Gray Iron Brackets
For Iron Poles

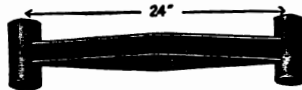
List No.	Mfr. No.	Description	Shipping Weight per 100	*List Price			
				Without Insertion Each	Without Insertion Per 100	With Insertion Each	With Insertion Per 100
86		Gray Iron Bracket, 4 in. dia., single.	750	\$0.73	\$68.40	.....	.....
86G		Galv. Iron Bracket, 4 in. dia., single.	750	1.16	110.20	.....	.....
87		Gray Iron Bracket, 5 in. dia., single.	850	.80	75.60	.....	.....
87G		Galv. Iron Bracket, 5 in. dia., single.	850	1.08	102.60	.....	.....
88		Gray Iron Bracket, 4 in. dia., double.	1000	1.05	99.00	.....	.....
88G		Galv. Iron Bracket, 4 in. dia., double.	1000	1.70	161.60	.....	.....
89		Gray Iron Bracket, 5 in. dia., double.	1050	1.07	100.80	.....	.....
89G		Galv. Iron Bracket, 5 in. dia., double.	1050	1.72	163.40	.....	.....
90		Gray Iron Bracket, 4 in. dia., single, 1 in. head.	700	.69	64.80	\$0.71	\$66.60
90G		Galv. Iron Bracket, 4 in. dia., single, 1 in. head.	700	1.12	106.40	1.14	108.30
91		Gray Iron Bracket, 5 in. dia., single, 1 in. head.	800	.76	72.00	.78	73.30
91G		Galv. Iron Bracket, 5 in. dia., single, 1 in. head.	800	1.26	119.80	1.28	121.60
92		Gray Iron Bracket, 4 in. dia., double, 1 in. head.	900	.86	81.00	.90	84.00
92G		Galv. Iron Bracket, 4 in. dia., double, 1 in. head.	900	1.32	125.40	1.36	129.20
93		Gray Iron Bracket, 5 in. dia., double, 1 in. head.	1000	.95	90.00	.99	93.00
93G		Galv. Iron Bracket, 5 in. dia., double, 1 in. head.	1000	1.36	129.20	1.40	133.00

*F. O. B. Dayton, O. For warehouse deliveries write nearest house.

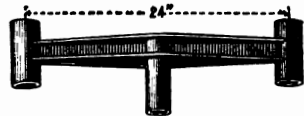
FLETCHER IRON BREAK-ARMS



No. 3002



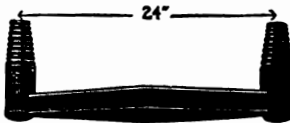
No. 3083



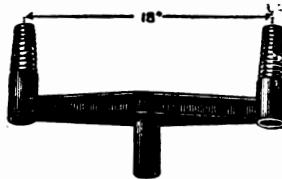
No. 3008

Iron Break-arms.

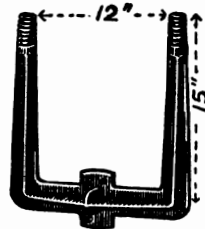
List No.		Spread	Stem	For Pins	Finish	Weight per 100	—*List Price Each—	
							Without Insertion	With Insertion
3002	Gray Iron Break-arm.....	18 ins.	1½ ins.	.....	Jap.	820	\$0.76	\$0.80
3002G	Gray Iron Break-arm.....	18 ins.	1½ ins.	.....	Galv.	860	1.26	1.30
3083	Gray Iron Break-arm.....	24 ins.	Use ½ in. bolt	1½ ins.	Jap.	1040	1.06	.....
3083G	Gray Iron Break-arm.....	24 ins.	Use ½ in. bolt	1½ ins.	Galv.	1090	1.72	.....
3008	Gray Iron Break-arm.....	24 ins.	1½ ins.	1½ ins.	Jap.	1100	1.06	.....
3008G	Gray Iron Break-arm.....	24 ins.	1½ ins.	1½ ins.	Galv.	1155	1.72	.....



No. 3084



No. 3007



No. 1035

Iron Break-arms

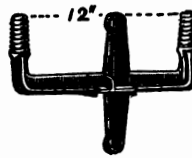
List No.		Spread	Stem	For Pin	Finish	Weight per 100	—*List Price Each—	
							Without Insertion	With Insertion
3084	Gray Iron Break-arm.....	24 ins.	Use ½ in. bolt	.....	Jap.	1000	\$1.00	\$1.04
3084G	Gray Iron Break-arm.....	24 ins.	Use ½ in. bolt	.....	Galv.	1050	1.70	1.74
3007	Gray Iron Break-arm.....	24 ins.	1½ ins.	.....	Jap.	1080	1.00	1.04
3007G	Gray Iron Break-arm.....	24 ins.	1½ ins.	.....	Galv.	1130	1.64	1.68
1035	Gray Iron Break-arm.....	12 ins.	15 in. arms	.....	Jap.	815	.86	.90
1035G	Gray Iron Break-arm.....	12 ins.	15 in. arms	.....	Galv.	855	1.26	1.30



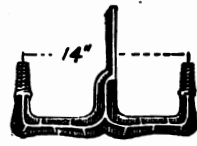
No. 1015



No. 1016



No. 1017



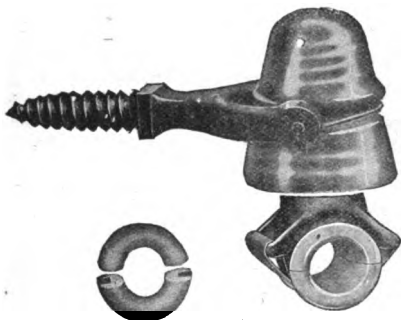
No. 2024

Iron Break-arms

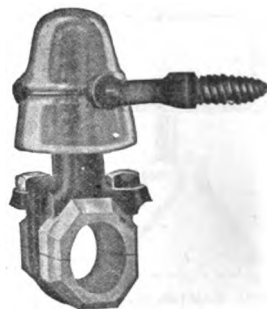
List No.		Spread		Finish	Weight per 100	—*List Price Each—	
						Without Insertion	With Insertion
1015	Gray Iron Break-arm.....	12 ins.	4 in. arms	Jap.	305	\$0.46	\$0.50
1015G	Gray Iron Break-arm.....	12 ins.	4 in. arms	Galv.	320	.64	.68
1016	Gray Iron Reflector Break-arm.....	12 ins.	For ¾ in. pipe	Jap.	410	.54	.58
1016G	Gray Iron Reflector Break-arm.....	12 ins.	For ¾ in. pipe	Galv.	430	.80	.84
1017	Gray Iron Break-arm.....	12 ins.	.....	Jap.	420	.54	.58
1017G	Gray Iron Break-arm.....	12 ins.	.....	Galv.	440	.80	.84
2024	Malleable Break-arm.....	14 ins.	.....	Jap.	450	.68	.72
2024G	Malleable Break-arm.....	14 ins.	.....	Galv.	470	.94	.98

*Delivery F. O. B. Dayton, O. For warehouse deliveries write nearest house.

INSULATOR SPECIALTIES AND SHUTTER EYE



Style A

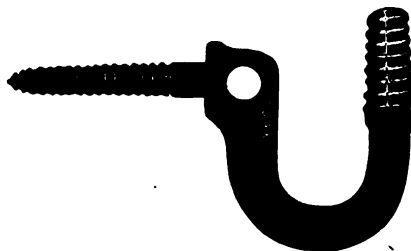


Style B

Holmes Tree Insulators

These insulators are made of malleable iron and furnished with double petticoat glass insulator. They are always in an upright position, regardless of the slant of the tree. The current cannot leak even if wire is bare. They can be quickly applied to tree without cutting the wire.

List No.	Style		*List Price Each
741713	A	Holmes Tree Insulator, $\frac{3}{4}$ in. hole, will take wire up to 2-0.....	\$0.68
741714	B	Holmes Tree Insulator, 1 in. hole, will take wire up to and including 4-0.....	1.08



Insulator Bracket



Insulator Bracket

Ajax Insulator Bracket

The new Ajax Insulator Bracket is made of malleable iron with lag screw in one piece and the insulator pin is made of a soft tough lead composition.

The comparatively soft insulator pin eliminates cracking the glass or porcelain insulator which is screwed over it. Where iron pins are used the expansion and contraction of the metal often results in cracking the glass or porcelain.

The lag screw used without expansion shield is adapted for use in wood house-walls, trees, poles, etc. and with the addition of a Diamond N Two-part Expansion Shield it makes a most secure attachment to brick, stone or concrete walls. Furnished in two diameters, $\frac{1}{2}$ inch and $\frac{3}{8}$ inch.

†List per 100

Diameter of Screw	-Galvanized-		-Black-	
	Without Shield	With Shield	Without Shield	With Shield
$\frac{1}{2}$ in.	\$30.40	\$37.60	\$26.00	\$32.00
$\frac{3}{8}$ in.	36.00	44.00	30.80	37.60



Diamond Expansion Shutter Eyes

Diamond Expansion Shutter Eyes

Furnished in different sizes for light and heavy shutters. The eye can be attached by iron worker without destroying the face of the wall inside or outside of the building, and without the use of cement or plaster.

List No.		†List Price per 100
741717	Diamond Expansion Shutter Eye.....	\$36.00

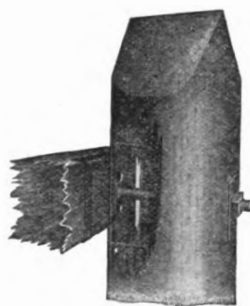
*Delivery F. O. B. Factory, Newton, Mass.

†Delivery F. O. B. Factory, Garwood, N. J. For warehouse deliveries write nearest house.

Line Construction Material

CONSTRUCTION MATERIAL

Steel Pole Gains



This device is a steel support for a cross arm, which saves cutting gains in the pole and obviates the necessity of cross arm braces except on longer than six-pin cross arms. It consists of two pieces, a curved steel plate adapted to embrace the pole, and a steel gain provided with projecting braces or tongues which pass through apertures in the pole plate. The pole plate, when drawn down into place by the bolt, not only conforms closely to the surface of the pole, but draws against the gain, providing sufficient spring tension to compensate for any shrinkage in the pole or cross arm. These gains act as a back brace and will resist a lateral strain, keeping the arm at right angles to the line. They are made of heavy Bessemer steel, and can be furnished either plain or galvanized.



Pole Plate



Steel Gain

FOR TELEPHONE USE

List No.	Gain Plate for Cross Arm	Length of Pole Plate	*List Price Each	
			Plain	Galvanized
740358	3 3/4 ins.	4 ins.	\$0.24	\$0.28
740359	4 ins.	4 ins.	.24	.28
740360	4 ins.	8 ins.	.28	.34

FOR ELECTRIC LIGHT USE

List No.	Gain Plate for Cross Arm	Length of Pole Plate	*List Price Each	
			Plain	Galvanized
740361	4 1/4 ins.	4 ins.	\$0.24	\$0.28
740362	4 1/4 ins.	8 ins.	.28	.34

FOR POWER-TRANSMISSION USE

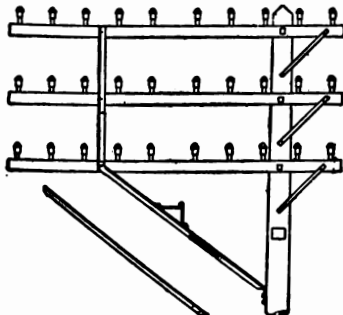
List No.	Gain Plate for Cross Arm	Length of Pole Plate	*List Price Each	
			Plain	Galvanized
740363	3 3/4 ins.	8 ins.	\$0.40	\$0.52
740364	4 ins.	8 ins.	.42	.54
740365	4 1/4 ins.	8 ins.	.42	.54
740366	4 1/2 ins.	8 ins.	.44	.58
740367	4 3/4 ins.	8 ins.	.44	.58

List No.	Gain Plate for Cross Arm	Length of Pole Plate	*List Price Each	
			Plain	Galvanized
740368	5 ins.	8 ins.	\$0.44	\$0.58
740369	5 1/4 ins.	8 ins.	.48	.66
740370	5 1/2 ins.	8 ins.	.52	.70
740371	5 3/4 ins.	8 ins.	.52	.70

*Delivery F. O. B. Chicago, Ill. For warehouse deliveries, write nearest house.

Alley Arm Braces

These are made of angle iron, which makes them stiffer and lighter than pipe or rod braces. Made with either forged or straight ends. A step is placed so that the end pins may be conveniently reached. Vertical braces are used to support arms above the bottom one. Galvanized furnished unless otherwise specified.



Alley Brace

List No.	Angle Iron Inches	Length Feet	Ends	*List Price per 100 Without Step	
				Plain	Galv.
740372	2 x 2 x 1/4	10	Forged	\$222.50	\$496.00
740373	2 x 2 x 1/4	10	Straight	212.50	474.80
740374	1 1/2 x 1 1/2 x 1/4	7	Forged	118.75	252.04
740375	1 1/2 x 1 1/2 x 1/4	7	Straight	110.00	238.60
740376	1 1/2 x 1 1/2 x 1/4	5	Forged	83.75	186.00
740377	1 1/2 x 1 1/2 x 1/4	5	Straight	76.13	142.60
741591	1 1/2 x 1 1/2 x 1/4	8	Forged	148.75	300.00
741592	1 1/2 x 1 1/2 x 1/4	8	Straight	140.63	287.60
741593	1 1/2 x 1 1/2 x 1/4	9	Forged	180.00	349.00
741594	1 1/2 x 1 1/2 x 1/4	9	Straight	171.25	332.00
741595	1 1/2 x 1 1/2 x 1/4	4	Forged	76.25	142.00
741596	1 1/2 x 1 1/2 x 1/4	4	Straight	70.00	132.00
741597	1 1/2 x 1 1/2 x 1/4	6	Forged	91.25	170.00
741598	1 1/2 x 1 1/2 x 1/4	6	Straight	83.25	156.00

Without step, deduct \$5.00 per 100 Net.

VERTICAL BRACES

Galvanized 1 1/2 x 1 1/2 x 1/4, 18-inch spacing and 1/4 inch holes unless otherwise specified.

List No.		*List Price per 100		List No.		*List Price per 100	
		Plain	Galv.			Plain	Galv.
740378	2 arm.....	\$18.74	\$26.14	740379	3 arm.....	\$30.00	\$46.76

*Delivery F. O. B. Chicago, Ill. For warehouse deliveries, write nearest house.

CONSTRUCTION MATERIAL
Crossarm Braces

List No.	Description	Approx. Weight		*List Price per 1000		List No.	Description	Approx. Weight		*List Price per 1000	
		per 1000		Plain	Galv.			per 1000		Plain	Galv.
740311	1 x 1/4 x 20 ins.	1125 lbs.	\$40.80	\$73.92		740320	1 1/4 x 1/4 x 32 ins.	2320 lbs.	\$86.80	\$150.76	
740312	1 x 1/4 x 22 ins.	1230 lbs.	44.88	81.32		740321	1 1/4 x 1/4 x 20 ins.	1840 lbs.	64.14	114.06	
740313	1 x 1/4 x 24 ins.	1335 lbs.	48.96	88.72		740322	1 1/4 x 1/4 x 22 ins.	2010 lbs.	70.50	126.14	
740314	1 1/4 x 1/4 x 20 ins.	1510 lbs.	54.54	97.50		740323	1 1/4 x 1/4 x 24 ins.	2180 lbs.	76.80	137.28	
740315	1 1/4 x 1/4 x 22 ins.	1645 lbs.	59.92	107.10		740324	1 1/4 x 1/4 x 26 ins.	2350 lbs.	83.12	148.46	
740316	1 1/4 x 1/4 x 24 ins.	1780 lbs.	65.28	116.70		740325	1 1/4 x 1/4 x 28 ins.	2520 lbs.	89.70	160.46	
740317	1 1/4 x 1/4 x 26 ins.	1915 lbs.	70.66	126.28		740326	1 1/4 x 1/4 x 30 ins.	2690 lbs.	96.00	171.60	
740318	1 1/4 x 1/4 x 28 ins.	2050 lbs.	76.04	135.92		740327	1 1/4 x 1/4 x 32 ins.	2860 lbs.	102.32	182.94	
740319	1 1/4 x 1/4 x 30 ins.	2185 lbs.	81.42	145.54		741253	1 1/4 x 1/4 x 28 ins.	1800 lbs.	70.56	121.98	

The No. 741253 is W. U. Standard

When ordering, specify plain or galvanized.

For weight of plain braces deduct 110 lbs. from all sizes 1 inch in width, 90 lbs. from all sizes 1 1/4 inches in width, 60 lbs. from all sizes 1 1/2 inches in width, 30 lbs. from W. U. Standard size.



Guy Hook



Plain Strain Plate



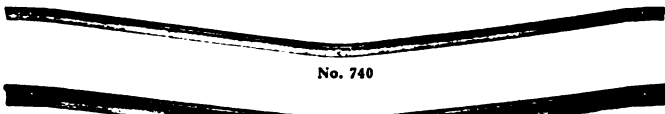
Fletcher Strain Plate

Guy Hooks

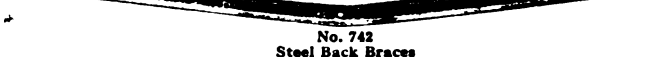
List No.	Description	Size	Approx. Weight		*List Price	
			per 100		per 100	Galv.
740328	Galvanized Guy Hooks.....	3/8 x 1 1/4 x 4 ins.	95 lbs.	\$17.60		
741255	Galvanized Guy Hooks.....	3/8 x 1 1/2 x 6 ins.	125 lbs.	13.20		

Strain Plate

List No.	Mfr. No.	Description	Size	Approx. Weight		List Price	
				per 100		Galv.	
740329	..	Galvanized Strain Plate or Pole Shim, plain type....	4 x 8 ins.	70 lbs.	per 100	\$15.40	
741574	12	Galvanized Strain Plate or Pole Shim, Fletcher type	400 lbs.	Each		\$1.04	



No. 740



No. 742

Steel Back Braces

Peirce Channel Steel Back Braces

Hot Galvanized

For back bracing arms on corner and terminal poles. Made of 1 x 1/2 inch and 1 1/4 x 1/2 inch channel steel hot galvanized. They fit on the through bolt at pole, and are fastened to the arm with two carriage bolts. These braces are stiffer than any other form of brace for the same weight and cost.

List No.	Style	Std. Bundle	Weight per 100 Lbs.	*List Price	
				Each	Per 100
740	1 in. x 5 ft. back brace.....	5	510	\$0.56	\$52.08
741	1 in. x 6 ft. back brace.....	5	410	.68	63.24
742	1 1/4 in. x 5 ft. back brace.....	5	670	.78	72.54
743	1 1/4 in. x 6 ft. back brace.....	5	820	.90	83.70
744	1 1/4 in. x 8 ft. back brace.....	5	1060	1.20	111.00
745	1 1/4 in. x 9 ft. 2 ins. back brace.....	5	1250	1.40	120.20
746	1 1/4 in. x 4 ft. back brace.....	5	420	.68	63.24

*Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries write nearest house.

†Delivery F. O. B. Dayton, O. For warehouse deliveries write nearest house.

Line Construction Material

CONSTRUCTION MATERIAL

Angle Iron Cable Arms

Can be furnished for supporting 2, 4, 6, and 8 strands. Each arm is complete with strand clamps and a pair of braces.

By counterboring slightly to clear bolt heads, a cross arm may be set in the lap of the angle arm. These strand clamps have heavy steel-forged yokes.

The 6 and 8 strand arms should be gained into the pole about half an inch.

List No.		†List Price Each	
		Plain	Galv.
740336	2 strand arm, complete.....	\$3.96	\$4.72
740337	4 strand arm, complete.....	5.72	5.28
740338	6 strand arm, complete.....	5.46	6.00
740339	8 strand arm, complete.....	6.58	7.50

Galvanized furnished unless otherwise specified.



Angle Iron Cable Arm



Guy Shim



Round Washer

Guy Shims

List No.		Weight per 100	*List Price per 100	
			Plain	Galv.
740340	1 x 1/8 x 8 ins.....	38 lbs.	\$4.00	\$4.12
740341	1 1/4 x 1/8 x 8 ins.....	56 lbs.	5.00	5.16

Galvanized furnished unless otherwise ordered.

Round Washers

List No.	Diam.	Size of Hole	Thick-ness Wire Gauge	Average No. per 100 Lbs.	*List Price per 1000		List No.	Diam.	Size of Hole	Thick-ness Wire Gauge	Average No. per 100 Lbs.	*List Price per 1000	
					Plain	Galv.						Plain	Galv.
740342	1 1/8	3/8	16	11,250	\$3.32	\$7.48	740346	1 1/2	5/8	12	2,250	\$8.80	\$18.04
740343	1	1/2	14	6,800	3.32	7.48	740347	1 3/4	1 1/8	10	900	8.80	18.04
740344	1 1/4	1/2	14	4,300	4.88	9.90	740348	2	1 1/8	10	....	12.28	23.10
740345	1 3/8	1/2	12	2,600	4.88	9.90							

When ordering, specify plain or galvanized.

Square Washers



Square Washer

List No.		Weight per 100	*List Price per 1000	
			Plain	Galv.
740350	2 x 2 x 1/8 in., for 1/2 and 3/4 in. bolt.	15 lbs. 17 lbs.	\$8.68	\$15.44
740351	2 1/4 x 2 1/4 x 1/8 in., for 3/4 and 1 in. bolt.	25 lbs. 28 lbs.	14.02	24.24
741599	2 1/4 x 2 1/4 x 1/8 in., for 1/2 in. rods.....	25 lbs. 28 lbs.	14.02	24.24
740352	3 x 3 x 1/8 in., for 3/4 and 1 in. bolt.	55 lbs. 61 lbs.	30.02	46.94
740353	4 x 4 x 1/8 in., for 1 and 1 1/4 in. bolt.	82 lbs. 90 lbs.	48.00	86.56
740354	5 x 5 x 1/8 in., for 1 1/4 and 1 3/4 in. bolt.	130 lbs. 140 lbs.	70.68	116.16

Galvanized furnished unless otherwise ordered.

Hub or Butt Plates

Are made of 1/4 inch steel bent into a half-circle. This makes a substantial guard, strong enough to stand hard knocks, yet elastic enough so that it can be bent into place on any size pole.

List No.		Weight Each	†List Price Each	
			Painted	Galv.
515	Hub or Butt Plates, 15 x 18 x 1/4 in.....	14 lbs.	\$1.00	\$1.50
516	Hub or Butt Plates, 18 x 20 x 1/4 in.....	19 lbs.	1.34	1.94

Punched for twenty-penny spikes.

Pole Protection Strip

Galvanized Steel

List No.		†List Price per 100
510	2 in. wide, 4 ft. long, concave.....	\$16.00

No. 510 & 515-6

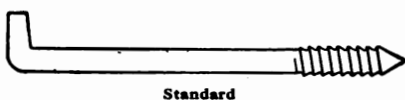
*Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries write nearest house.

†Delivery F. O. B. Chicago, Ill. For warehouse deliveries write nearest house.

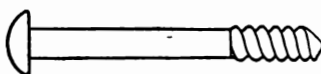
MISCELLANEOUS POLE STEPS

Pole Steps

Fetter Drive



Standard



Button Head

STANDARD

List No.	Size in Inches	Approximate Wt. per 100 Plain	Approximate Wt. per 100 Galv.	*List Price per 100 Plain	*List Price per 100 Galv.
740188	$\frac{3}{8}$ x 9	65 lbs.	68 lbs.	\$41.34	\$63.08
740189	$\frac{3}{8}$ x 10 $\frac{1}{2}$	75 lbs.	78 lbs.	46.68	71.88
740190	$\frac{5}{8}$ x 9	81 lbs.	85 lbs.	48.94	79.20
740191	$\frac{5}{8}$ x 10	91 lbs.	95 lbs.	52.66	86.12

BUTTON HEAD

740193	$\frac{5}{8}$ x 10	87 lbs.	90 lbs.	\$53.74	\$87.00
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When ordering, specify plain or galvanized.

WOODEN POLE STEP

This pole step is of oak, drilled for two spikes, and is easily nailed up against the pole.



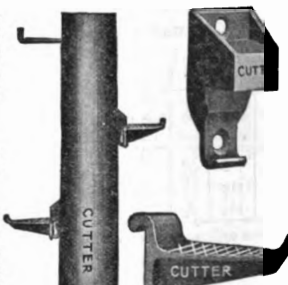
Wooden Pole Step

List No.		List Price per 1000
740194	Oak Pole Step, plain	\$17.50
740195	Oak Pole Step, creosoted	\$20.00
741328	Oak Pole Step, paraffined	\$20.00

CUTTER REMOVABLE POLE STEP

Weighs less than 14 ozs. per pair, and are much more easily carried than a ladder. The sockets for them are hooked under so as to be sleet-proof.

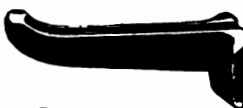
List No.	Std. Pkg.	List Price Each
20885	Pole Step, painted	\$0.30
20886	Socket, painted	.18
20887	Pole Step, galvanized	.36
20888	Socket, galvanized	.24



Cutter Removable Pole Step



Pole Step for Iron Poles



Removable Step



Socket

McBride Pole Step

POLE STEPS FOR IRON POLES

List No.	Description	††List Price Each
740200	Pole Step, for 4 in. pipe, with bolt	\$0.47
740201	Pole Step, for 5 in. pipe, with bolt	.51
740202	Pole Step, for 6 in. pipe, with bolt	.55
740203	Pole Step, for 7 in. pipe, with bolt	.58
740204	Pole Step, for 8 in. pipe, with bolt	.62

MCBRIDE REMOVABLE POLE STEP

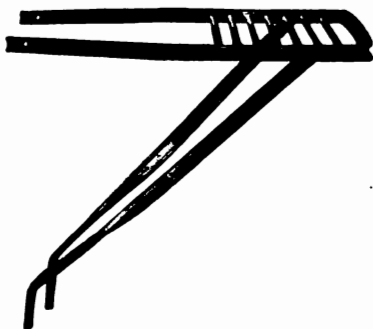
List No.		Approximate Wt. per 100 Plain	Approximate Wt. per 100 Galv.	*List Price per 100 Pieces Plain	*List Price per 100 Pieces Galv.
740205	Pole Step and Socket	75 lbs.	80 lbs.	\$14.00	\$18.00

*Delivery F. O. B. Pittsburgh, Pa.
††Delivery F. O. B. Factories, Maryland, Wisconsin and Indiana.
For warehouse deliveries write nearest house.

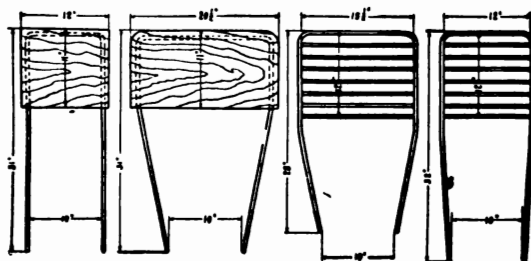
Line Construction Material

POLE SEATS AND PLATFORMS

Hot Galvanized or Painted



No. 755



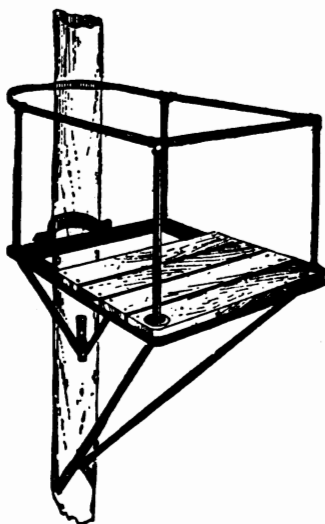
Pole Seats

Peirce Pole Seats

These seats in a competitive test held a dead load of 1740 lbs. without deflection. A $1\frac{1}{4}$ inch angle iron seat, weighing fifty per cent. more, collapsed with 960 lbs. load. The frames and braces of all styles are of $1 \times \frac{1}{2}$ inch channel steel. The wood seats are $1\frac{1}{4}$ inch cypress, boiled in creosote. The bars of the all steel seats are $\frac{3}{8}$ inch square steel let into the frame in such manner as to leave no projecting ends. There is no strain on the riveted joints. The bars are placed with corners up, to prevent slipping. They are shipped completely assembled in bundles of five.

List No.	Old No. and Style	Std. Bundle	Weight per 100 Lbs.	*List Price Each
750	No. 1, painted Pole Seat	5	1260	\$1.70
751	No. 1, galvanized Pole Seat	5	1260	2.00
752	No. 2, painted Pole Seat	5	1400	2.50
753	No. 2, galvanized Pole Seat	5	1400	2.90
754	No. 3, painted Pole Seat	5	1400	1.90
755	No. 3, galvanized Pole Seat	5	1400	2.40
756	No. 4, painted Pole Seat	5	1260	1.90
757	No. 4, galvanized Pole Seat	5	1260	2.40

*Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries write nearest house.



Pole Platform

Pole Platform

SECURITY TYPE

This type is intended for important points, and is therefore built strong in order to support several men at once. The guard rails go around the pole and fasten to it by lags. This makes the rail very staunch. For shipment, the platform and rail are wired to each other. All the braces, post, and lag screws are boxed and are complete. The dimensions of frame over all are 32 x 32 inches and wood floor is 27 x 32 inches.

List No.		Approximate Weight	†List Price Each
740563	Pole Platform, with railing	90 lbs.	\$29.00
740564	Pole Platform, without railing	62 lbs.	24.50

†Delivery F. O. B. Toledo, O. For warehouse deliveries write nearest house.

MATTHEWS SCRULIX ANCHORS

Earth Anchors

These anchors are screwed down into the solid ground without disturbing it. Each turn of the helix causes it to feed down into the ground and as it goes down the upper half again compresses the earth so that it is as solid above the anchor as around it.

All other types of ground anchors have moving parts which must be adjusted and which are frequently buried unadjusted, and they require a hole to be dug before installing. It is argued that this is wrong in principle because the filled hole of soft dirt above the anchor allows the rain and snow water to gradually soften the dirt and decrease the resistance of the earth above the anchor. The intermittent strains on the line have a tendency to raise the anchor up into this filled and softened earth. The results must necessarily be less satisfactory than with the Matthews Scrulix Anchor.

Matthews Scrulix Anchors are screwed into solid ground and afford the maximum of resistance to the upward pull of the guy lines.

Manufacturer absolutely guarantees the ungalvanized 5, 6 and 7 inch Matthews Scrulix Anchors to outlast any other anchors using galvanized steel rods of the same cross section, and they guarantee the ungalvanized 8, 10 and 12 inch Matthews Scrulix Anchors with square rods to outlast the same round section galvanized.

Twelve or more Matthews Scrulix Anchors and one No. 567 Wrench for their installation will be sent on thirty days' trial, charges prepaid, on the first order only. If unsatisfactory, they may be returned, freight charges collect.



The Ratchet Handle No. 765

No. 8000
No. 1000
No. 1200

No. 562R
No. 663R
No. 764R

Mfr. No.	Diam. of Anchor	List Prices per 100, Plain			Net Additional for Delivery on Pacific Coast
		Less than 12	Less than 50 and over 11	50 or More	
502 R	5 in.	\$180.00	\$162.00	\$150.00	\$0.11
603 R	6 in.	265.00	240.00	220.00	.18
704 R	7 in.	410.00	380.00	350.00	.26
567	Wrench	663.00	663.00	612.00	.32
*765	Handle	700.00	700.00	700.00	.50
800	8 in.	700.00	700.00	700.00	.67
1000	10 in.	1000.00	1000.00	1000.00	.85
1200	12 in.	1500.00	1500.00	1500.00	1.40

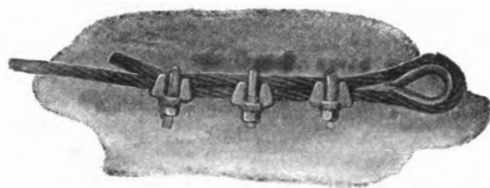
The above prices are for points east of Pacific Coast States. Add the amounts under Pacific Coast to the net cost per anchor to get prices in Pacific Coast States. The cost of galvanized anchors is found by adding the amounts under that heading to the net cost per anchor.

Sizes and Data

Mfr. No.	Wt., Lbs.	Size of Rods	Description	Remarks
502 R	6½	½ inch round	Rod anchor for lightest strains	All rod anchors are 6 feet long over all. A number 567 wrench must be used with all anchors smaller than 800. No wrench is needed for the 800, 1000, or 1200 anchors. * The 765 ratchet handle is for use with the 567 wrench, and is very useful where it is desired to put the anchor down next to walk fences, etc.
603 R	10	¾ inch round	Rod anchor for medium strains	
704 R	15	1 inch round	Rod anchor for heavy strains	
567	25	Wrench	For installing the above anchors	
765	7	Ratchet Handle for above	See (*) Remarks	
800	38	1½ inch square	Rod anchor for heavy strains	
1000	50	1½ inch square	Rod anchor for heavier strains	
1200	80	1½ inch square	Rod anchor for very heavy strains	

Line Construction Material

CONSTRUCTION MATERIAL



Crosby Clips



Bulldog Clip

**Wire Rope Clips
CROSBY CLIP**

This Clip is the only drop-forged galvanized clip made. Die-forged, cannot break; galvanized, cannot rust.

List No.	Size Strand	List Price Each	List No.	Size Strand	List Price Each
740390	1/4 in. strand	\$0.35	740399	1 1/2 in. strand	\$1.14
740391	5/16 in. strand	.35	740400	1 3/4 in. strand	1.32
740392	3/8 in. strand	.35	740401	1 3/8 in. strand	1.50
740393	7/16 in. strand	.42	740402	1 1/2 in. strand	1.80
740394	1/2 in. strand	.42	740403	1 5/8 in. strand	4.20
740395	5/8 in. strand	.66	740404	1 3/4 in. strand	6.60
740396	3/4 in. strand	.78	740405	2 in. strand	9.00
740397	7/8 in. strand	.90	740406	2 1/4 in. strand	11.40
740398	1 in. strand	1.02	740407	2 1/2 in. strand	13.80

***BULLDOG CLIPS
Galvanized**

740408	1/4 in. strand	\$0.11	740412	5/8 in. strand	\$0.22
740409	5/16 in. strand	.11	740413	3/4 in. strand	.26
740410	3/8 in. strand	.13	740414	1/2 in. strand	.36
740411	1/2 in. strand	.17	740415	1 in. strand	.43



Anchor Rods

List No.	Size	Weight per 100 Plain	Weight per 100 Galv.	List Price per 100 Plain	List Price per 100 Galv.
740416	1/2 in. x 6 ft.	420 lbs.	460 lbs.	\$28.66	\$47.16
740417	1/2 in. x 7 ft.	485 lbs.	530 lbs.	32.00	52.40
740418	1/2 in. x 8 ft.	550 lbs.	600 lbs.	35.36	58.68
740419	5/8 in. x 6 ft.	645 lbs.	710 lbs.	38.68	66.00
740420	5/8 in. x 7 ft.	750 lbs.	825 lbs.	43.74	74.80
740421	5/8 in. x 8 ft.	880 lbs.	990 lbs.	48.80	83.60
740422	3/4 in. x 6 ft.	1000 lbs.	1100 lbs.	47.40	81.84
740423	3/4 in. x 7 ft.	1150 lbs.	1260 lbs.	53.64	93.34
740424	3/4 in. x 8 ft.	1300 lbs.	1430 lbs.	59.84	104.82
740425	1 in. x 8 ft.	2575 lbs.	2840 lbs.	120.00	205.92
740426	1 in. x 9 ft.	2738 lbs.	3010 lbs.	130.80	226.12
740427	1 in. x 10 ft.	2900 lbs.	3190 lbs.	142.80	246.32
740428	1 in. x 11 ft.	3033 lbs.	3360 lbs.	152.40	266.48
740429	1 in. x 12 ft.	3165 lbs.	3480 lbs.	163.20	286.72

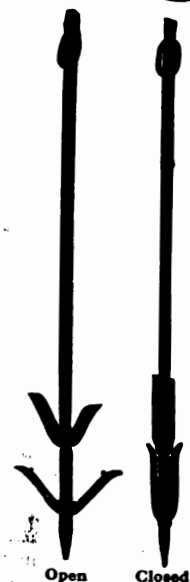
NOTE: Anchor rod with eye at each end will be furnished at the same price as the regular anchor rod with eye at one end, thread and nut at other.

Prices on rods include nuts, but not washers.

When ordering, specify plain or galvanized.

Harpoon Guy Anchors

Harpoon Guy Anchors are made of steel throughout. They are driven down with a sledge and set by a pull. One man can install a Harpoon Guy Anchor in ten minutes. No digging, boring, tamping or special tool is required. The wings open out in the undisturbed ground and will withstand any strain met in ordinary pole line service.

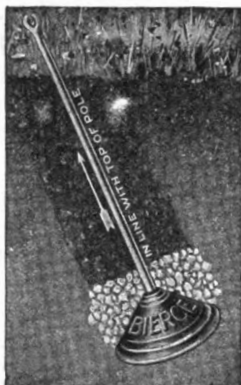


List No.	Length Rod	Finish	Wt. Lbs.	List Price Each
				1 to 49 50 to 99 100 and Over
741274	5 ft.	Black enamel	23	\$2.90 \$2.70 \$2.60
741275	5 ft.	Galvanized	23	3.30 3.10 3.00

*Delivery F. O. B. St. Paul, Minn. †Delivery F. O. B. Pittsburgh, Pa. *Delivery F. O. B. Cleveland, O.
†Delivery F. O. B. Syracuse, N. Y. For warehouse deliveries write nearest house.

GUY ANCHORS AND ANCHOR RODS

Bierce Guy Anchors



"Bierce" Anchor

The "Bierce" Anchor works on the principle of the inverted wedge. It has exceptional holding power in dry sand or swampy soil. In a recent series of tests, the 8 inch size held over 16,000 pounds in clay and over 13,000 pounds in dry sand. It does away with expanding, screwing, driving or guessing. One man can bore hole with auger, set anchor and tamp it in fifteen minutes. It is made in one solid piece.

To install, bore a hole not less than five feet with an earth auger of same diameter as "Bierce" Anchor. Use $\frac{1}{2}$ inch, $\frac{3}{4}$ inch or $\frac{1}{2}$ inch anchor rods as desired for 8 inch size and 1 inch rods for 12 inch size. Drop the anchor into the hole with the point up. Tamp a quantity of broken stone or brick firmly around the anchor and it is ready to attach to the guy wire. The earth may be back filled loosely or tamped, as desired. We recommend the 8 inch anchor for a general purpose and the 12 inch for dead-ending line under heavy strain.

List No.	Diam.	Wgt. lbs. per 100	*List Price Each—		
			Less than 50	50 to 100	100 or More
740981	5 in. "Bierce" Anchor.....	230	\$0.90	\$0.80	\$0.70
740982	6 in. "Bierce" Anchor.....	290	1.00	.90	.80
740983	8 in. "Bierce" Anchor.....	530	1.20	1.10	1.00
740984	12 in. "Bierce" Anchor.....	1300	2.20	2.10	2.00

*F. O. B. Factory, Cincinnati, Ohio. For warehouse deliveries write nearest house.

NOTE: Prices do not include rods.

Adjustarods—Types A and B

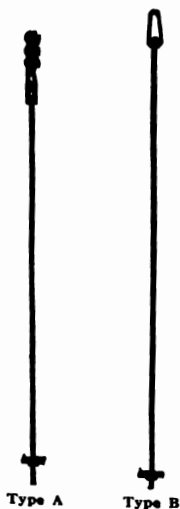
Adjustarods are the only all in one metal equipments for "dead man" anchor installations. They have also the additional valuable advantage of turnbuckle properties, permitting slack in guy to be taken up at any time by merely applying a monkey wrench to the upper end of the rod.

Type A consists of a clamp, pulley, swivel, rod, washer and base nut.

Type B consists of eye, swivel, rod, washer and base nut.

Adjustarods are ordered as a unit and handled as such up to installation—no separate parts to forget or lose.

The rods of both types A and B are $\frac{5}{8}$ inch in diameter, and threaded 12 inches on lower end.



Type A

Type B

List No.	Type	Rod L'gth, ft.	Finish	†List Price Each—		
				1 to 49	50 to 99	100 and Over
740985	A	5	Galvanized only	\$2.30	\$2.10	\$2.00
740986	B	5	Galvanized only	1.40	1.20	1.10

†F. O. B. Factory, Syracuse, N. Y. For warehouse deliveries write nearest house.

EVERSTICK LINE CONSTRUCTION MATERIAL



Four-Way Anchor
Closed



Four-Way Anchor
Expanded



Two-Way Anchor
Closed



Two-Way Anchor
Expanded

EVERSTICK ANCHORS WITHOUT ROD

List No.	Mfr. No.		Installed in Hole	Weight	List Price Each
741715	5	Two-way, sqr. in. hold surface 45, 5 in. cir., expands to 5 x 9.....	5 ins.	4 lbs.	\$1.00
741716	6	Two-way, sqr. in. hold surface 68, 6 in. cir., expands to 6 x 11.....	6 ins.	7 lbs.	1.50
741717	8	Two-way, sqr. in. hold surface 120, 8 in. cir., expands to 8 x 15.....	8 ins.	13 lbs.	2.00
741718	6	Four-way, sqr. in. hold surface 121, 6 in. cir., expands to 11 in. cir....	6 ins.	10 lbs.	1.80
741719	8	Four-way, sqr. in. hold surface 225, 8 in. cir., expands to 15 in. cir....	8 ins.	15 lbs.	3.00
741720	10	Four-way, sqr. in. hold surface 361, 10 in. cir., expands to 19 in. cir....	10 ins.	29 lbs.	5.00

EVERSTICK ANCHORS WITH ROD

No. of Anchor	Size Anchor Closed	Size Anchor Expanded	Size of Rod	List No.	List Price Japanned	List No.	List Price Galvanized
5 Two-way	5 in. cir.	5 x 9	1/2 x 6	741721	\$1.30	741748	\$1.40
6 Two-way	6 in. cir.	6 x 11	1/2 x 6	741722	1.80	741749	1.90
6 Four-way	6 in. cir.	11 x 11	1/2 x 6	741723	2.10	741750	2.20
5 Two-way	5 in. cir.	5 x 9	5/8 x 6	741724	1.50	741751	1.70
6 Two-way	6 in. cir.	6 x 11	5/8 x 6	741725	2.00	741752	2.20
8 Two-way	8 in. cir.	8 x 15	5/8 x 6	741726	2.50	741753	2.70
6 Four-way	6 in. cir.	11 x 11	5/8 x 6	741727	2.30	741754	2.50
8 Four-way	8 in. cir.	15 x 15	5/8 x 6	741728	3.50	741755	3.70
8 Two-way	8 in. cir.	8 x 15	3/4 x 6	741729	2.70	741756	3.00
6 Four-way	6 in. cir.	11 x 11	3/4 x 6	741730	2.60	741757	2.80
8 Four-way	8 in. cir.	15 x 15	3/4 x 6	741731	3.80	741758	4.10
10 Four-way	10 in. cir.	19 x 19	3/4 x 6	741732	5.80	741759	6.10
8 Four-way	8 in. cir.	15 x 15	1 x 6	741733	4.60	741760	5.00
10 Four-way	10 in. cir.	19 x 19	1 x 6	741734	6.60	741761	7.00
5 Two-way	5 in. cir.	5 x 9	5/8 x 8	741735	1.70	741762	1.90
6 Two-way	6 in. cir.	6 x 11	5/8 x 8	741736	2.20	741763	2.40
8 Two-way	8 in. cir.	8 x 15	5/8 x 8	741737	2.70	741764	3.00
6 Four-way	6 in. cir.	11 x 11	5/8 x 8	741738	2.50	741765	2.80
8 Four-way	8 in. cir.	15 x 15	5/8 x 8	741739	3.80	741766	4.00
8 Two-way	8 in. cir.	8 x 15	3/4 x 8	741740	3.00	741767	3.50
6 Four-way	6 in. cir.	11 x 11	3/4 x 8	741741	2.80	741768	3.20
8 Four-way	8 in. cir.	15 x 15	3/4 x 8	741742	4.10	741769	4.40
10 Four-way	10 in. cir.	19 x 19	3/4 x 8	741743	5.60	741770	6.40
8 Four-way	8 in. cir.	15 x 15	1 x 8	741744	4.80	741771	5.40
10 Four-way	10 in. cir.	19 x 19	1 x 8	741745	6.80	741772	7.40
8 Four-way	8 in. cir.	15 x 15	1 x 10	741746	5.00	741773	5.80
10 Four-way	10 in. cir.	19 x 19	1 x 10	741747	7.00	741774	7.80



Boltless Guy Clamp



Boltless Sling Clamp

Blackburn Boltless Guy Clamps

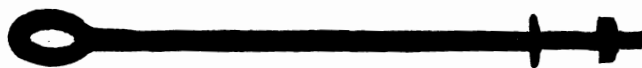
List No.	Mfr. No.		List Price Each
741775	6	Single guy clamp, use instead of (1) 3 bolt clamp.....	\$0.32
741776	12	Single guy clamp, use instead of (2) 3 bolt clamp.....	.48
741777	16	Single guy clamp, use instead of (3) or more 3 bolt clamp.....	.60
741778	23	Boltless twin guy clamp.....	.80

Blackburn Boltless Sling Clamps

741779	7	Boltless Sling Clamp, use up to 12,000 lb. strain.....	\$0.30
741780	9	Boltless Sling Clamp, use up to 20,000 lb. strain.....	.40

*Delivery F. O. B. St. Louis. For warehouse deliveries write nearest house.

CONSTRUCTION MATERIAL



Eye Bolt

Welded Steel Eye Bolts

Fitted with Square Nuts and Washers

PLAIN OR GALVANIZED

Size	Wt. per 100 Pieces	*List Price Each		Size	Wt. per 100 Pieces	*List Price Each		Size	Wt. per 100 Pieces	*List Price Each	
		Plain	Galv.			Plain	Galv.			Plain	Galv.
$\frac{1}{2}$ x 6	56.7	\$0.14	\$0.22	$\frac{5}{8}$ x 6	94.9	\$0.17	\$0.27	$\frac{3}{4}$ x 6	143.0	\$0.23	\$0.37
$\frac{1}{2}$ x 7	61.8	.14	.23	$\frac{5}{8}$ x 7	103.1	.18	.28	$\frac{3}{4}$ x 7	154.9	.24	.39
$\frac{1}{2}$ x 8	66.9	.15	.23	$\frac{5}{8}$ x 8	111.3	.18	.29	$\frac{3}{4}$ x 8	166.8	.25	.40
$\frac{1}{2}$ x 9	72.0	.15	.24	$\frac{5}{8}$ x 9	119.5	.19	.30	$\frac{3}{4}$ x 9	178.7	.26	.42
$\frac{1}{2}$ x 10	77.1	.16	.25	$\frac{5}{8}$ x 10	127.7	.20	.31	$\frac{3}{4}$ x 10	190.6	.27	.43
$\frac{1}{2}$ x 11	82.2	.16	.26	$\frac{5}{8}$ x 11	135.9	.20	.32	$\frac{3}{4}$ x 11	202.5	.28	.45
$\frac{1}{2}$ x 12	87.3	.17	.26	$\frac{5}{8}$ x 12	144.1	.21	.33	$\frac{3}{4}$ x 12	214.4	.29	.46
$\frac{1}{2}$ x 13	92.4	.17	.27	$\frac{5}{8}$ x 13	152.3	.22	.34	$\frac{3}{4}$ x 13	226.3	.30	.48
$\frac{1}{2}$ x 14	97.5	.18	.28	$\frac{5}{8}$ x 14	160.5	.22	.36	$\frac{3}{4}$ x 14	238.2	.31	.50
$\frac{1}{2}$ x 15	102.6	.18	.29	$\frac{5}{8}$ x 15	168.7	.23	.37	$\frac{3}{4}$ x 15	250.1	.32	.51
$\frac{1}{2}$ x 16	107.7	.19	.29	$\frac{5}{8}$ x 16	176.9	.24	.38	$\frac{3}{4}$ x 16	262.0	.33	.53



Ground Bolt

Ground Rods

Size		Lbs. per 100		*List Price per 100	
		Plain	Galv.	Plain	Galv.
$\frac{3}{8}$ in. x 5 ft., without ground wire.....		181		\$13.34	\$19.80
$\frac{3}{8}$ in. x 6 ft., without ground wire.....		218		15.34	21.30
$\frac{1}{2}$ in. x 6 ft., without ground wire.....		319		20.94	33.76
$\frac{1}{2}$ in. x 7 ft., without ground wire.....		394		24.28	39.60
$\frac{3}{8}$ in. x 6 ft., without ground wire.....		600		31.34	55.00
$\frac{1}{2}$ in. x 8 ft., without ground wire.....		800		41.31	72.60
$\frac{1}{2}$ in. x 5 ft., with ground wire.....		322		28.66	41.08
$\frac{1}{2}$ in. x 6 ft., with ground wire.....		388		32.00	46.94
$\frac{3}{8}$ in. x 6 ft., with ground wire.....		605		42.28	68.96



Ground Cone

Paragon Ground Cones

Are made of a perforated sheet of pure copper; cone is filled with pea-sized charcoal or coke; the charcoal absorbs moisture by keeping the earth around the cone always moist, insuring a permanent and perfect ground.

For telephone, telegraph, railroad, and trolley work it is ideal for grounding lightning arresters of all kinds, pole, cable, terminals, distributing, and protector frames, and all line arresters.

The cone is furnished complete with charcoal, and with braided hollow copper cable of 61,968 cm. cross-section, into which the ground wire may be soldered. The cable is securely soldered to the bottom of the cone.

List No.		Length	B. & S. Gauge	*List Price Each
1	For telephone and telegraph.....	1 ft.	25	\$3.30
2	For telephone and telegraph.....	2 ft.	25	4.80
3	For electric light.....	1 ft.	21	3.90
4	For electric light.....	2 ft.	21	5.40

*Delivery F. O. B. Pittsburgh. †Delivery F. O. B. Chicago, Ill. For warehouse deliveries write nearest house.

Line Construction Material

PLAIN AND INSULATED TURNBUCKLES

Hook and Eye



Eye and Eye



Clevis and Eye



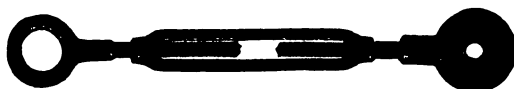
Clevis and Clevis



Plain Turnbuckles

Size	Hook and Eye		Eye and Eye		Clevis and Eye		Clevis and Clevis	
	List No.	*List Price	List No.	*List Price	List No.	*List Price	List No.	*List Price
1/4 x 2 1/4	741285	\$0.47	741312	\$0.47	741339	\$0.64	741366	\$0.77
1/4 x 3 1/4	741286	.49	741313	.49	741340	.71	741367	.84
1/4 x 4 1/4	741287	.49	741314	.52	741341	.77	741368	.96
3/8 x 4 1/4	741288	.58	741315	.58	741342	.84	741369	1.09
3/8 x 9	741289	.87	741316	.91	741343	1.16	741370	1.35
3/8 x 12	741290	.98	741317	1.04	741344	1.22	741371	1.41
1/2 x 5	741291	.65	741318	.65	741345	1.03	741372	1.28
1/2 x 6	741292	.81	741319	.81	741346	1.22	741373	1.48
1/2 x 9	741293	1.01	741320	1.01	741347	1.54	741374	1.80
1/2 x 12	741294	1.30	741321	1.30	741348	1.67	741375	1.92
3/4 x 6	741295	.98	741322	1.10	741349	1.48	741376	1.73
3/4 x 9	741296	1.27	741323	1.33	741350	1.80	741377	2.05
3/4 x 12	741297	1.39	741324	1.44	741351	1.86	741378	2.18
1 x 6	741298	1.01	741325	1.39	741352	1.73	741379	1.99
1 x 9	741299	1.30	741326	1.30	741353	1.99	741380	2.31
1 x 12	741300	1.59	741327	1.59	741354	2.05	741381	2.37
1 1/4 x 6	741301	1.39	741328	1.39	741355	2.18	741382	2.69
1 1/4 x 9	741302	1.59	741329	1.59	741356	2.50	741383	3.01
1 1/4 x 12	741303	1.88	741330	1.88	741357	2.69	741384	3.14
1 1/2 x 6	741304	1.73	741331	1.73	741358	2.95	741385	3.97
1 1/2 x 9	741305	2.16	741332	2.16	741359	3.52	741386	4.48
1 1/2 x 12	741306	2.45	741333	2.45	741360	3.72	741387	4.61
1 3/4 x 6	741307	2.02	741334	2.02	741361	3.52	741388	4.55
1 3/4 x 9	741308	2.60	741335	2.60	741362	4.16	741389	5.06
1 3/4 x 12	741309	3.03	741336	3.03	741363	4.36	741390	5.32
2 x 6	741310	3.75	741337	3.91	741364	5.76	741391	7.04
2 x 12	741311	5.64	741338	4.58	741365	7.68	741392	8.64

Eye and Insulated Eye



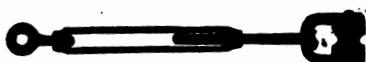
Insulated Turnbuckles

List No.	Test Load in Lbs.	Average Breaking Load in Lbs.	Max. Takeup in Ins.	Diam. Bolt in Ins.	Max. Length Between Centers of Eyes in Ins.	Approx. Net Wt. per 100	*List Price per 100
740541	3000	6000	6	1 1/2	18 3/4	275 lbs.	\$100.00
740542	4000	8000	6 1/4	1 3/8	18 3/4	325 lbs.	135.00
740543	3000	6000	12	1 1/2	29 3/4	325 lbs.	150.00
740544	4000	8000	12 1/4	1 3/4	30	410 lbs.	200.00

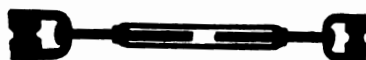
*Delivery F. O. B. South Portland, Me. †Delivery F. O. B. Schenectady, N. Y. For warehouse deliveries write nearest house.

PEIRCE INSULATED FORKS AND TURNBUCKLES

Hot Galvanized



No. 650



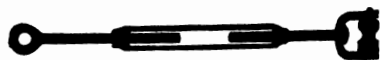
No. 660

Insulator Fork and Turnbuckles

List No.	Mfr. No.	Style	Std. Bundle	Wt. Lbs. per 100	*List Price	
					Each	Per 100
741393	650	Insulator Fork and Eye, 6 in. Turnbuckle.....	10	356	\$2.54	\$221.76
741394	651	Insulator Fork and Eye, 9 in. Turnbuckle.....	10	381	2.75	240.24
741395	660	Two Insulator Fork and 6 in. Turnbuckle.....	10	435	2.82	246.40
741396	661	Two Insulator Fork and 9 in. Turnbuckle.....	10	460	3.10	271.04



No. 670



No. 680

Insulator Fork and Turnbuckles

List No.	Mfr. No.	Style	Std. Bundle	Wt. Lbs. per 100	*List Price	
					Each	Per 100
741397	670	Insulator Fork and Hook, 6 in. Turnbuckle.....	10	341	\$2.40	\$209.44
741398	671	Insulator Fork and Hook, 9 in. Turnbuckle.....	10	366	2.61	227.92
741399	680	Insulator Fork and Swivel Eye, 6 in. Turnbuckle...	10	304	2.64	231.00
741400	681	Insulator Fork and Swivel Eye, 9 in. Turnbuckle...	10	329	2.86	249.48



No. 690



Insulator Fork



No. 640



No. 550



No. 561

Insulator Fork and Clevis

List No.	Mfr. No.	Style	Std. Bundle	Wt. Lbs. per 100	*List Price	
					Each	Per 100
741401	690	Insulator Fork and 8 in. Carriage Bolt.....	10	170	\$0.53	\$46.20
741402	691	Insulator Fork and 10 in. Carriage Bolt.....	10	187	.57	49.28
741403	692	Insulator Fork and 12 in. Carriage Bolt.....	10	204	.60	52.36
741404	693	Insulator Fork and 14 in. Carriage Bolt.....	10	221	.64	55.44
741405	549	Cross Arm Clevis, 3 1/4 x 4 1/4 in. arms.....	25	134	.22	20.40
741406	640	Insulator Fork and 4 in. Lag Screw.....	10	155	.39	33.88
741409	550	Cross Arm Clevis, 3 1/4 x 4 1/4 in. arms.....	25	138	.23	21.42
741410	551	Cross Arm Clevis, 3 3/4 x 4 3/4 in. arms.....	25	144	.24	21.94
741411	552	Cross Arm Clevis, 4 x 5 in. arms.....	25	150	.24	24.48
741412	561	Insulated Fork for heavy secondaries.....	100	221	.27	24.48

NOTE: The Turnbuckles, Hook and Eye Bolts are drop forged. The Insulator Forks are made from open hearth steel channel.

*Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries, write nearest house.
Line Construction Material

CONSTRUCTION MATERIAL

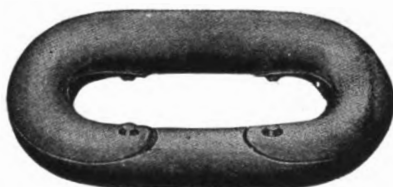


Wire Rope Thimble

Steel Wire Rope Thimbles

List No.	Width of Score	Circumference of Rope	*List Price per 100		List No.	Width of Score	Circumference of Rope	*List Price per 100	
			Galv.					Galv.	
741414	$\frac{1}{8}$ in.	$\frac{1}{2}$ or $\frac{3}{8}$ in.	\$3.00		741424	1 in.	3 ins.	\$14.58	
741415	$\frac{1}{4}$ in.	$\frac{3}{4}$ in.	3.00		741425	$1\frac{1}{8}$ ins.	$3\frac{1}{2}$ ins.	22.68	
741416	$\frac{3}{8}$ in.	$\frac{7}{8}$ in.	3.60		741426	$1\frac{1}{4}$ ins.	$3\frac{3}{4}$ ins.	26.72	
741417	$\frac{1}{2}$ in.	1 in.	4.20		741427	$1\frac{3}{8}$ ins.	4 ins.	34.06	
741418	$\frac{5}{8}$ in.	$1\frac{1}{4}$ ins.	4.80		741428	$1\frac{1}{2}$ ins.	$4\frac{1}{2}$ ins.	40.50	
741419	$\frac{3}{4}$ in.	$1\frac{1}{2}$ ins.	5.40		741429	$1\frac{5}{8}$ ins.	5 ins.	78.00	
741420	$\frac{7}{8}$ in.	$1\frac{3}{4}$ ins.	7.50		741430	$1\frac{3}{4}$ ins.	$5\frac{1}{4}$ ins.	90.00	
741421	$\frac{1}{8}$ in.	2 ins.	7.66		741431	$1\frac{7}{8}$ ins.	$5\frac{3}{4}$ ins.	114.00	
741422	$\frac{3}{4}$ in.	$2\frac{1}{2}$ ins.	9.66		741432	2 ins.	6 ins.	132.00	
741423	$\frac{7}{8}$ in.	$2\frac{3}{4}$ ins.	11.10		741433	$2\frac{1}{4}$ ins.	$6\frac{1}{2}$ ins.	189.00	
					741434	$2\frac{1}{2}$ ins.	$7\frac{1}{2}$ ins.	249.60	

In ordering, always state whether thimbles are desired with open or closed points.



Connecting Link



Guy Shackle

Acme Connecting Link

Drop Forged

List No.	Size	*List Price per Doz.		List No.	Size	*List Price per Doz.	
		Plain	Galv.			Plain	Galv.
741435	$\frac{1}{8}$ in.	\$0.60	\$0.92	741441	$\frac{1}{8}$ in.	\$1.64	\$2.88
741436	$\frac{1}{4}$ in.	.72	1.16	741442	$\frac{1}{4}$ in.	1.88	3.25
741437	$\frac{3}{8}$ in.	.84	1.39	741443	$\frac{3}{8}$ in.	2.88	4.44
741438	$\frac{1}{2}$ in.	1.08	1.80	741444	$\frac{1}{2}$ in.	4.44	7.92
741439	$\frac{5}{8}$ in.	1.25	2.02	741445	1 in.	6.00	10.82
741440	$\frac{3}{4}$ in.	1.44	2.45				

Screw Guy Shackles

Drop Forged Steel

List No.	Size	Length Inside Inches	Width B'twn Eyes Inches	Diam. of Pin Inches	*List Price Each		List No.	Size	Length Inside Inches	Width B'twn Eyes Inches	Diam. of Pin Inches	*List Price Each	
					Galv.	Jap.						Galv.	Jap.
741446	$\frac{1}{8}$ in.	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	\$0.20	\$0.25	741455	$\frac{7}{8}$	$3\frac{3}{8}$	$1\frac{3}{8}$	1	\$0.84	\$1.17
741447	$\frac{1}{4}$ in.	$1\frac{1}{8}$	$1\frac{1}{2}$	$\frac{1}{2}$	.20	.25	741456	1	$3\frac{3}{4}$	$1\frac{3}{8}$	$1\frac{1}{8}$	1.11	1.66
741448	$\frac{3}{8}$ in.	$1\frac{1}{4}$	$1\frac{3}{4}$	$\frac{3}{8}$	.20	.25	741457	$1\frac{1}{8}$	$4\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	1.60	1.25
741449	$\frac{1}{2}$ in.	$1\frac{3}{8}$	$1\frac{7}{8}$	$\frac{1}{2}$	.21	.28	741458	$1\frac{1}{4}$	5	2	$1\frac{3}{8}$	2.27	1.78
741450	$\frac{5}{8}$ in.	$1\frac{3}{8}$	$1\frac{7}{8}$	$\frac{5}{8}$	.26	.33	741459	$1\frac{3}{8}$	$5\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{1}{2}$	3.25	2.60
741451	$\frac{3}{4}$ in.	$1\frac{3}{8}$	$1\frac{7}{8}$	$\frac{3}{4}$	.29	.39	741460	$1\frac{1}{2}$	$5\frac{1}{2}$	$2\frac{1}{4}$	$1\frac{5}{8}$	4.07	3.25
741452	$\frac{7}{8}$ in.	2	$1\frac{7}{8}$	$\frac{7}{8}$	.44	.57	741461	$1\frac{5}{8}$	$6\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{3}{4}$	5.63	4.50
741453	$\frac{1}{8}$ in.	$2\frac{3}{8}$	$1\frac{1}{8}$	$\frac{3}{4}$	.52	.67	741462	$1\frac{3}{4}$	7	$2\frac{3}{4}$	2	7.50	6.00
741454	$\frac{3}{4}$ in.	$2\frac{3}{4}$	$1\frac{3}{8}$	$\frac{1}{2}$	.53	.78	741463	2	8	$3\frac{1}{4}$	$2\frac{1}{4}$	11.57	9.44

*Delivery F. O. B. Factory, South Portland, Me. For warehouse deliveries write nearest house.

MATTHEWS GUY CLAMPS



"Baby" Clamp



"Giant" Clamp

Matthews Boltless Guy Clamps

These clamps are made in two sizes, known as the "Baby" and the "Giant." The "Baby" is designed to fit $\frac{1}{4}$ and $\frac{5}{16}$ inch guy strand. The "Giant" is designed to fit $\frac{3}{8}$ and $\frac{1}{2}$ inch guy strand.

The Matthews "Baby" Boltless Guy Clamp will safely hold all strains on $\frac{1}{4}$ and $\frac{5}{16}$ inch guy strand. It is largely used for $\frac{5}{16}$ inch guy wire and by electric railway companies for holding $\frac{1}{4}$ inch trolley span wires.

Matthews "Giant" Boltless Guy Clamp is used for holding strains on $\frac{3}{8}$ inch, and $\frac{1}{2}$ inch guy strand.

These Clamps can be installed in less than 4 minutes and cost 21% less installed than ordinary 3-bolt clamps.

The greater the strain on the clamp the more they will hold. The wedge cannot be removed until the guys have been slacked.

List No.	Description	Approx. Wt. Per 100	*List Price Each		
			Less than 500	500 and less 1000	1000 or More
740510	"Baby" Clamp.....	40	\$0.20	\$0.20	\$0.16
740511	"Giant" Clamp.....	130	.30	.28	.26

NOTE: For Pacific Coast deliveries add 3 cents for the "Giant" Clamp and 1 cent to the "Baby" Clamp lists.

NOTE: Matthews Boltless Guy Clamps may be assorted with each other or with Matthews 2-Bolt Guy Clamp described below, to obtain the benefit of the quantity prices.



Showing Top



Showing Bottom

Matthews Two Bolt Guy Clamp

Next to Matthews Boltless Clamps described above this clamp is the easiest to install, and it is the strongest clamp made. It will break 16,000 lb. strand. This means that it will hold more than 5 ordinary 3-bolt clamps. For splicing messenger and for all other messenger and heavy guying it is the most economical clamp made. The four feet on the sides of one of the clamping plates prevent the guys from jumping out while slack is being taken up. The ear on this clamp is used for pulling the clamp to its final position while the clamping plates are still loose. This prevents the possibility of scraping off the galvanising on the strand and the nicking of the strand by misdirected hammer blows, which happens so often when 3-bolt clamps are installed. A chain lever is furnished for the purpose of pulling up the clamp.

List No.	Description	*List Price Each	
		Less than 1000	1000 and Over
740508	2-Bolt Guy Clamp.....	\$0.44	\$0.40

NOTE: For Pacific Coast deliveries add 7 cents to list.

List No.	Chain Lever	*List Price Each
740505	Chain Lever for use with 2-Bolt Guy Clamp.....	\$3.00

NOTE: Matthews 2-Bolt Guy Clamps may be assorted with Matthews Boltless Guy Clamps described above, to obtain the benefit of quantity prices.

*Delivery F. O. B. Factory St. Louis, Mo. For warehouse deliveries write nearest house.

Line Construction Material

LINE CONSTRUCTION MATERIAL



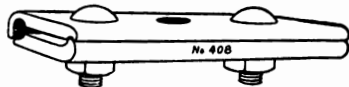
No. 400

Rolled Steel Guy Clamps

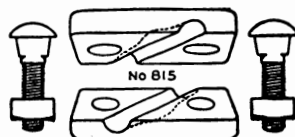
For fastening guy wires and cables. Furnished with bolts $\frac{1}{2}$ inch diameter.

List No.		Bolt	For Strand	Length	Wt. per 100	*List Price per 100
402	Guy Clamp	2	$\frac{1}{8}$ in. and larger	3 ins.	110	\$17.48
403	Guy Clamp	2	$\frac{1}{8}$ to $\frac{1}{4}$ in.	3 ins.	125	17.48
400	Guy Clamp	3	$\frac{1}{8}$ in. and larger	6 ins.	200	27.88
401	Guy Clamp	3	$\frac{1}{8}$ to $\frac{1}{4}$ in.	6 ins.	226	27.88
*404	Guy Clamp	3	$\frac{1}{8}$ to $\frac{1}{4}$ in.	6 ins.	205	27.88

*No. 404 has $\frac{1}{2}$ inch diameter bolts in each end only and center hole $\frac{5}{8}$ inch diameter.



No. 400



No. 815

Suspension Clamps

This clamp is used on aerial cable lines for supporting and holding the suspension strand on which cable is strung.

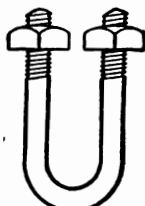
List No.		Bolt	Wt. per 100	*List Price per 100
815	Suspension Clamp	2	215	\$21.95

Rolled Steel Cross-over Clamp

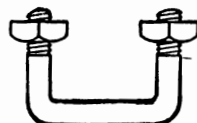
815	Cross-over Clamp	2	150	\$41.28
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Thimbles



No. 398



No. 397

Wire Rope Thimble

List No.		Approx. Size Ins.	Wt., Lbs. per 100	*List Price per 100	List No.		Approx. Size Ins.	Wt., Lbs. per 100	*List Price per 100
740380	Wire Rope Thimble.	$\frac{1}{4}$	20	\$7.70	740385	Wire Rope Thimble.	$\frac{1}{8}$	32	\$8.80
740381	Wire Rope Thimble.	$\frac{1}{8}$	20	7.70	740386	Wire Rope Thimble.	$\frac{5}{8}$	32	8.80
740382	Wire Rope Thimble.	$\frac{3}{8}$	20	7.70	740387	Wire Rope Thimble.	$\frac{3}{4}$	32	8.80
740383	Wire Rope Thimble.	$\frac{1}{2}$	20	7.70	740388	Wire Rope Thimble.	$\frac{1}{2}$	32	14.30
740384	Wire Rope Thimble.	$\frac{1}{2}$	20	7.70	740389	Wire Rope Thimble.	1	32	14.30

In ordering, always state whether thimbles are desired with open or closed points.

Clamp Bolt No. 397, U Bolt No. 398

Length Inches	Diameter Inches	List No.	Clamp No. 397	List Price per 100	List No.	U Bolt No. 398	List Price per 100
3 $\frac{1}{4}$	$\frac{1}{8}$	741631		\$3.75	741637		\$3.75
3 $\frac{1}{2}$	$\frac{1}{4}$	741632		4.38	741638		4.38
4	$\frac{1}{8}$	741633		4.75	741639		4.75
4 $\frac{1}{2}$	$\frac{3}{8}$	741634		5.15	741640		5.15
5	$\frac{1}{2}$	741635		5.50	741641		5.50
5 $\frac{1}{2}$	$\frac{3}{4}$	741636		6.25	741342		6.25

Write for special prices on other styles.

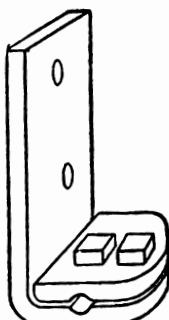
*Delivery F. O. B. Factory Pittsburgh, Pa.

For warehouse deliveries write nearest house.

POLE CLAMPS

Messenger Clamps

TWO BOLT



Standard

List No.		Weight per 100	*List Price Each
740512	2 bolt, plain, for $\frac{1}{4}$ and $\frac{1}{8}$ in. strand.....	222 lbs.	Special
740513	2 bolt, galvanized, for $\frac{1}{4}$ and $\frac{1}{8}$ in. strand...	233 lbs.	Special
740514	2 bolt, plain, for $\frac{1}{4}$ and $\frac{1}{2}$ in. strand.....	300 lbs.	Special
740515	2 bolt, galvanized, for $\frac{1}{4}$ and $\frac{1}{2}$ in. strand..	315 lbs	Special

Universal Messenger Clamp

These clamps are especially adapted for use on corners as well as straight work on account of the shape of the groove. The bolts are heavy and made from high-tensile stock, so that the messenger strand can be clamped securely at each plate.



Universal

List No.		*List Price Each
1	$\frac{1}{2}$ x 2 in., galvanized.....	\$0.75
2	$\frac{3}{8}$ x $1\frac{1}{2}$ in., galvanized.....	.69

Curve Block

Curve blocks are for easing strand around corners and curves. The same block can be used on an in or out curve.



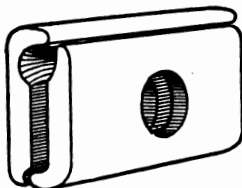
Curve Block

List No.		†List Price Each		List Price per 100	
		Plain	Galv.	Plain	Galv.
1	For $\frac{1}{2}$ in. strand.....	\$0.48	\$0.57	\$45.00	\$54.00
2	For $\frac{3}{8}$ in. strand.....	.38	.48	36.00	45.00
3	For $\frac{1}{4}$ in. strand.....	.29	.38	27.00	36.00

Messenger Clamp

ONE BOLT

$2\frac{1}{4}$ inches wide, $2\frac{1}{2}$ inches long, hole for $\frac{3}{8}$ inch bolt.

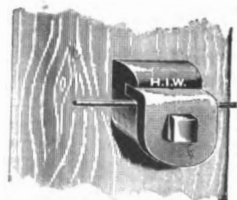


One Bolt Messenger Clamp

List No.		Weight per 100 Ft.	*List Price per 100 Ft.
740522	Galvanized.....	86 lbs.	\$19.80

No. 4 Messenger Support

This messenger support is intended for light cable work. One lag screw clamps messenger and fastens the support to the pole.

No. 4 Messenger Clamp
Line Construction Material

List No.		†List Price Each	List Price per 100
740523	Support for No. 4 B. W. G. wire or $\frac{1}{4}$ in. strand, plain.....	\$0.16	\$11.40
740524	Support for No. 4 B. W. G. wire or $\frac{1}{4}$ in. strand, galvanized.....	.23	15.96

*Delivery F. O. B. Pittsburgh, Pa. †Delivery F. O. B. Chicago, Ill.
For warehouse deliveries write nearest house.

SPACING BOLTS AND LAG SCREWS

Double Arming Bolts



Spacing Bolts

Furnished with 4 Nuts, No Washers

Size	Wt. Lbs. per 100	*List Price per 100 †Galv.	Size	Wt. Lbs. per 100	*List Price per 100 †Galv.	Size	Wt. Lbs. per 100	*List Price per 100 †Galv.
1/2 x 12.....	78.0	\$20.14	3/8 x 12.....	138.0	\$18.48	3/4 x 12.....	220.0	\$27.40
1/2 x 13.....	83.0	20.96	3/8 x 13.....	145.0	19.22	3/4 x 13.....	232.0	28.44
1/2 x 14.....	88.0	21.80	3/8 x 14.....	153.0	19.94	3/4 x 14.....	244.0	29.48
1/2 x 15.....	93.0	22.60	3/8 x 15.....	162.0	20.68	3/4 x 15.....	256.0	30.54
1/2 x 16.....	98.0	23.44	3/8 x 16.....	168.0	21.40	3/4 x 16.....	268.0	31.58
1/2 x 17.....	103.0	14.56	3/8 x 17.....	178.0	22.12	3/4 x 17.....	280.0	32.62
1/2 x 18.....	108.0	15.06	3/8 x 18.....	188.0	22.82	3/4 x 18.....	292.0	33.66
1/2 x 19.....	113.0	15.56	3/8 x 19.....	198.0	23.54	3/4 x 19.....	304.0	34.72
1/2 x 20.....	118.0	16.06	3/8 x 20.....	208.0	24.28	3/4 x 20.....	316.0	35.76

†Prices on plain bolts on application.

Standard Lag Screws

With Square Head and Gimlet Point

*Manufacturers' Standard List. In effect November 12, 1908.

List Price per 100. Special discounts on application.

Diameter

Length Inches	1/4 and 1/8 Inch	3/8 Inch	1/2 Inch	5/8 Inch	3/4 and 7/8 Inch	1 Inch	1 1/8 Inch	1 1/2 Inch
1 1/2.....	\$2.25	\$2.70	\$3.15	\$3.75	.....	.....	.....	.....
2.....	2.45	2.96	3.47	4.11	\$6.00	.....	.....	.....
2 1/2.....	2.65	3.22	3.79	4.47	6.50	\$9.20	.....	.....
3.....	2.85	3.48	4.11	4.83	7.00	9.90	\$15.00	.....
3 1/2.....	3.05	3.74	4.43	5.19	7.50	10.60	16.00	\$22.00
4.....	3.25	4.00	4.75	5.55	8.00	11.30	17.00	23.30
4 1/2.....	3.45	4.26	5.07	5.91	8.50	12.00	18.00	24.60
5.....	3.65	4.52	5.39	6.27	9.00	12.70	19.00	25.90
5 1/2.....	3.85	4.78	5.71	6.63	9.50	13.40	20.00	27.20
6.....	4.05	5.04	6.03	6.99	10.00	14.10	21.00	28.50
6 1/2.....	4.25	5.30	6.35	7.35	10.50	14.80	22.00	29.80
7.....	4.45	5.56	6.67	7.71	11.00	15.50	23.00	31.10
7 1/2.....	4.65	5.82	6.99	8.07	11.50	16.20	24.00	32.40
8.....	4.85	6.08	7.31	8.43	12.00	16.90	25.00	33.70
9.....	5.25	6.60	7.95	9.15	13.00	18.30	27.00	36.30
10.....	5.65	7.12	8.59	9.87	14.00	19.70	29.00	38.90
11.....	6.05	7.64	9.23	10.59	15.00	21.10	31.00	41.50
12.....	6.45	8.16	9.87	11.31	16.00	22.50	33.00	44.10
Adv. per in.	\$0.24	\$0.32	\$0.39	\$0.44	\$0.60	\$0.84	\$1.20	\$1.56

For Hexagon nuts, add 10 per cent.

Approximate Weight

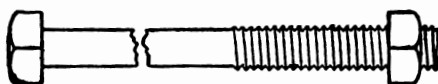
Weight in Pounds of 100 Bolts of Sizes Enumerated Below

Diameter

Length Inches	1/4 Inch	1/8 Inch	3/8 Inch	1/2 Inch	5/8 Inch	3/4 Inch	1 Inch	1 1/8 Inch	1 1/2 Inch	1 Inch
1 1/2.....	2.7	3.5	5.8	9.1	.....	.....	.....	.....	.....	.....
2.....	3.5	4.4	7.1	11.0	15.0	22.8	26.3	.....	.....	.....
2 1/2.....	4.2	5.3	8.5	12.9	17.3	25.3	29.9	.....	.....	.....
3.....	4.7	6.2	9.8	14.8	19.5	27.8	33.5	46.1	71.8	103.0
3 1/2.....	5.2	7.1	11.1	16.5	21.6	30.4	37.1	51.5	78.5	112.0
4.....	5.7	8.0	12.5	18.2	23.8	33.0	40.7	57.1	85.3	121.0
4 1/2.....	6.5	9.0	13.8	19.9	26.3	35.5	44.5	62.9	92.0	130.0
5.....	7.0	10.0	14.9	21.8	28.8	38.0	48.3	68.8	98.6	141.0
5 1/2.....	7.5	11.0	16.0	23.5	31.3	40.7	52.0	74.7	105.3	153.0
6.....	8.0	12.0	17.2	25.2	33.8	43.3	55.7	80.5	112.0	164.0
7.....	.....	.....	.....	.....	38.9	50.0	63.2	92.3	125.4	185.0
8.....	.....	.....	.....	.....	44.0	56.8	69.3	104.0	138.8	205.0
9.....	.....	.....	.....	.....	48.5	63.5	76.4	115.4	156.3	225.0

*Delivery F. O. B. Pittsburgh. For warehouse deliveries, write nearest house.

CROSSARM AND BRACE BOLTS



Crossarm Bolts

Standard Machine Bolts

With Square Heads and Square Nuts. Finished Points

*Manufacturer's Standard List. In Effect August 1, 1912.

Price per 100. Special Discounts on Application

Length Inches	Diameter								
	$\frac{1}{4}$ Inch	$\frac{3}{8}$ Inch	$\frac{1}{2}$ Inch	$\frac{3}{4}$ Inch	$\frac{1}{2}$ Inch	$\frac{3}{8}$ and $\frac{1}{2}$ Inch	$\frac{3}{4}$ Inch	$\frac{1}{2}$ Inch	$\frac{1}{4}$ Inch
$\frac{3}{4}$ to $1\frac{1}{2}$	\$1.70	\$2.00	\$2.40	\$2.80	\$3.60	\$5.20	\$7.70	\$10.50	\$15.10
2.....	1.78	2.12	2.56	3.00	3.86	5.58	8.25	11.20	16.00
$2\frac{1}{2}$	1.86	2.24	2.72	3.20	4.12	5.96	8.80	11.90	16.90
3.....	1.94	2.36	2.88	3.40	4.38	6.34	9.35	12.60	17.80
$3\frac{1}{2}$	2.02	2.48	3.04	3.60	4.64	6.72	9.90	13.30	18.70
4.....	2.10	2.60	3.20	3.80	4.90	7.10	10.45	14.00	19.60
$4\frac{1}{2}$	2.18	2.72	3.36	4.00	5.16	7.48	11.00	14.70	20.50
5.....	2.26	2.84	3.52	4.20	5.42	7.86	11.55	15.40	21.40
$5\frac{1}{2}$	2.34	2.96	3.68	4.40	5.68	8.24	12.10	16.10	22.30
6.....	2.42	3.08	3.84	4.60	5.94	8.62	12.65	16.80	23.20
$6\frac{1}{2}$	2.50	3.20	4.00	4.80	6.20	9.00	13.20	17.50	24.10
7.....	2.58	3.32	4.16	5.00	6.46	9.38	13.75	18.20	25.00
$7\frac{1}{2}$	2.66	3.44	4.32	5.20	6.72	9.76	14.30	18.90	25.90
8.....	2.74	3.56	4.48	5.40	6.98	10.14	14.85	19.60	26.80
9.....	2.90	3.80	4.80	5.80	7.50	10.90	15.95	21.00	28.60
10.....	3.06	4.04	5.12	6.20	8.02	11.66	17.05	22.40	30.40
11.....	3.22	4.28	5.44	6.60	8.54	12.42	18.15	23.80	32.20
12.....	3.38	4.52	5.76	7.00	9.06	13.18	19.25	25.20	34.00
13.....	.....	.....	6.08	7.40	9.58	13.94	20.35	26.60	35.80
14.....	.....	.....	6.40	7.80	10.10	14.70	21.45	28.00	37.60
15.....	.....	.....	6.72	8.20	10.62	15.46	22.55	29.40	39.40
16.....	.....	.....	7.04	8.60	11.14	16.22	23.65	30.80	41.20
17.....	.....	.....	.....	.....	11.66	16.98	24.75	32.20	43.00
18.....	.....	.....	.....	.....	12.18	17.74	25.85	33.60	44.80
19.....	.....	.....	.....	.....	12.70	18.50	26.95	35.00	46.60
20.....	.....	.....	.....	.....	13.22	19.26	28.05	36.40	48.40

The following extras are to be understood as a part of the above list: Bolts with hexagon heads or hexagon nuts, 10 per cent. extra. If both hexagon heads and hexagon nuts, 20 per cent. extra. Machine bolts when fitted with U. S. Standard Square Nuts, add 5 per cent. Machine bolts when fitted with U. S. Standard Hexagon Nuts, add 15 per cent.

Brace Bolts

Standard Carriage Bolts

*Manufacturer's Standard List, November 1, 1912

Price per 100. Special Discounts on Application

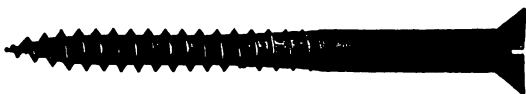
Length Inches	Diameter					
	$\frac{3}{16}$ and $\frac{1}{4}$ In.	$\frac{5}{16}$ Inch	$\frac{3}{8}$ Inch	$\frac{1}{2}$ Inch	$\frac{3}{8}$ and $\frac{1}{2}$ Inch	$\frac{1}{4}$ Inch
1.....	\$1.00	\$1.40	\$1.90	\$2.20	\$3.25	\$8.50
$1\frac{1}{2}$	1.00	1.40	1.90	2.20	3.25	8.50
2.....	1.10	1.52	2.06	2.40	3.25	8.50
$2\frac{1}{2}$	1.20	1.64	2.22	2.60	3.25	8.50
3.....	1.30	1.76	2.38	2.80	3.53	9.00
$3\frac{1}{2}$	1.40	1.88	2.54	3.00	3.81	9.50
4.....	1.50	2.00	2.70	3.20	4.09	10.00
$4\frac{1}{2}$	1.60	2.12	2.86	3.40	4.37	10.50
5.....	1.70	2.24	3.02	3.60	4.65	11.00
$5\frac{1}{2}$	1.80	2.36	3.18	3.80	4.93	11.50
6.....	1.90	2.48	3.34	4.00	5.21	12.00
$6\frac{1}{2}$	2.00	2.60	3.50	4.20	5.49	12.50
7.....	2.10	2.72	3.66	4.40	5.77	13.00
$7\frac{1}{2}$	2.20	2.84	3.82	4.60	6.05	13.50
8.....	2.30	2.96	3.98	4.80	6.33	14.00

Washers are not furnished with bolts. Bolts with hexagon nuts, 15 per cent. extra. Intermediate lengths take next longer list. Larger diameters take machine bolt list.

*Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries, write nearest house.

Line Construction Material

STANDARD WOOD SCREWS



Iron Wood Screws

List Price per Gross

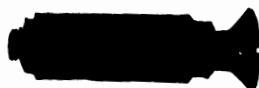
Note: The following varieties of iron screws are invoiced from this list at varying discounts: Flat, round, fillister and oval head screws, dowel, winged, headless, pinched, bung head and fellow screws, bright blued, nickel plated, silver plated, brassed, bronzed, coppered, japanned, lacquered, tinned and galvanized, also drive screws.

MANUFACTURER'S LIST

No.	List Price ¼ Inch	No.	List Price ⅜ Inch	No.	List Price ½ Inch	No.	List Price ⅝ Inch	No.	List Price ¾ Inch	No.	List Price ⅞ Inch	No.	List Price 1 Inch
0	\$0.72	0	\$0.72	1	\$0.72	1	\$0.72	2	\$0.72	2	\$0.74	3	\$0.80
1	.72	1	.72	2	.72	2	.72	3	.75	3	.78	4	.84
2	.72	2	.72	3	.72	3	.72	4	.78	4	.82	5	.87
3	.72	3	.72	4	.75	4	.75	5	.82	5	.85	6	.92
4	.72	4	.72	5	.78	5	.78	6	.85	6	.90	7	.98
		5	.75	6	.80	6	.82	7	.90	7	.94	8	1.05
		6	.78	7	.84	7	.86	8	.95	8	1.00	9	1.10
		7	.82	8	.90	8	.92	9	1.00	9	1.05	10	1.20
		8	.88	9	.96	9	.98	10	1.10	10	1.15	11	1.30
		9	.94	10	1.05	10	1.07	11	1.15	11	1.25	12	1.40
1¼ Inches				11	1.10	11	1.12	12	1.25	12	1.35	13	1.60
				12	1.20	12	1.20	13	1.35	13	1.45	14	1.70
3	\$0.88					13	1.25	14	1.50	14	1.55	15	2.00
4	.92	1½ Inches				14	1.30	15	1.65	15	1.75	16	2.50
5	.98			1¾ Inches				16	1.80	16	2.00	17	2.70
6	1.05	3	\$0.98									18	2.80
7	1.10	4	1.05			2 Inches						20	3.50
8	1.15	5	1.10	5	\$1.30			2¼ Inches		2½ Inches			
9	1.20	6	1.15	6	1.35	5	\$1.45	5	\$1.55	5	\$1.90		
10	1.30	7	1.20	7	1.45	6	1.50	6	1.60	6	2.00	2¾ Inches	
11	1.40	8	1.30	8	1.50	7	1.55	7	1.65	7	2.10	6	\$2.40
12	1.55	9	1.35	9	1.55	8	1.60	8	1.75	8	2.20	7	2.60
13	1.70	10	1.40	10	1.60	9	1.65	9	1.85	9	2.30	8	2.70
14	1.90	11	1.50	11	1.70	10	1.75	10	1.95	10	2.40	9	2.80
15	2.15	12	1.65	12	1.80	11	1.85	11	2.05	11	2.50	10	2.90
16	2.50	13	1.80	13	2.00	12	2.00	12	2.20	12	2.60	11	3.00
17	2.75	14	2.00	14	2.25	13	2.20	13	2.40	13	2.70	12	3.10
18	3.30	15	2.35	15	2.60	14	2.45	14	2.65	14	2.90	13	3.20
20	4.00	16	2.80	16	2.90	15	2.75	15	3.10	15	3.30	14	3.30
22	4.80	17	3.20	17	3.50	16	3.10	16	3.50	16	3.65	15	3.60
24	5.40	18	3.80	18	4.00	17	3.70	17	3.85	17	4.20	16	3.60
		20	4.30	20	4.50	18	4.20	18	4.55	18	4.70	17	4.50
		22	5.10	22	5.20	20	4.80	20	5.30	20	5.80	18	5.00
		24	5.90	24	6.00	22	5.50	22	6.10	22	6.70	20	6.10
						24	6.40	24	6.90	24	7.50	22	7.20
3 Inches		3½ Inches		4 Inches								24	8.50
6	\$2.95	8	\$3.90	8	\$4.90			4½ Inches		5 Inches		6 Inches	
7	3.00	9	4.00	9	5.10								
8	3.05	10	4.10	10	5.20	12	\$7.00	12	\$8.10	12	\$10.00		
9	3.10	11	4.20	11	5.30	13	7.20	13	8.30	13	10.30		
10	3.15	12	4.30	12	5.40	14	7.60	14	8.60	14	11.00		
11	3.20	13	4.40	13	5.60	15	7.85	15	9.10	15	11.60		
12	3.30	14	4.50	14	5.90	16	8.15	16	9.70	16	12.40		
13	3.40	15	4.75	15	6.20	17	8.60	17	10.10	17	13.00		
14	3.50	16	4.95	16	6.50	18	9.15	18	11.00	18	14.50		
15	3.80	17	5.40	17	7.00	20	9.85	20	11.50	20	16.00		
16	4.20	18	6.15	18	7.60	22	11.20	22	13.00	22	18.00		
17	4.80	20	7.30	20	8.60	24	13.50	24	15.00	24	20.00		
18	5.50	22	8.70	22	9.70	26	16.00	26	18.00	26	23.00		
20	6.50	24	10.20	24	11.20	28	18.50	28	21.00	28	27.00		
22	7.50	26	12.00	26	14.00	30	21.50	30	24.00	30	30.50		
24	8.70			28	16.00								
26	10.50			30	18.50								

KEYSTONE EXPANSION BOLTS
BRASS

Double Expansion Bolt



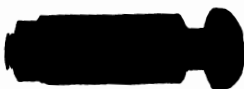
Double Expansion Bolt

Double Expansion Bolts—Brass

List Price per 100

Length in Inches	No. of Screw Sizes		
	$\frac{1}{4}$ In. No. 14	$\frac{1}{2}$ In. No. 18	$\frac{3}{4}$ In. No. 24
1 $\frac{1}{2}$	\$11.20		
1 $\frac{3}{4}$	11.60	\$13.20	
2	12.00	13.60	
2 $\frac{1}{4}$	12.40	14.00	\$22.00
2 $\frac{1}{2}$	12.80	14.40	22.40
2 $\frac{3}{4}$	13.60	14.80	23.20
3	1 $\frac{1}{2}$ ins.	1 $\frac{1}{2}$ ins.	2 $\frac{1}{2}$ ins.
Length of expansion	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.
Size hole to receive expansion	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.
Expansion shields only, per 100	\$9.20	\$10.40	\$16.00

NOTE: $\frac{1}{2}$ inch, $\frac{3}{4}$ inch or $\frac{1}{4}$ inch to order. If bolts require brass sleeves they will be extra, according to length. Nickel-plated heads extra.



Single Expansion Bolt



Single Expansion Bolt

Single Expansion Bolts—Brass

List Price per 100

Length in Inches	No. of Screw Sizes			
	$\frac{1}{4}$ In. No. 9 or 10	$\frac{1}{2}$ In. No. 12 or 14	$\frac{3}{4}$ In. No. 18	$\frac{1}{2}$ In. No. 24
$\frac{1}{4}$	\$8.80			
1	6.88	\$8.80		
1 $\frac{1}{4}$	6.96	9.20		
1 $\frac{1}{2}$	7.12	9.60	\$10.80	\$16.40
1 $\frac{3}{4}$	7.20	10.00	11.20	16.80
2	7.36	10.40	11.60	17.20
2 $\frac{1}{4}$	7.52	10.80	12.00	17.60
2 $\frac{1}{2}$		11.20	12.40	18.00
2 $\frac{3}{4}$		11.60	12.80	18.40
3		12.00	13.20	19.20
Length of expansion	$\frac{1}{2}$ in.	1 in. - 1 $\frac{1}{2}$ ins.	1 $\frac{1}{2}$ ins.	1 $\frac{1}{4}$ - 1 $\frac{1}{2}$ ins.
Size hole to receive expansion	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.
Expansion shields only, per 100	\$6.40	\$7.60	\$8.80	\$12.00

NOTE: $\frac{1}{2}$ inch, $\frac{3}{4}$ inch or $\frac{1}{4}$ inch to order.



Style M



Style E

Split Pipe Brass Expansion Bolts

List Price per 100

Length in Inches	No. of Screw Sizes		Length in Inches	No. of Screw Sizes	
	$\frac{1}{4}$ In. No. 10	$\frac{1}{2}$ In. No. 14		$\frac{1}{4}$ In. No. 10	$\frac{1}{2}$ In. No. 14
$\frac{1}{4}$	\$6.80		2 $\frac{1}{4}$		
1	6.88	\$8.80	2 $\frac{3}{4}$		
1 $\frac{1}{4}$	6.96	9.20	3		
1 $\frac{1}{2}$	7.12	9.60	Length of expansion	$\frac{1}{4}$ - 1 $\frac{1}{2}$ ins.	
1 $\frac{3}{4}$	7.20	10.00	Size hole to receive expansion	$\frac{1}{2}$ in.	
2	7.36	10.40	Shields only, per 100	\$5.60	
2 $\frac{1}{4}$	7.52	10.80			

NOTE: Furnished with either round or countersunk heads. $\frac{1}{4}$ inch and $\frac{1}{2}$ inch stock sizes. Other sizes to order. Style E shows Style M with the addition of pipe sleeves. The space between the head of bolt and pipe sleeves representing the thickness of article to be fastened to wall.

Delivery F. O. B. Factory, Garwood, N. J. For warehouse deliveries write nearest house.

Line Construction Material

44-1

KEYSTONE DOUBLE MACHINE EXPANSION BOLTS



Expansion Bolt

Double Machine Expansion Bolts

PRICE PER HUNDRED—SQUARE HEAD BOLTS

Length, Inches	$\frac{1}{4}$ In.	$\frac{5}{16}$ In.	$\frac{3}{8}$ In.	$\frac{7}{16}$ In.	$\frac{1}{2}$ In.	$\frac{5}{8}$ In.	$\frac{3}{4}$ In.	$\frac{7}{8}$ In.	1 In.
1 $\frac{3}{4}$	\$4.48								
2	4.50	\$5.00							
2 $\frac{1}{2}$	4.54	5.04	\$6.20						
3	4.56	5.06	6.26	\$8.30	\$10.00				
3 $\frac{1}{2}$	4.58	5.08	6.50	8.40	10.08	\$13.64			
4	4.60	5.10	6.66	8.50	10.16	13.76	\$20.00		
4 $\frac{1}{2}$	4.64	5.14	6.90	8.64	10.24	13.88	20.16		
5	4.66	5.16	6.96	8.76	10.30	14.00	20.30	\$26.00	
5 $\frac{1}{2}$	4.68	5.18	7.00	8.88	10.38	14.14	20.46	26.22	\$37.24
6	4.70	5.20	7.06	9.00	10.46	14.26	20.60	26.44	37.50
6 $\frac{1}{2}$			7.10	9.06	10.54	14.38	20.76	26.66	37.78
7			7.16	9.10	10.60	14.50	20.90	26.86	38.06
7 $\frac{1}{2}$			7.20	9.16	10.68	14.64	21.06	27.08	38.34
8			7.26	9.20	10.76	14.76	21.20	27.30	38.60
9					10.84	14.88	21.36	27.52	38.88
10					10.90	15.00	21.50	27.72	39.16
11					11.00	15.26	21.76	28.00	39.50
12					11.76	15.50	22.00	28.50	40.00
Expansion shells only, 100	4.00	4.50	5.50	7.50	9.00	12.00	17.50	22.00	31.50
Length of Expansion, ins.	1 $\frac{1}{2}$	1 $\frac{1}{8}$	2 $\frac{3}{8}$	2 $\frac{1}{2}$	2 $\frac{5}{8}$	3 $\frac{1}{4}$	4	4 $\frac{3}{4}$	5
Size hole to receive Expansion, ins.	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{11}{16}$	$\frac{3}{8}$	$\frac{7}{8}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$

In addition to the above, we furnish, for extra heavy anchorages, Keystone Bolts of the following sizes:

LIST PER HUNDRED—LARGER THAN 1 INCH IN DIAMETER

Length, Inches	1 $\frac{1}{2}$ In.	1 $\frac{3}{4}$ In.	1 $\frac{1}{2}$ In.
Shields only	\$70.00	\$75.00	\$110.00
7	86.00	96.00	142.00
7 $\frac{1}{2}$	86.76	97.00	143.00
8	87.50	98.00	144.00
9	89.00	100.00	147.50
10	90.50	102.00	151.00
11	92.00	104.00	154.00
12	93.50	106.00	157.00
13	95.00	108.00	160.00
14	96.50	110.00	163.00
15	98.00	112.00	166.00
16	99.50	114.00	169.50
17	101.00	116.00	172.50
18	102.50	118.00	176.00
Length of Expansion, inches	6 $\frac{1}{4}$	6 $\frac{1}{4}$	7 $\frac{1}{2}$
Size of hole to receive Expansion, inches	2 $\frac{1}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{2}$

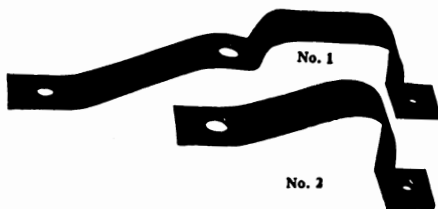
For longer bolts make same advance as on longest bolt listed.

Delivery F. O. B. Factory, Garwood, N. J. For warehouse deliveries write nearest house.

EXPANSION BOLTS AND SAFETY CLAMPS



"Peirce" Expansion Bolt



Safety Clamps

Diamond Safety Clamps

The No. 1 Safety Clamp has an arm projecting above the clamped bolt so as to give increased hold by the additional drive-screw in the upper hole.

The No. 2 Clamp is furnished without the upper extension, and is used where crossarms or other obstruction may prevent the use of No. 1.

List No.		List Price per 100
1	Safety Clamp, galvanized	\$28.80
2	Safety Clamp, galvanized	21.60

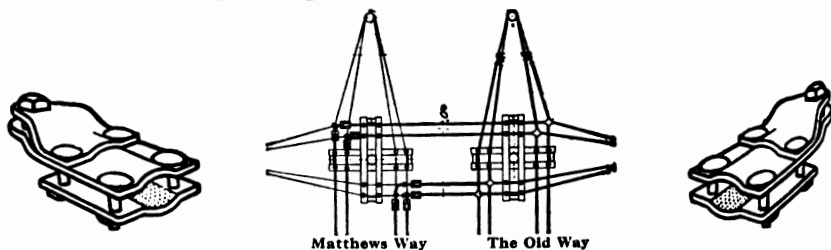
Peirce Expansion Bolts

List No.	Size	List Price per 100	List No.	Size	List Price per 100
1	$\frac{1}{4}$ x $1\frac{1}{2}$ ins.	\$4.80	10	$\frac{3}{8}$ x $5\frac{1}{2}$ ins.	\$12.16
2	$\frac{1}{4}$ x 2 ins.	4.96	11	$\frac{1}{2}$ x $2\frac{1}{2}$ ins.	12.96
3	$\frac{1}{4}$ x $2\frac{1}{4}$ ins.	5.10	12	$\frac{1}{2}$ x $3\frac{1}{2}$ ins.	14.24
4	$\frac{1}{4}$ x $3\frac{1}{4}$ ins.	6.00	13	$\frac{1}{2}$ x 4 ins.	14.88
5	$\frac{3}{8}$ x $2\frac{1}{2}$ ins.	8.40	14	$\frac{1}{2}$ x $4\frac{1}{2}$ ins.	15.52
6	$\frac{3}{8}$ x 3 ins.	8.86	15	$\frac{1}{2}$ x 5 ins.	16.16
7	$\frac{3}{8}$ x $3\frac{1}{2}$ ins.	9.60	16	$\frac{1}{2}$ x $5\frac{1}{2}$ ins.	16.80
8	$\frac{3}{8}$ x $4\frac{1}{2}$ ins.	10.89	17	$\frac{1}{2}$ x 6 ins.	18.08
9	$\frac{3}{8}$ x 5 ins.	11.56	18	$\frac{1}{2}$ x 8 ins.	20.16

EXTRA LEAD SLEEVES

Size	List Price per 100	Size	List Price per 100	Size	List Price per 100
$\frac{1}{4}$ in.	\$1.66	$\frac{3}{4}$ in.	\$2.70	$\frac{1}{2}$ in.	\$3.32

MATTHEWS CABLE ACCESSORIES



Matthews Cable Clamp

No splice can be made in power cable that will be as good as the solid cable. The Matthews Cable Clamp is made to grip the cable so that the strain of it will be carried through the clamp to the crossarm and down the guy wire. This eliminates spliced joints at corner turns and where cable enters conduit of underground construction and at fuse junction poles where there are controlling switches. They also save all of the cable back of the splice. 75 per cent. to 85 per cent. can be saved on material by using Matthews Cable Clamps. They create no line loss.

A comparison of the old method and the Matthews method is shown above. The clamp is used on the corner at the left. Note the great waste of expensive cable where the old method is used at the right.

Matthews Cable Clamp is made in one size only to fit all cables from 3/0 to 2000000 C. M. It is not intended for use on lead covered cables.

List No.	Description	Wt. per 100	List Price Each		
740509	For all Cables larger than 00 up to and including 2000000 C. M.	425 lbs.	Less than 25	25 to 49	50 or more
	For galvanizing, add 10 cents per clamp to net prices.		\$2.20	\$2.10	\$2.00

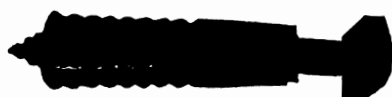
The above prices are for points east of Pacific Coast States. For Pacific Coast points, add 9 cents to net prices.

Line Construction Material

44-3 & 49

EXPANSION BOLTS

Expansion Bolts and Shields



Shield with Screw



Shield

MALLEABLE SHIELDS

Dimensions, Malleable Shields Only

Dia. of screw	1/4 in.	1/2 in.	3/8 in.	1/2 in.	5/8 in.	3/4 in.	7/8 in.	1 in.	1 1/4 in.
Outside dia. shield.	1/2 in.	3/4 in.	5/8 in.	1 in.	1 1/8 in.	1 1/4 in.	1 1/2 in.	1 3/4 in.	1 7/8 in.
Length of shield . . .	1 1/2 in.	1 3/4 in.	2 1/4 in.	2 3/4 in.	3 1/2 in.	3 3/4 in.	5 in.	5 in.	8 in.
Dia. drill required . .	1/2 in.	3/4 in.	5/8 in.	1 in.	1 1/8 in.	1 1/4 in.	1 1/2 in.	1 3/4 in.	1 7/8 in.

List Price per 100 Shields Without Lag Screws

Dia. of screw	1/4 in.	1/2 in.	3/8 in.	1/2 in.	5/8 in.	3/4 in.	7/8 in.	1 in.	1 1/4 in.
List price per 100.	\$5.36	\$6.00	\$7.62	\$10.14	\$12.54	\$15.86	\$22.78	\$30.40	\$37.98

List Price per 100 Shields With Square Head Lag Screws

Length, Inches	1 1/2	2	2 1/2	3	4	5	6	7	8	9
1 1/2	\$5.78	\$6.64	.....	.....	.....	.....	.....	.....	.....	.....
2	6.20	6.66	.....	.....	.....	.....	.....	.....	.....	.....
2 1/2	6.28	6.78	\$9.08	\$11.58	\$13.78	\$18.08	\$27.54	.....	.....	.....
3	6.44	6.84	9.18	11.70	13.94	18.30	27.86	.....	.....	.....
4	6.58	7.04	9.36	11.86	14.46	18.76	28.50	.....	.....	.....
5	6.78	7.22	9.64	12.08	14.78	19.26	29.12	.....	.....	.....
6	6.96	7.42	9.90	12.28	15.08	19.74	29.76	\$39.28	\$45.36	.....
7	.....	7.60	10.08	12.44	15.40	20.20	30.40	39.90	46.56	.....
8	.....	.....	10.26	12.64	15.72	20.68	31.04	40.54	47.70	\$99.44
9	.....	.....	.....	12.84	16.02	21.16	31.68	41.16	48.90	103.24

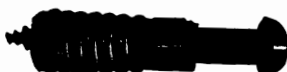
Ten per cent. extra for hexagon heads. In figuring lists for longer bolts than those given above, make same advance per inch as on list.

NOTE: Standard package of all type shields or shield and screws is 100.

COMPOSITION SCREW ANCHORS

With Brass Screws

The following list covers anchors not over 1 inch in length complete with flat, round or oval head brass screws.



Anchor with Screw



Anchor

Diameter of Anchor	Length of Anchor	No. of Screw	List Price per 100—Length of Screw				
			1/2 In.	1 In.	1 1/2 Ins.	2 Ins.	2 1/2 Ins.
1/8 in.	1/2, 5/8, 3/4 in.	5-6-7-8	\$4.40	\$4.48	\$5.40	\$6.84	\$9.62
1/4 in.	1/2, 3/4, 1 in.	9-10-11	5.70	6.12	6.84	7.92	10.34
3/8 in.	1/2, 3/4, 1 in.	12-13-14	6.92	7.56	8.72	10.02	11.60
1/2 in.	3/4, 1 in.	15-16-17-18	8.82	9.72	12.14	14.30	16.38

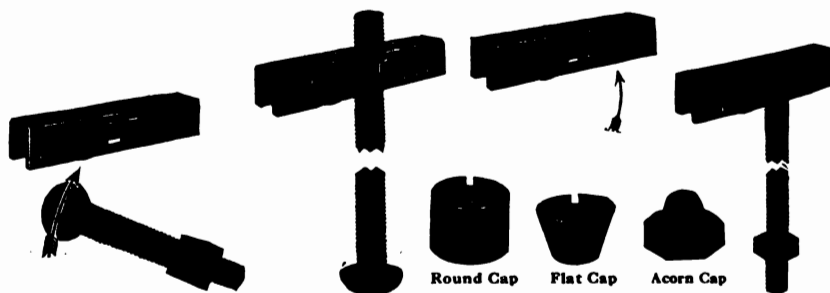
NOTE: Standard package of all type shields or shields and screws is 100.

ONE PART DIAMOND EXPANSION SHIELDS

Composition

List No.	No. Inches	No. of Screw	Length of Shield	Outside Diam.	List Price per 100	List No.	No. Inches	No. of Screw	Length of Shield	Outside Diam.	List Price per 100
740224	1/8 x 1 1/2	5-6-7-8	1 1/2	1/4	\$4.40	740234	1/4 x 1	12-13-14	1	3/8	\$5.60
744225	1/8 x 3/4	5-6-7-8	5/8	1/4	4.40	740235	1/4 x 1 1/2	12-13-14	1 1/2	3/8	6.75
740226	1/8 x 5/8	5-6-7-8	3/4	1/4	4.40	740236	1/4 x 2	12-13-14	2	3/8	7.80
740227	1/4 x 1/2	9-10-11	1 1/2	1/4	5.00	741540	1/4 x 2 1/2	12-13-14	2 1/2	3/8	8.95
740228	1/4 x 3/4	9-10-11	1 3/4	1/4	5.00	741541	1/4 x 3	15-16-17-18	3	1/2	6.25
740229	1/4 x 1	9-10-11	1	1/2	5.00	741542	1/4 x 1	15-16-17-18	1	1/2	6.25
740230	1/4 x 1	9-10-11	1	1/2	5.00	741573	1/4 x 1 1/2	15-16-17-18	1 1/2	1/2	7.20
740231	1/4 x 1 1/2	9-10-11	1 1/2	1/2	6.25	741473	1/4 x 1 1/2	15-16-17-18	1 1/2	1/2	7.50
740232	1/4 x 1 1/2	12-13-14	1 1/2	1/2	5.60	741474	1/4 x 2	15-16-17-18	2	1/2	8.75
740233	1/4 x 1 1/2	12-13-14	1 1/2	1/2	5.60						

TOGGLE BOLTS



Diamond Reversible Toggle Bolts

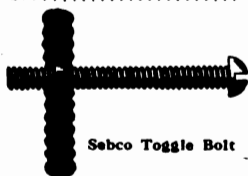
They are particularly designed for making quick and permanent fastenings to hollow tile, hollow cement blocks, walls constructed of expanded metal or wood lathes. Can be used with either the finished stove bolt head or the nut exposed or with loose ornamental cap nuts.

First: Insert round head of stove bolt through the grooves in sides of toggle and it is ready for use with the nut at the outside of the work.

Second: Insert the nut through slot in sides of toggle head and turn the thread of stove bolt into the nut. The toggle is then ready for use with a finished stove bolt head at the outside of the work exposed to view.

Third: Diamond toggles are also furnished with long threaded rods as listed below with loose ornamental brass or nickel plated on brass cap nuts, round, flat or acorn.

		List Price per Hundred							
With Screws		List With Round or Flat Head Stove Bolts		List With Loose Head Plain Brass		List With Loose Head Nickel Plate			
No.	Size	No.		No.		No.		No.	
☆ x 3	ins.	741543	\$4.50	741553	\$5.00	741563	\$6.00		
☆ x 3 1/2	ins.	741544	4.70	741554	5.20	741564	6.20		
☆ x 4	ins.	741545	5.00	741555	5.40	741565	6.40		
☆ x 5	ins.	741546	5.20	741556	5.80	741566	6.80		
☆ x 6	ins.	741547	5.70	741557	6.20	741567	7.20		
1/4 x 3	ins.	741548	6.10	741558	6.60	741568	7.80		
1/4 x 3 1/2	ins.	741549	6.50	741559	7.00	741569	8.20		
1/4 x 4	ins.	741550	6.90	741560	7.40	741570	8.60		
1/4 x 5	ins.	741551	7.90	741561	8.40	741571	9.60		
1/4 x 6	ins.	741552	8.50	741562	9.60	741572	10.80		



Sebco Toggle Bolt



Ajax Toggle Bolt

Sebco Toggle Bolts

SEBCO NO. 1 TOGGLE

		List Price per 100	
		With Round or Flat Head Machine Screws	
List No.	Size		
740301	☆ x 3	\$7.50	
740302	☆ x 3 1/2	8.00	
740303	☆ x 4	8.50	
740304	☆ x 5	9.25	
740305	☆ x 6	10.00	
740306	1/4 x 3	8.50	
740307	1/4 x 3 1/2	9.00	
740308	1/4 x 4	9.50	
740309	1/4 x 5	10.25	
740310	1/4 x 6	11.00	

SEBCO NO. 2 TOGGLE

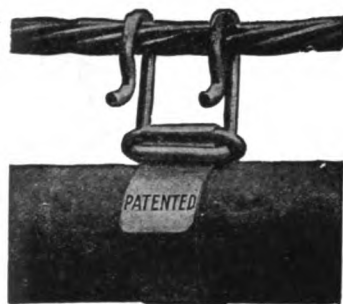
		List Price per 100	
		With Round or Flat Head Machine Screws	
List No.	Size		
741475	☆ x 3	\$5.20	
741476	☆ x 3 1/2	5.60	
741477	☆ x 4	5.90	
741478	☆ x 4 1/2	6.10	
741479	☆ x 5	6.40	
741480	☆ x 6	6.90	
741481	1/4 x 3	5.90	
741482	1/4 x 3 1/2	6.20	
741483	1/4 x 4	6.60	
741484	1/4 x 4 1/2	6.85	
741485	1/4 x 5	7.10	
741486	1/4 x 6	7.60	

Ajax Toggle Bolts

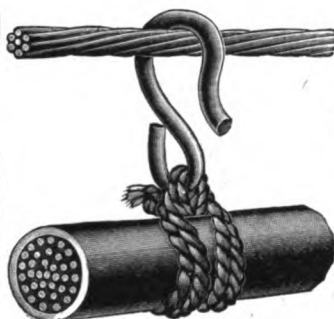
		List Price per 100	
		With Round or Flat Head Machine Screws	
List No.	Size		
740295	☆ x 3 ins.	\$2.88	
740296	☆ x 4 ins.	3.06	
740297	☆ x 6 ins.	3.42	

Construction Material

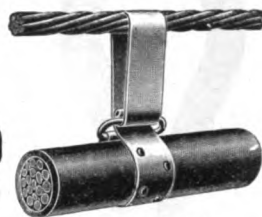
CABLE HANGERS



Boston Cable Clip



Marlin Cable Hanger



Metropolitan Cable Clip
Type A

Boston Cable Clip

Furnished with two sizes of Hooks

No. 1 for ¼ inch Messenger Wire; No. 4 for ½ inch Messenger Wire

List No.	Mfr. No.	Length of Strap	Hook No.	*List Price	
				Per 100	Per 1000
740569	1	6 ins.	1	\$7.60	\$64.00
740570	2	7 ins.	1	7.60	64.00
740571	3	8 ins.	1	7.60	64.00
740572	4	6½ ins.	4	7.60	64.00
740573	5	6½ ins.	1	7.60	64.00

Marlin Cable Hanger

No. 1 Grade

No. 1 grade is an excellent hanger, quality of hemp not quite as good as No. 3. Hooks are made from No. 9 galvanized steel wire.

List No.	Size	Length of Loop	Hook No.	Material	Weight Per 1000	†List Price per 1000
740574	25 pair	9 ins.	9	2-ply Marlin	30 lbs.	\$14.18
740575	50 pair	11 ins.	9	2-ply Marlin	33 lbs.	14.86
740576	75 pair	12 ins.	9	2-ply Marlin	34 lbs.	15.56
740577	100 pair	14 ins.	9	3-ply Houseline	40 lbs.	17.48
740578	150 pair	15 ins.	9	3-ply Houseline	42 lbs.	18.58
740579	200 pair	16 ins.	9	3-ply Houseline	44 lbs.	19.40

No. 3 Grade

No. 3 Grade Marlin Cable Hanger is made in accordance with A. T. & T. Co.'s specifications. The marlin used is 3-ply and is made of the finest quality of selected long line American hemp. The hooks are of No. 9 wire, galvanized by hot dip process after they are formed.

List No.	Size	Length of Loop	Hook No.	Material	Weight Per 1000	†List Price per 1000
740580	25 pair	9 ins.	9	3-ply Houseline	35 lbs.	\$18.86
740581	50 pair	11 ins.	9	3-ply Houseline	37 lbs.	20.50
740582	75 pair	12 ins.	9	3-ply Houseline	38 lbs.	21.32
740583	100 pair	14 ins.	9	3-ply Houseline	40 lbs.	22.98
740584	150 pair	15 ins.	9	3-ply Houseline	42 lbs.	23.80
740585	200 pair	16 ins.	9	3-ply Houseline	45 lbs.	24.62

Metropolitan Cable Clip

Will stand 400 lbs. strain. The steel wire loop is heavily galvanized and the band which encircles both cable and supporting strand is of zinc.

List No.	Type A	*List Price per 1000	List No.	Type B	*List Price per 1000
740592	7 inches	\$60.00	740593	7 inches	\$56.00
741783	8 inches	66.00	741785	9 inches	66.00
741784	9 inches	72.00			

*Delivery F. O. B. Boston, Mass. †Delivery F. O. B. Cleveland, O. For warehouse deliveries, write nearest house.

CABLE ACCESSORIES



Crimping Pliers

STYLE A CRIMPING PLIERS

These pliers are for clamping rings to suspension strand. They are made in two sizes. The small size is for rings 2 inches inside diameter and smaller; the large size for 2½ inches and greater.

List No.	Style	List Price Each
741644	A Small size for rings 2 inches and smaller.....	\$3.00
741645	B Large size for rings 2½ inches and greater.....	4.00

Note: When ordering state size of strand: ⅜ inch, ½ inch, ⅝ inch or special size.

DIAMOND CRIMPER

List No.	List Price Each
741659	Crimper complete with three sets of jaws.....



Crimper



Type "A"



Type "B"



Type "C"



Type "D"

Galvanized Aerial Cable Rings

Made of steel heavily and smoothly galvanized after forming. They are placed on the strand by a line-man, seated in a cable car or boatswain's chair.

A tool called a crimping plier is used to fasten them to the strand and the cable is then pulled into the suspended rings.

The inside diameter of ring should be from ½ to ¾ inch greater than the outside diameter of cable to be installed.

List No.	Size, Inches Inside Diameter	*List Price Per 100 Per 1000
740969	1¾ in. Type A Cable Rings	\$1.80 \$12.00
740970	1¾ in. Type B Cable Rings	1.95 13.00
740971	2 in. Type C and D Cable Rings	2.33 15.50

List No.	Size, Inches Inside Diameter	*List Price Per 100 Per 1000
740972	2½ in. Type C and D Cable Rings	\$2.70 \$18.00
740973	3 in. Type C and D Cable Rings	3.00 20.00
740974	3½ in. Type C and D Cable Rings	3.60 24.00



Cable



Combination

Peirce Cable Rings

CABLE

Width of strap, ½ inch; diameter of eye, 1½ inch

List No.	Weight per 100	*List Price per 100 Without Bolt	With Bolt
740156	Peirce Cable Ring..... 15¾ lbs.	\$2.98	\$6.24

COMBINATION

Width of strap, ¾ inch; diameter of eye, 1½ inch

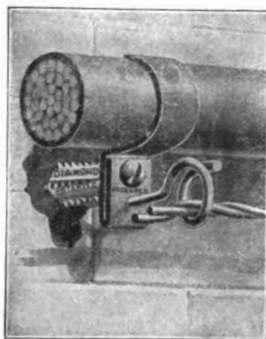
List No.	Weight per 100	*List Price per 100 Without Bolt	With Bolt
740157	Combination Cable Ring.. 11 lbs.	\$4.20	\$7.46

*Delivery F. O. B. Boston, Mass. write nearest house.

Line Construction Material

†Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries

CONSTRUCTION MATERIAL



Cable Clamp

"Long-Saut" Combination Cable Clamp

For attaching telephone cables and bridle wires with one fastening to brick or wood buildings, fences, etc.

List No.	No.	Outside Diam. of Cables	*List Price per 100	List No.	No.	Outside Diam. of Cables	*List Price per 100
740158	00000	$\frac{3}{8}$	\$2.22	740165	2	$1\frac{1}{8}$	\$7.82
740159	0000	$1\frac{1}{8}$	2.56	740166	3A	$1\frac{1}{4}$	9.18
740160	000	$1\frac{1}{2}$	2.70	740167	3	$1\frac{1}{2}$	9.18
740161	00	$\frac{5}{8}$	3.02	740168	4A	$1\frac{3}{4}$	9.62
740162	0	$1\frac{1}{8}$	6.02	740169	4	2	9.62
740163	1	$1\frac{1}{4}$	6.76	740170	5	$2\frac{3}{8}$	18.00
740164	2A	1	7.66				

Bridle Rings with Machine Threads to Fit Clamps

Sold Separately

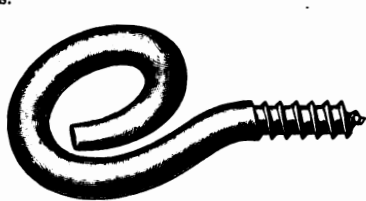
List No.	Size	No. 10 Wire.	in. eye.	—*List per 100—	Brass	Galvanized
741498	Size K	No. 10 Wire.	$\frac{3}{4}$ in. eye.	\$3.42	\$1.38	
741499	Size M	No. 10 Wire.	$1\frac{1}{4}$ in. eye.	4.40	1.44	

Diamond Expansion Shields or Screw Anchors to Attach Clamps

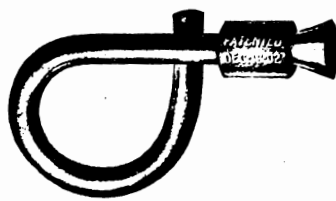
For Nos. 4-0, 3-0 and 2-0 use $\frac{1}{8}$ x 1 inch anchors, with No. 10 x 1 inch R. H. galvanized wood screws.

For Nos. 0, 1, 2 and 2A use $\frac{1}{4}$ x 1 inch anchors, with No. 14 x $1\frac{1}{4}$ inch R. H. galvanized wood screws.

For Nos. 3A, 3, 4A, 4 and 5 use $\frac{1}{4}$ x $1\frac{1}{2}$ inch anchors, with No. 14 x $1\frac{3}{4}$ inch R. H. galvanized wood screws.



Bridle Ring



Expansion Ring Bolt

Bridle Rings

Are for the carriage and distribution of wires. Due to the superior process of enameling, no chafing of the wires, absolute smoothness, perfect insulation, and proof against rust are points of distinction.

List No.	Mfr. No.	Style	Inside Diam. of Eye	Width of Opening	Length of Stem Under Ring	Std. Pkg.	—*List Price per 1000—	Enamel	Galvanized
740171	A		$1\frac{1}{8}$	$\frac{1}{4}$	$1\frac{1}{4}$	500	\$62.50	\$17.75	
740172	C		$1\frac{1}{4}$	$\frac{1}{4}$	$1\frac{1}{4}$	500	57.50	15.23	
740173	E		$\frac{5}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	1000	37.50	7.58	
740174	F		3	$\frac{1}{4}$	$1\frac{1}{4}$	Assorted	110.00	50.00	

Enamelled furnished unless otherwise ordered.

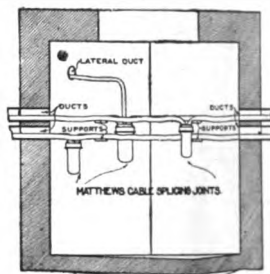
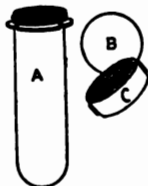
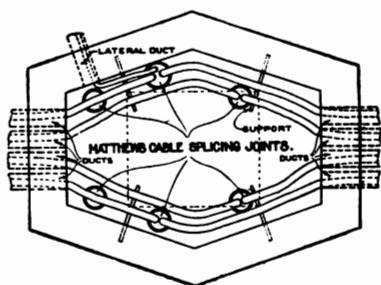
Peirce Expansion Ring Bolts

List No.	in. size.	†List Price per 100	List No.	in. size.	†List Price per 100
740178	$\frac{3}{4}$ in. size.	\$4.54	740180	$1\frac{1}{4}$ in. size.	\$5.72
740179	1 in. size.	5.18	740181	$1\frac{3}{4}$ in. size.	6.66

Ring bolt requires $\frac{1}{2}$ inch hole, 1 inch deep.

*Delivery F. O. B. New York. †Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries write nearest house.

MATTHEWS CABLE SPLICING JOINTS



Splicing Joints

This device is designed to take the place of horizontal splices in multiconductor lead-covered cables, and is adapted particularly for underground manholes. The joint consists of three parts as shown in the illustration: "A," lead pot or sleeve, which is lined with galvanized iron to insure stability, and sweated to a threaded brass ring; "C," brass collar internally threaded to fit ring and tinned on upper edges; "B," lead gasket through which cables pass. In attaching, the cables are "wiped in" and the lead sleeve is screwed into the brass collar "C" by means of the spanner wrenches. The threads of ring "A" are well coated with red lead before screwing into collar "C." The completed splice is absolutely moistureproof, and is readily accessible for line tests or change in multiples. Any lineman can learn to make an absolutely moisture-proof cable joint after an hour's practice on the directions that are furnished with them, avoiding delay in case skilled cable splicers are not obtainable. Matthews Splicing Joints will save their cost in the reduction of maintenance expenses each year.

List No.	Mfr. No.	Description	List Price Each			Not Additions for Delivery on Pacific Coast
			Less than 25	25 to 49	50 or more	
740594	1	Will take for straightaway splice any cable up to and including 1 inch, outside diameter, for each cable. Weight, 3 lbs., inside dimensions, $2\frac{1}{4}$ x 8 inches.	\$4.80	\$4.56	\$4.40	\$0.06
740595	2	Will take for straightaway splice any cable up to and including $1\frac{1}{2}$ inches, outside diameter, for each cable. Weight, 4 lbs., inside dimensions, $3\frac{1}{8}$ x 8 inches.	6.00	5.70	5.50	.08
740596	3	Will take for straightaway splice any cable up to and including $2\frac{1}{8}$ inches, outside diameter, for each cable. Weight, $7\frac{1}{2}$ lbs., inside dimensions, $4\frac{3}{8}$ x 9 inches.	9.60	9.12	8.80	.15
740597	4	Will take for straightaway splice any cable up to and including $2\frac{3}{4}$ inches, outside diameter, for each cable. Weight, 15 lbs., inside dimensions, $5\frac{1}{4}$ x $11\frac{1}{8}$ inches.	15.00	14.24	13.74	.30

SPANNER WRENCHES

List No.	For Joint No.	Description	List Price Each	Not Additions for Delivery on Pacific Coast
740598	1	Wrench only.	\$1.00	\$0.00
740599	2	Wrench only.	1.10	.00
740600	3	Wrench only.	1.50	.00
740601	4	Wrench only.	1.50	.00

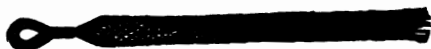
Spanner Wrenches will only fit the joint for which they are made. Quantities and assortment of various sizes of joints.

Line Construction Material

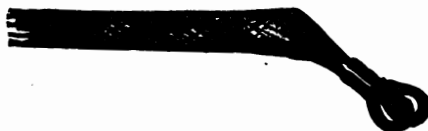
CABLE GRIPS



Universal Leather Collar Protector



Universal Single Eye Cable Grip



Universal Double Eye Cable Grip



Universal Double Eye Split Cable Grip

Universal Cable Grips

These cable grips are made in three different styles, as shown in illustrations. The single eye grip is used for attaching the pulling line to the end of the aerial or underground cable.

The double eye grip is designed for a luffing tool, to pull additional cable into a manhole after the single eye grip has been removed. It is invaluable for pulling out old underground cable, leaving it in the best of condition for future use.

The double eye split grip can be lashed on a working cable at any desired point, allowing slack to be pulled without interruption to the service. To determine size of Universal Cable Grips to order, refer to table of measurements.

Table of Measurements

Cable Grip Size	Cable Diameter, Inches	Cable Grip Size	Cable Diameter, Inches
$\frac{1}{2}$ in.	For $\frac{1}{2}$ in. to $\frac{3}{8}$ in.	2 in.	For 2 in. to $2\frac{3}{4}$ in.
$\frac{3}{4}$ in.	For $\frac{3}{4}$ in. to $\frac{1}{2}$ in.	$2\frac{1}{2}$ in.	For $2\frac{1}{2}$ in. to $2\frac{3}{4}$ in.
1 in.	For 1 in. to $1\frac{1}{8}$ in.	3 in.	For 3 in. to $3\frac{3}{4}$ in.
$1\frac{1}{2}$ in.	For $1\frac{1}{2}$ in. to $1\frac{1}{8}$ in.		

List Prices and Data

Single Eye Grip			Single Eye Grip		
List No.	Size	*List Price Each	List No.	Size	*List Price Each
741500	$\frac{1}{2}$ x 24 ins.	\$3.00	741507	$\frac{1}{2}$ x 36 ins.	\$5.00
741501	$\frac{3}{4}$ x 24 ins.	3.50	741508	$\frac{3}{4}$ x 36 ins.	5.50
741502	1 x 24 ins.	4.00	741509	1 x 36 ins.	6.00
741503	$1\frac{1}{2}$ x 24 ins.	4.50	741510	$1\frac{1}{2}$ x 36 ins.	6.50
741504	2 x 24 ins.	5.00	741511	2 x 36 ins.	7.00
741505	$2\frac{1}{2}$ x 24 ins.	5.50	741512	$2\frac{1}{2}$ x 36 ins.	7.50
741506	3 x 24 ins.	6.00	741513	3 x 36 ins.	8.00
Double Eye Grip			Double Eye Split Grip		
List No.	Size	*List Price Each	List No.	Size	*List Price Each
741514	$\frac{3}{4}$ x 18 ins.	\$5.00	741520	$\frac{3}{4}$ x 18 ins.	\$6.00
741515	1 x 18 ins.	6.00	741521	1 x 18 ins.	7.00
741516	$1\frac{1}{2}$ x 18 ins.	7.00	741522	$1\frac{1}{2}$ x 18 ins.	8.00
741517	2 x 18 ins.	8.00	741523	2 x 18 ins.	9.00
741518	$2\frac{1}{2}$ x 18 ins.	9.00	741524	$2\frac{1}{2}$ x 18 ins.	10.00
741519	3 x 18 ins.	10.00	741525	3 x 18 ins.	11.00

Universal Leather Collar Protector

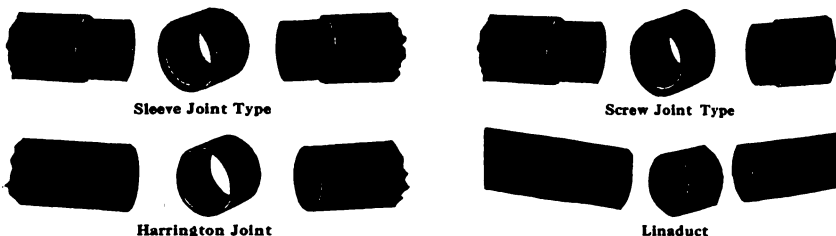
The Universal Leather Collar Protector is for use with single eye grips only. It will prolong the life of the cable grip, as it protects the point of greatest wear.

Single Eye Grip For 24 Inch and 36 Inch

List No.	Size	*List Price Each	List No.	Size	*List Price Each
741526	1 in.	\$1.50	741529	$2\frac{1}{2}$ ins.	\$1.80
741527	$1\frac{1}{2}$ ins.	1.60	741530	3 ins.	1.90
741528	2 ins.	1.70			

*Delivery F. O. B. Syracuse, N. Y. For warehouse deliveries, write nearest house.

FIBER CONDUIT



In the process of manufacturing fiber conduit, wet wood pulp or fiber is wrapped in a minutely thin film upon a forming mandrel, under pressure, until the desired thickness of wall is obtained. The individual fibers become felted and form a solid homogeneous wall. Taken off the mandrel, the wet pulp structure is subjected to a drying process, after which it is placed in a vat of liquid compound. This compound is a preservative and is also insulating and waterproofing. It thoroughly permeates the entire structure so that after treatment the wall of the conduit, when cut, presents a strong resemblance to hard rubber. The ends are cut in a lathe to make a socket joint, sleeve joint, or screw thread, as may be desired.

THE SLEEVE JOINT TYPE

The ends of each length are turned down to fit snugly in a sleeve by means of which a tight connection is made. The ends of the pipe are squared and faced.

List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.	List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.
740062	*1	$\frac{1}{4}$	0.40	\$0.195	740066	3	$\frac{1}{4}$	1.30	\$0.175
740063	1½	$\frac{1}{4}$	0.74	.155	740067	3½	$\frac{1}{4}$	2.50	.26
740064	2	$\frac{1}{4}$	0.90	.155	740068	4	$\frac{1}{2}$	3.20	.325
740065	2½	$\frac{1}{4}$	1.10	.165					

HARRINGTON JOINT TYPE

This type of joint is a modification of our sleeve joint and is made with a tapered end. Sleeves are tapered also, thereby allowing more swing to the conduit than can be secured by other types of joints. In this type the conduit does not butt, in consequence of which more flexibility may be had.

List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.	List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.
740069	2	$\frac{1}{4}$	0.90	\$0.14	740072	3½	$\frac{1}{4}$	1.55	\$0.175
740070	2½	$\frac{1}{4}$	1.10	.155	740073	4	$\frac{1}{4}$	1.90	.195
740071	3	$\frac{1}{4}$	1.30	.165					

THE SCREW JOINT TYPE

This type of fiber conduit is manufactured with a slightly thicker wall than the socket joint type, owing to the necessity of securing a sufficiently heavy structure for carrying the thread that is cut on the ends of the pipe. The thread is "United States Standard"—four to the inch—and a coupling is provided for completing the joint. A liquid compound is furnished by the manufacturer to be wiped on the threads of the pipe when making the connection. This compound hardens and renders the joint watertight.

List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.	List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.
740074	*1½	$\frac{1}{8}$	0.85	\$0.22	740077	3	$\frac{1}{8}$	2.20	\$0.305
740075	2	$\frac{3}{8}$	1.32	.24	740078	3½	$\frac{1}{8}$	2.50	.35
740076	2½	$\frac{3}{8}$	1.65	.24	740079	4	$\frac{1}{2}$	3.20	.435

"LINADUCT"

"Linaduct" is designed as a form and insulating lining for concrete subways. This type of fiber conduit is made in five-foot lengths, diameters 2 to 3½ inches, $\frac{1}{4}$ inch walls. The sections are joined by a close fitting sleeve, quickly and easily adjusted to give good alignment and a sufficiently tight joint for the exclusion of concrete.

List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.	List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	List Price per Ft.
740080	2	$\frac{1}{8}$	0.55	\$0.10	740082	3	$\frac{1}{8}$	0.75	\$0.11
740081	*2½	$\frac{3}{8}$	0.65	.11	740083	3½	$\frac{1}{8}$	0.85	.12

*Manufactured only on special order.

†Delivery F. O. B. Orangeburg, N. Y.

‡Includes one coupling to each length.

For warehouse deliveries, write nearest house.

FIBER CONDUIT (Cont'd.)

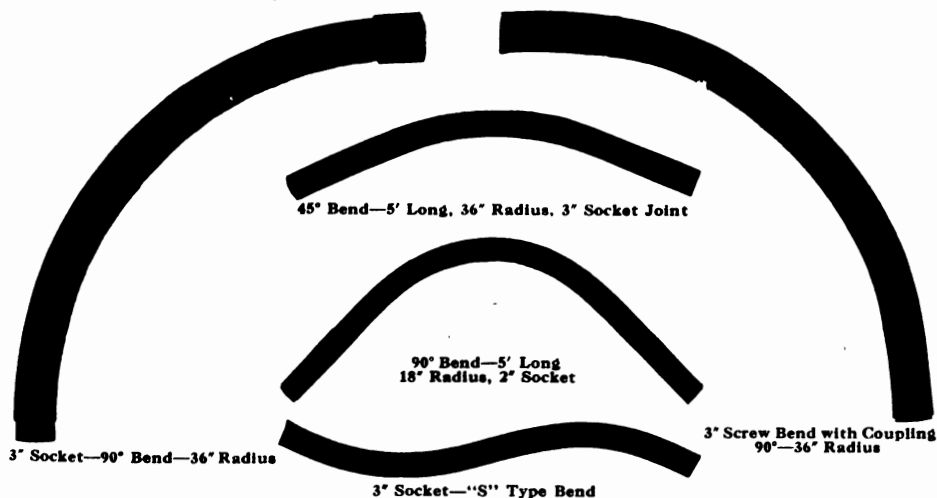
Fiber Conduit

THE SOCKET JOINT TYPE

Socket or mortise and tenon connections are automatically turned on the ends of each length, being $\frac{3}{8}$ inch long, slightly tapering, and uniform in size. This connection secures laying the conduit perfect in fit and alignment.

List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	†List Price per Ft.	List No.	Inside Dia., Ins.	Thickness of Wall, Ins.	Wt. per Ft., Lbs.	†List Price per Ft.
740084	*1	$\frac{1}{4}$	0.38	\$0.13	740088	3	$\frac{1}{4}$	1.20	\$0.13
740085	$1\frac{1}{2}$	$\frac{1}{4}$	0.70	.11	740089	$3\frac{1}{2}$	$\frac{1}{4}$	1.45	.14
740086	2	$\frac{1}{4}$	0.85	.11	740090	4	$\frac{1}{4}$	1.62	.165
740087	$2\frac{1}{2}$	$\frac{1}{4}$	1.02	.12					

*Manufactured only on special order.



Fiber Conduit Bends

In producing these bends the conduit is first formed in the usual manner. When the wet pulp structure is removed from the mandrel it is bent on a special form to the radius and degree desired, after which it is dried and thoroughly saturated with an insulating and preservative compound. Special bends of short radii are mitered to give the degree and radii desired.

STANDARD BENDS

Inside diameter, ins.	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
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Data, 45° and 90° Bends

Length, feet	$2\frac{1}{2}$	5	5	5	5	5	5
Radius, ins.	18	18-24-36	18-24-36	24-36	36	36	36

Data, "S" Bends

Offset, ins.	10	20	20	20	20	20	20
Radius, ins.	8	36	36	36	36	36	36

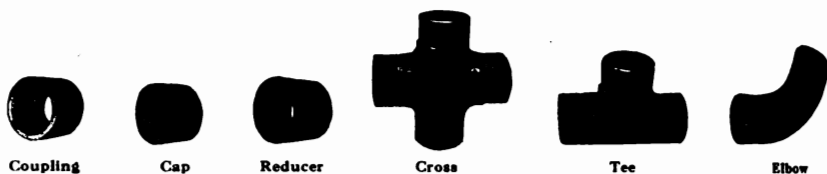
*List Price Each

Socket	\$1.62	\$1.84	\$1.84	\$1.89	\$1.945	\$2.16	\$2.43
*Sleeve	1.785	2.055	2.055	2.16	2.27	4.16	5.025
*Harrington			2.055	2.16	2.27	2.485	2.81
*Screw		3.35	3.46	3.46	3.78	4.215	5.08
†Linaduct			1.89	1.945	2.055	2.27	.....

*Price includes couplings. † $\frac{1}{4}$ inch wall.

†Delivery F. O. B. Orangeburg, N. Y. For warehouse deliveries, write nearest house.

FIBER CONDUIT FITTINGS



Fiber Fittings

These fittings are made throughout of the same material as is used in the manufacture of fiber conduit and possess the same extremely high insulating qualities of that conduit.

In making these fittings the conduit is first formed and dried in the usual manner. It is then shaped into different forms of fittings, after which it is thoroughly saturated with the insulating and preservative compound.

Joints are then cut in a lathe to make a socket, sleeve or screw connection.

	List Price Each						
Inside diameter, ins.	1	1½	2	2½	3	3½	4
COUPLINGS							
Sleeve	\$0.10	\$0.10	\$0.11	\$0.13	\$0.155	\$0.24	\$0.305
Harrington .....			.11	.12	.13	.155	.175
Screw .....		.13	.155	.175	.195	.26	.33
Rough fit for socket .....		.08	.09	.10	.11	.12	.13
CAPS OR PLUGS							
Socket	\$0.28	\$0.28	\$0.305	\$0.33	\$0.37	\$0.435	\$0.54
Sleeve .....	.28	.28	.305	.33	.37	.435	.54
Screw .....		.33	.35	.37	.41	.455	.565
REDUCERS							
Largest End							
Socket		\$0.435	\$0.455	\$0.50	\$0.54	\$0.605	\$0.67
Sleeve .....		.455	.48	.52	.565	.63	.685
Harrington .....		.455	.48	.52	.565	.605	.67
Screw .....		.48	.50	.54	.585	.65	.715
CROSSES							
*All types	\$3.08	\$3.19	\$3.295	\$3.405	\$3.51	\$3.73	\$4.215
TEES							
Socket	\$1.945	\$1.785	\$1.785	\$1.89	\$1.945	\$2.11	\$2.43
*Sleeve	2.325	2.16	2.16	2.27	2.38	2.755	3.135
*Harrington			2.16	2.27	2.38	2.54	2.92
*Screw		2.38	2.485	2.54	2.65	2.81	3.19
ELBOWS							
Socket	\$1.30	\$1.19	\$1.19	\$1.245	\$1.30	\$1.405	\$1.62
*Sleeve	1.515	1.405	1.405	1.46	1.515	1.73	1.945
*Harrington			1.405	1.46	1.515	1.62	1.84
*Screw		1.515	1.57	1.62	1.675	1.785	2.00

*Price includes couplings.



Junction Boxes

Fiber Junction Boxes can be used with either screw, sleeve or socket joint conduit. They are especially recommended for service connections and where it is necessary to light up private roads. These boxes are made two, three and four way. The inside dimensions are, approximately, 8 x 8 inches, and the weight is 16 pounds.

List No.	Junction Box, one to four openings	List Price Each
741706	Junction Box, one to four openings	\$7.13

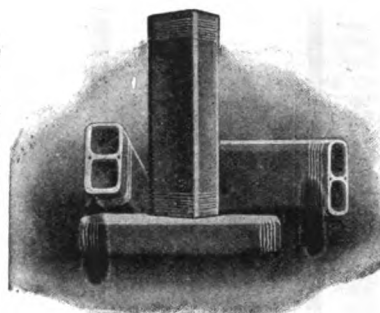
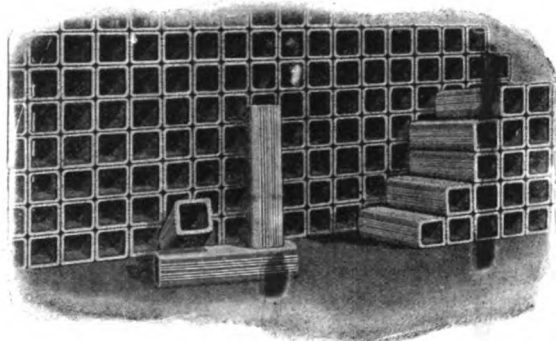
Always specify number of openings wanted, and type of conduit with which junction box is to be used.

†Delivery F. O. B. Orangeburg, N. Y. For warehouse deliveries, write nearest house.

Line Construction Material

VITRIFIED CLAY CONDUIT

This conduit is made of the purest fire-clay, salt glazed, and guaranteed to comply rigidly with the American Telephone and Telegraph Company's specifications. We inspect all conduit as it is loaded. Conduit is manufactured in all standard sizes and designs, and includes some special economic forms.



Single Duct Conduit: May be obtained in either of two forms; the square or round duct. The square duct single is heavier and has no real advantage over the round duct single. The round duct is now the popular single duct conduit. Its weight is much less, thus saving on freight. It is especially efficient in building up trunk lines, the beveled corners allowing square interstices between the pieces, thus forming an additional concrete support, and insuring good alignment before and after cable pulling.

Two-way and Three-way Multiple Conduit can only be manufactured in 2 foot lengths, and is designed for building up trunk lines to the desired capacity of laying singly in the trench for terminal and lateral construction.

VITRIFIED CLAY CONDUIT

Is the most satisfactory conduit made, strong in the web, straight in line, smooth in the duct, and flat on the ends. This ware is the most economical per duct foot to lay in the trench.

Style	Length of Piece, Feet	Duct Feet in Piece, Feet	Weight per Duct Foot	Duct Diameter Inches	Duct Feet Minimum Cor.	Price per Duct Foot
Square Duct, Single.....	1.5	1.5	10	3½	4278	\$0.09
Round Duct, Single.....	1.5	1.5	8	3½	5000	.09
2-Way Multiple.....	2	4	8	3¾	6250	.09
3-Way Multiple.....	2	6	8	3¾	6250	.09
4-Way Multiple.....	3	12	7.50	3¾	7800	.09
6-Way Multiple.....	3	18	7.50	3¾	7800	.09
9-Way Multiple.....	3	27	7.50	3¾	7800	.09

STANDARD WOODEN CONDUIT

This pine "pump-log duct" is largely used by telephone companies with underground lead-covered cable; it is creosoted, and, therefore, there is no limit to its life; the price is moderate, freight is low, breakage is very slight, cost of laying is low; dimensions, square, 4½ x 4½ inches outside; hole, 3 inches.

Prices on application.

TELEGRAPH SPOONS AND SHOVELS



Regular Spoon



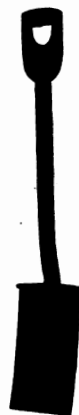
Flat Toe Spoon



Long Handle Shovel



D Handle



Spade



Square Point

Long Handle Spoons

HUSSEY-BINNS BRAND				
With 9-in. Strap			With 18-in. Strap	
Length of Handle	List No.	*List Price per Doz.	List No.	*List Price per Doz.
6 ft.	760000	\$25.62	760006	\$28.12
7 "	760001	27.24	760007	29.74
8 "	760002	29.74	760008	32.24
9 "	760003	32.24	760009	34.76
10 "	760004	34.74	760010	37.24

VICTOR BRAND				
With 9-in. Strap			With 18-in. Strap	
Length of Handle	List No.	*List Price per Doz.	List No.	*List Price per Doz.
6 ft.	760012	\$21.26	760017	\$23.76
7 "	760013	22.50	760018	25.00
8 "	760014	25.00	760019	27.50
9 "	760015	27.50	760020	30.00
10 "	760016	30.00	760021	32.50

NOTE: Specify whether regular or flat toe spoon is desired when ordering.

Long Handle Shovels

HUSSEY-BINNS BRAND				
With 9-in. Strap			With 18-in. Strap	
Length of Handle	List No.	*List Price per Doz.	List No.	*List Price per Doz.
6 ft.	760022	\$23.76	760028	\$26.26
7 "	760023	25.38	760029	27.88
8 "	760024	27.88	760030	30.38
9 "	760025	30.38	760031	32.88
10 "	760026	32.88	760032	35.38

With spoon handles, 6 and 7 foot \$1.25 list per dozen additional; 8, 9 and 10 foot, \$2.50.

VICTOR BRAND				
With 9-in. Strap			With 18-in. Strap	
Length of Handle	List No.	*List Price per Doz.	List No.	*List Price per Doz.
6 ft.	760034	\$20.00	760039	\$22.50
7 "	760035	21.26	760040	23.76
8 "	760036	23.76	760041	26.26
9 "	760037	26.26	760042	28.76
10 "	760038	28.76	760043	31.26

With spoon handles, 6 and 7 foot \$1.25 list per dozen additional; 8, 9 and 10 foot, \$2.50.

Spoon and Shovel Handles, Victor Brand

Spoon Handles				
Length	List No.	*Per Doz.	Length	List No.
6 ft.	760044	\$10.62	9 ft.	760047
7 "	760045	11.24	10 "	760048
8 "	760046	13.74		

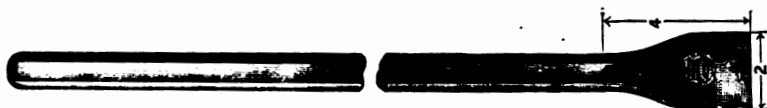
Shovel Handles				
Length	List No.	*Per Doz.	Length	List No.
6 ft.	760050	\$9.38	9 ft.	760053
7 "	760051	10.00	10 "	760054
8 "	760052	11.24		

Shovels and Spades

Hussey-Binns			Victor	
List No.	*Per Doz.		List No.	*Per Doz.
760056	\$19.74		761228	\$13.76
760057	19.74		761229	13.76
760058	19.74		761230	13.76

D Handle, Square Point Shovel.....
 D Handle, Round Point Shovel.....
 D Handle, Square Point Spade.....
 Specify whether Malleable Iron, D. or Tamping Handles desired, no extra charge.
 Above furnished with 5-foot overall Handle when specified at same price as D Handle.
 * Delivery, F. O. B. Pittsburgh, New York, Chicago and St. Louis. For warehouse deliveries write nearest house.

DIGGING AND TAMPING BARS



Digging Bars

List No.		Length	Approximate Weight	*List Price per Doz.	
				High Grade Open Hearth Steel	Black Diamond Tool Steel
761231	1 inch Rd. Solid Steel	7 ft.	16 lbs. each	\$15.84	\$42.24
761232	1 inch Rd. Solid Steel	8 ft.	18 lbs. each	17.82	47.52
761233	1 inch Oct. Solid Steel	7 ft.	18 lbs. each	19.32	50.50
761234	1 inch Oct. Solid Steel	8 ft.	21 lbs. each	22.52	58.90
761235	1 1/8 inch Oct. Solid Steel	7 ft.	24 lbs. each	23.76	59.40
761236	1 1/8 inch Oct. Solid Steel	8 ft.	28 lbs. each	27.72	69.30
761237	1 1/8 inch Oct. Solid Steel	9 ft.	32 lbs. each	31.68	79.20



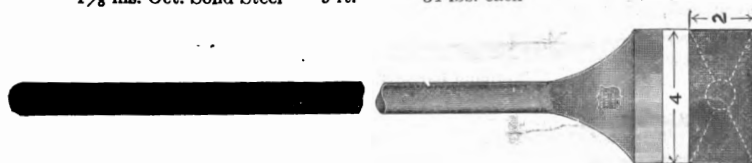
Crow and Digging Bars

List No.		Length	Approximate Weight	*List Price per Doz.	
				High Grade Open Hearth Steel	Black Diamond Tool Steel
761238	1 in. Rd. Solid Steel	7 ft.	16 lbs. each	\$17.16	\$43.56
761239	1 in. Rd. Solid Steel	8 ft.	18 lbs. each	19.32	49.00
761240	1 in. Oct. Solid Steel	7 ft.	18 lbs. each	20.80	51.98
761241	1 in. Oct. Solid Steel	8 ft.	21 lbs. each	24.26	60.64
761242	1 1/8 ins. Oct. Solid Steel	7 ft.	24 lbs. each	25.74	61.32
761243	1 1/8 ins. Oct. Solid Steel	8 ft.	28 lbs. each	30.04	71.62
761244	1 1/8 ins. Oct. Solid Steel	9 ft.	32 lbs. each	34.32	81.84



Tamping and Digging Bars

List No.		Length	Approximate Weight	*List Price per Doz.	
				High Grade Open Hearth Steel	Black Diamond Tool Steel
761245	1 in. Rd. Solid Steel	7 ft.	18 lbs. each	\$20.80	\$50.50
761246	1 in. Rd. Solid Steel	8 ft.	20 lbs. each	23.10	56.10
761247	1 in. Oct. Solid Steel	7 ft.	20 lbs. each	24.76	59.40
761248	1 in. Oct. Solid Steel	8 ft.	23 lbs. each	28.46	68.32
761249	1 1/8 ins. Oct. Solid Steel	7 ft.	26 lbs. each	30.04	68.64
761250	1 1/8 ins. Oct. Solid Steel	8 ft.	30 lbs. each	34.66	79.20
761251	1 1/8 ins. Oct. Solid Steel	9 ft.	34 lbs. each	39.28	89.76

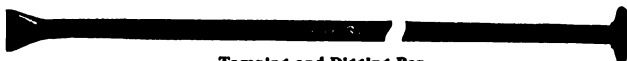


Tamping Bars

List No.		Length	Approximate Weight	Base	*List Price per Doz.	
					High Grade Open Hearth Steel	Black Diamond Tool Steel
761252	3/4 in. Rd. Handle	9 ft.	16 lbs. each	2 x 4 ins.	\$19.80	\$52.80
761253	3/4 in. Rd. Handle	12 ft.	21 lbs. each	2 x 4 ins.	24.76	69.30

*Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

CONSTRUCTION TOOLS AND SPECIALTIES

Crow and Digging Bar

Tamping and Digging Bar

Plain Digging Bar
Crow and Digging Bar

List No.		Wgt.	List Price Each	List No.		Wgt.	List Price Each
1060	1 in. octagon, 6 ft. long....	17 lbs.	\$3.60	1063	1 1/2 in. octagon, 6 ft. long..	22 lbs.	\$4.80
1061	1 in. octagon, 7 ft. long....	20 lbs.	4.00	1064	1 1/2 in. octagon, 7 ft. long..	26 lbs.	5.20
1082	1 in. octagon, 8 ft. long....	23 lbs.	4.40	1065	1 1/2 in. octagon, 8 ft. long..	30 lbs.	5.60

Tamping and Digging Bar

1070	1 in. octagon, 6 ft. long....	17 lbs.	\$4.40	1073	1 1/2 in. octagon, 6 ft. long..	22 lbs.	\$4.90
1071	1 in. octagon, 7 ft. long....	20 lbs.	4.80	1074	1 1/2 in. octagon, 7 ft. long..	26 lbs.	5.30
1072	1 in. octagon, 8 ft. long....	23 lbs.	5.00	1075	1 1/2 in. octagon, 8 ft. long..	30 lbs.	6.00

Plain Digging Bar

1080	1 in. round, 6 ft. long....	16 1/2 lbs.	\$1.90	1083	1 1/2 in. round, 6 ft. long....	21 lbs.	\$2.90
850	1 in. round, 7 ft. long....	19 lbs.	2.40	1084	1 1/2 in. round, 7 ft. long....	24 1/2 lbs.	3.30
1082	1 in. round, 8 ft. long....	21 1/2 lbs.	3.10	851	1 1/2 in. round, 8 ft. long....	28 lbs.	3.70


Digging Spud with Tamper

Electric Tamping Bar

Loy or Slick
Digging Spud With Tamper

List No.		Weight per Doz	List Price Each
852	Digging spud with tamper, 9 ft. long.....	234	\$5.30

Electric Tamping Bar

1044	Electric tamping bar, 8 ft. long.....		\$3.30
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Loy or Slick

853	Loy or slick, 8 ft. handle.....	210	\$4.00
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Tamping Bar with Heavy Iron Shoe

Tamping Bar with Extra Heavy Iron Shoe
Tamping Bar
WITH HEAVY IRON SHOE

List No.		Wgt. per Doz.	List Price Each
854	Tamping bar, 7 ft. handle..	150 lbs.	\$2.30
855	Tamping bar, 8 ft. handle..	170 lbs.	2.70

WITH EXTRA HEAVY IRON SHOE

List No.		Wgt. per Doz.	List Price Each
1054	Tamping bar, 7 ft. handle..	160 lbs.	\$2.10
1055	Tamping bar, 8 ft. handle..	180 lbs.	2.20

Delivery F. O. B. Oshkosh, Wis. For warehouse deliveries write nearest house.

Tools and Construction Appliances

CONSTRUCTION TOOLS AND SPECIALTIES



Regular Pattern



Western Union Pattern

Carrying or Lug Hooks

REGULAR PATTERN

List No.	Weight per Doz.	List Price Each
295 2½ ins. x 4 ft. maple handle	85 lbs.	\$2.50
296 2½ ins. x 4½ ft. maple handle	90 lbs.	2.55
297 2½ ins. x 5 ft. maple handle	95 lbs.	2.60

EXTRA HEAVY WITH STEEL SWIVELS

List No.	Weight per Doz.	List Price Each
298 3 ins. x 5 ft. maple handle...	145 lbs.	\$3.60
299 3 ins. x 6 ft. maple handle...	155 lbs.	3.90
300 3 ins. x 7 ft. maple handle...	165 lbs.	4.20

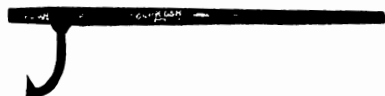
Western Union Pattern

800 4 ft. maple handle	135 lbs.	\$3.10
801 5 ft. maple handle	150 lbs.	3.60
802 6 ft. maple handle	165 lbs.	3.90

803 7 ft. maple handle	175 lbs.	\$4.20
804 8 ft. maple handle	190 lbs.	4.80



Socket Peavy



Cant Hook

Malleable Socket Peavies

List No.	Weight per Doz.	List Price Each
124 With 2½ ins. x 4 ft. select maple handle	110 lbs.	\$2.60
137 With 2½ ins. x 4 ft. select hickory handle	110 lbs.	3.00
150 With 2½ ins. x 4 ft. second growth maple handle	110 lbs.	3.00

Cant Hooks

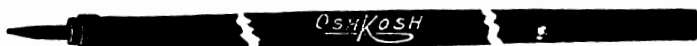
List No.	Handles	List Price Each	List No.	Handles	List Price Each
188 2½ ins. x 4 ft. select maple handle		\$1.80	200 2½ ins. x 4½ ft. select hickory handle		\$2.40
189 2½ ins. x 4½ ft. select maple handle		1.90	210 2½ ins. x 4 ft. 2d growth maple handle		2.30
199 2½ ins. x 4 ft. select hickory handle		2.30	211 2½ ins. x 4½ ft. 2d growth maple handle		2.40

Weight per dozen, 4 ft., 85 lbs.

Weight per dozen, 4½ ft., 90 lbs.



Pike Poles Nos. 805-816



Western Electric Pattern Nos. 818-824

Pike Poles

Standard Small Size

List No.	Handles	Weight per Doz.	List Price Each	List No.	Handles	Weight per Doz.	List Price Each
805 1¾ ins., 10 ft.		70 lbs.	\$1.30	807 1¾ ins., 14 ft.		110 lbs.	\$1.60
806 1¾ ins., 12 ft.		90 lbs.	1.40	808 1¾ ins., 16 ft.		130 lbs.	1.90

Standard Heavy Size

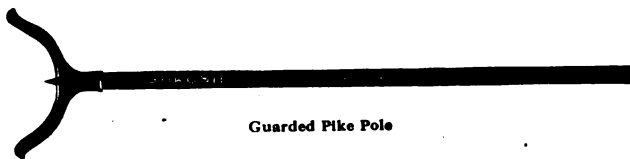
809 2¼ ins., 10 ft.	80 lbs.	\$1.60	813 2¼ ins., 18 ft.	170 lbs.	\$2.70
810 2¼ ins., 12 ft.	100 lbs.	1.80	814 2¼ ins., 20 ft.	200 lbs.	3.10
811 2¼ ins., 14 ft.	120 lbs.	2.10	815 2¼ ins., 22 ft.	230 lbs.	3.70
812 2¼ ins., 16 ft.	140 lbs.	2.40	816 2¼ ins., 24 ft.	260 lbs.	4.20

Western Electric Pattern

818 2½ ins., 12 ft.	150 lbs.	\$2.20	822 2½ ins., 20 ft.	240 lbs.	\$3.50
819 2½ ins., 14 ft.	165 lbs.	2.50	823 2½ ins., 22 ft.	260 lbs.	4.10
820 2½ ins., 16 ft.	185 lbs.	2.80	824 2½ ins., 24 ft.	285 lbs.	4.50
821 2½ ins., 18 ft.	215 lbs.	3.20			

Delivery F. O. B. Factory, Oshkosh, Wis. For warehouse deliveries write nearest house.

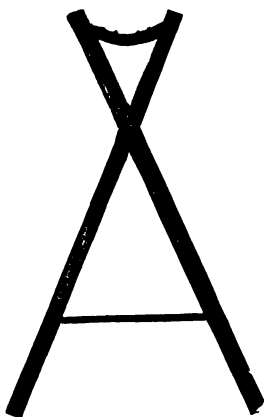
CONSTRUCTION TOOLS AND SPECIALTIES



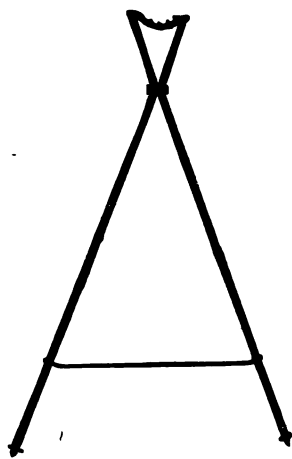
Guarded Pike Pole

Guarded Pike Poles

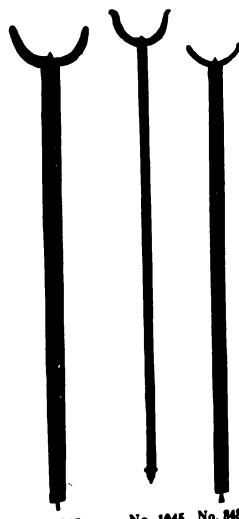
List No.	Handle, Washington Fir	Weight per Doz.	List Price Each	List No.	Handle, Washington Fir	Weight per Doz.	List Price Each
832	10 ft., 1 3/4 ins.	100 lbs.	\$2.20	835	16 ft., 2 1/4 ins.	195 lbs.	\$3.10
833	12 ft., 1 3/4 ins.	120 lbs.	2.30	836	18 ft., 2 1/4 ins.	210 lbs.	3.20
834	14 ft., 1 3/4 ins.	140 lbs.	2.50	837	20 ft., 2 1/4 ins.	235 lbs.	3.50
795	16 ft., 1 3/4 ins.	160 lbs.	2.70	798	22 ft., 2 1/4 ins.	250 lbs.	3.80
796	12 ft., 2 1/4 ins.	165 lbs.	2.70	799	24 ft., 2 1/4 ins.	265 lbs.	4.10
797	14 ft., 2 1/4 ins.	180 lbs.	2.90				



No. 842



No. 1048



No. 845

No. 1045

No. 848

Pole Supports

WOODEN JENNEY POLE SUPPORTS

List No.		Weight	List Price Each
842	6 ft., 2 1/2 x 3 ins.	39 lbs.	\$8.60
843	7 ft., 2 1/2 x 3 1/2 ins.	57 lbs.	9.40
844	8 ft., 2 1/2 x 3 1/2 ins.	62 lbs.	10.30

WOODEN MULE SUPPORT

List No.		Weight	List Price Each
845	6 ft., 3 1/2 in. diam.	23 lbs.	\$6.00
846	7 ft., 4 1/2 in. diam.	26 lbs.	6.90
847	8 ft., 4 1/2 in. diam.	29 lbs.	8.40

IRON JENNEY POLE SUPPORTS

List No.		Weight	List Price Each
1048	6 ft. pole support.	32 lbs.	\$18.80
1049	7 ft. pole support.	34 lbs.	13.80
1050	8 ft. pole support.	53 lbs.	14.70

IRON MULE SUPPORT

List No.		Weight	List Price Each
1045	6 ft. mule pole support.	32 lbs.	\$10.80
1046	7 ft. mule pole support.	35 lbs.	11.60
1047	8 ft. mule pole support.	39 lbs.	12.50

Standard Dead Man

WESTERN ELECTRIC PATTERN

Made of 2 x 4 inch white oak with wrought steel fork and pike and with steel bands to prevent splitting.

List No.		Weight	List Price Each
848	8 ft. standard dead man (Western Electric Co. pattern)	29 lbs.	\$12.50

Delivery F. O. B. Factory, Oshkosh, Wis. For warehouse deliveries write nearest house.

Tools and Construction Appliances

"DICKE" REELS, LINE CART AND TRACK DOLLY



**No. 401
Improved Reel**

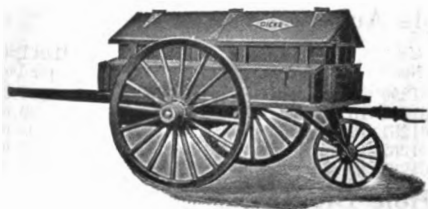


**No. 402
Improved Wagon Reel**

PAY OUT REELS

No. 402 Improved wagon reel. Can be bolted on any wagon box, platform or fence post for putting up wire fences.

List No.	Mfr. No.		Wt.	*List Price Each
761706	401	Improved Reel	95 lbs.	\$18.76
761707	402	Improved Wagon Reel	37 lbs.	14.38



**No. 409
Tool Cart**



**No. 408
Track Dolly**

TOOL CART

Dimensions

Main box, 6 feet 2 inches x 30 inches deep.
Lower tool box, 33 x 30 x 8 1/4 inches deep.
Side tool box, 5 compartments, 5 ft. 10 inches x 6 inches wide, 10 inches deep.
Front tool box 30 x 6 x 10 inches.

List No.	Mfr. No.		Wt.	*List Price Each
761708	409	Tool Cart	920 lbs.	\$287.50

TRACK DOLLY

With the use of one rail, two men can move poles to any desired place. The wheels are iron and fit standard rails. This tool can also be used in pairs to move a load of poles, by laying two across and piling any amount desired.

List No.	Mfr. No.		Wt.	*List Price Each
761709	408	Track Dolly, 4 x 2 ft. x 15 in.	225 lbs.	\$64.00

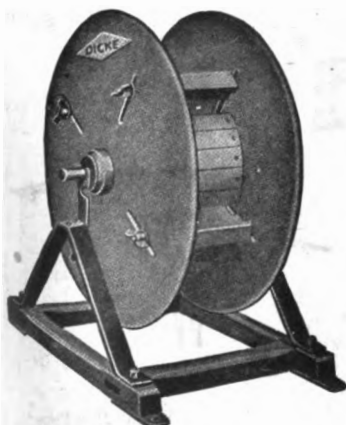
JUMPER WIRE REEL

The Jumper Wire Reel was especially designed for use in telephone exchanges.

List No.	Mfr. No.		Wt.	*List Price Each
761710	403	Jumper Wire Reel	40 lbs.	\$27.00

*Delivery F. O. B. Factory, Downers Grove, Ill. For warehouse deliveries write nearest house.

**No. 403
Jumper Wire Reel**



DIGGING TOOLS



Standard Earth Auger

Iwan
Post Hole AugerHercules
Post Hole DiggerSplit Handle
Post Hole DiggerGibbs
Post Hole Digger

Standard Earth Auger

List No.		*List Price Each
14	Will bore 8, 9, 10, 11, 12, 13, or 14 in. holes.....	\$12.00
16	Will bore 8, 9, 10, 11, 12, 13, 14, 15, or 16 in. holes.....	12.00

Iwan Post Hole Augers

List No.		†List Price per Doz.	List No.		†List Price per Doz.
761254	4 in.; length 4 ft.....	\$30.80	761259	9 in.; length 4 ft.....	\$35.20
761255	5 in.; length 4 ft.....	30.80	761260	10 in.; length 4 ft.....	39.60
761256	6 in.; length 4 ft.....	30.80	761261	12 in.; length 6 ft.....	106.00
761257	7 in.; length 4 ft.....	33.00	761262	14 in.; length 6 ft.....	132.00
761258	8 in.; length 4 ft.....	33.00	761263	16 in.; length 6 ft.....	158.40

Hercules Post Hole Digger

List No.		†List Price per Doz.
761264	6 in. diameter; 4 ft. handle.....	\$16.24

Split Handle Post Hole Digger

List No.		†List Price per Doz.
761265	6 in. diameter; 4 ft. handle.....	\$14.00
761266	6 in. diameter; 7 ft. handle.....	20.00

Gibbs Post Hole Digger

List No.		†List Price per Doz.
761267	7 in. diameter; 4½ ft. handle.....	\$22.00



Mattock



Panama



Adze Eye

Picks and Mattocks

No. List		Weight Lbs.	†List Price per Doz.	List No.		Weight Lbs.	†List Price per Doz.
296	Adze Eye.....	5 to 6	\$7.00	450	Panama R. R. Pick.....	7	\$22.24
296	Adze Eye.....	6 to 7	7.50	450	Panama R. R. Pick.....	8	22.24
396	Adze Eye.....	7 to 8	8.00		Above are furnished with handles.		
208	Adze Eye.....	6 to 7	9.00	424	Mattock, Long Cutter.....	5	10.80
308	Adze Eye.....	7 to 8	9.50	424	Mattock, Long Cutter.....	6	11.46

*Delivery F. O. B. Factory Chicago, Ill.
 †Delivery F. O. B. Factory, South Bend, Ind.
 For warehouse deliveries write nearest house.

POLE DINKEYS AND REEL WHEELS



No. 306 Dicke's Heavy Pole Dinkey

Dicke's Light Pole Dinkey

A strongly built truck, especially useful for handling poles which are to be set in places that cannot be reached with a team. One man can easily handle the heaviest pole with this truck.

The woodwork is of seasoned oak, and the wheels Sarven patent, 2 feet 8 inches high, with 16 $1\frac{1}{2}$ inch spokes. The tires are $2\frac{1}{2}$ x $\frac{1}{4}$ inch, bearings 8 inches long, axles $1\frac{3}{4}$ inches, truck $32\frac{1}{2}$ inches. The entire dinkey is painted one coat before assembling and two coats afterward.

List No.	Mfr. No.		Weight Lbs.	*List Price Each
760186	305	Dicke's Light Pole Dinkey	165	\$50.00

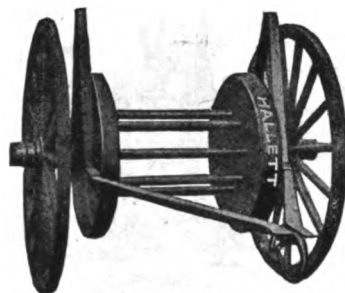
Dicke's Heavy Pole Dinkey

A very strongly built dinkey that is indispensable to telegraph and telephone companies who handle large poles. The top of the carrying frame is provided with heavy pikes and is ironed with iron $3\frac{1}{2}$ x $\frac{1}{4}$ inches. The bottom is cross-braced with steel $1\frac{1}{4}$ x $\frac{1}{4}$ inches. The woodwork is of seasoned oak and the wheels heavy truck 25 inches in diameter, with 14 spokes $1\frac{1}{4}$ x $1\frac{1}{4}$ inches. The tires are 4 x $\frac{1}{2}$ inches, wheel boxes of soft iron $9\frac{1}{2}$ x 3 inches. Hubs 8 inches in diameter, $11\frac{1}{4}$ inches long. The axles are $1\frac{1}{2}$ inches, truck 38 inches. The entire dinkey is painted one coat before assembling, and two coats afterward.

List No.	Mfr. No.		Weight Lbs.	*List Price Each
760187	306	Dicke's Heavy Pole Dinkey	330	\$100.00



Cable Reel Wheels



Steel Line Cart

Cable Reel Wheels

List No.		*List Price Each
760188	Pair of 6 ft. wheels, with 6 ft. reel bar	\$128.24
760189	One adjustable tongue	19.00

Steel Line Cart

List No.		*List Price Each
760190	For coiling up wire rope; by turning the tongue over the cart it brings the standard against the ground, which will raise the wheels from the ground, thus making the cart immovable while in use; made either with a steel or oak reel	\$104.00

*Delivery F. O. B. Factory, Downers Grove, Ill. †Delivery F. O. B. Factory, Harvey, Ill. For warehouse deliveries write nearest house.

PAY-OUT AND TAKE-UP REELS



No. 4601-2

For Electric Light, Telegraph, Work, etc. A Heavier
Reel than No. 385A. Wood, Seasoned Oak



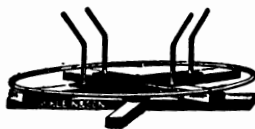
No. 4601-1

For Telephone Work. Wood, Select Maple



No. 5306

Shoulder Strap for Carrying Pay-out Reel



No. 4600-1

Common Pay-out Reel

Pay-out Reels

List No.		Weight Lbs.	*List Price Each
4601-2	Klein Pay-out Reel on barrow for electric light work.....	90	\$20.00
4601-1	Klein Pay-out Reel on barrow for telephone work.....	80	16.00
5306	Leather Shoulder Straps for carrying pay-out reel (per set).....	4½	10.00
4600-1	Common Pay-out Reel without barrow.....	40	10.00

These reels have a one-inch king-bolt. Top surface metal faced.



No. 4608-1

Improved Take-up Reel



No. 4608-2

Klein's Improved Take-up Reels

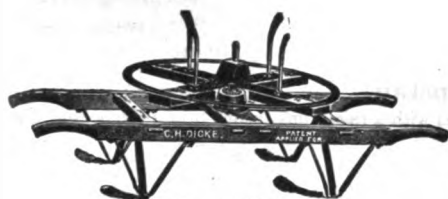
Take-up Reel, seasoned oak. All braces bolted through. One-inch lathe-turned axle. Removable side piece on spool to allow the coiled wire to be unloaded. The turned axle makes the reel light running. The unloading feature makes it economical in time. And in addition to being so well constructed, the improved take-up reel has a separate guard piece slipped on shaft and fastened with a flat key, allowing wire to be removed quickly and easily.

Best of all, they don't cost more than old style reels.

List No.		Weight Lbs.	*List Price Each
4608-1	Improved, for 18 in. coil.....	62	\$24.00
4608-2	Improved, for 21 in. coil.....	65	24.00

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.
Tools and Construction Appliances

PAY-OUT AND TAKE-UP REELS



Pay-out Reel



Double-deck Reel

Pay-out Reels

List No.		*List Price Each
760202	Dicke Pay-out Reel on barrow.....	\$16.80
760203	Dicke Double-deck Reel on barrow.....	29.70



Folding Take-up Reel



Folding Take-up Reel Closed

Take-up Reels

List No.		Weight Lbs.	†List Price Each
761270	Folding, for 12 inch coil.....	43	\$17.16
760204	Folding, for 18 inch coil.....	45	17.66
760205	Folding, for 21 inch coil.....	48	18.04
761271	Folding, for 24 inch coil.....	50	18.52



Lineman's Cart



The Wasson Reel

Lineman's Carts

List No.	Mfr. No.		List Price Each
760208	512	Lineman's Cart with reel attached.....	†\$30.00
760209	...	Wasson single reel and cart.....	†24.00
760210	...	Wasson double reel and cart.....	†40.00
760211	...	Wasson single reel, less cart, with axle and tension.....	†12.00
760212	...	Wasson cart, less reel, with axle and tension.....	†16.00

*Delivery F. O. B. Factory, Downers Grove, Ill. †Delivery F. O. B. Factory, Oshkosh, Wis. ‡Delivery F. O. B. Factory, Chicago, Ill. ††Delivery F. O. B. Factory, Clinton, Ill. For warehouse deliveries write nearest house.

CAPSTANS AND JACKS



Hand Capstan



Horse Capstan

Hand Capstan

This capstan is mounted on an iron frame and fitted with a raised link, which brings the holding line on the level with the pull.

List No.		List Price Each
760180	Style A, suitable for all ordinary use, with 5 handspikes.....	\$130.00
760181	Style A, made with horsepower attachment, complete with lever and singletree.....	150.00

Horse Capstan

Special horse lever telephone capstan, a light, high speed tool. Keeps the ropes down close to the ground, and has no complicated back gear to get out of order.

List No.		List Price Each
760182	Horse Capstan, with a 2 ft. drum, complete.....	\$130.00
760183	Horse Capstan, with a 2 ft. 6 in. drum, complete.....	140.00

W. E. Cable Reel Jack
Front ViewW. E. Cable Reel Jack
Side View

W. E. Cable Reel Jack

Has angle iron frame $1 \times \frac{1}{4}$ inch which is securely braced and corners reinforced. Bottom dimensions are $16 \times 36\frac{1}{2}$ inches. Frame is approximately 24 inches high. Screw is 2 inches diameter and $13\frac{1}{4}$ inches long. Screw head is $5\frac{1}{4}$ inches high with groove for cable reel axle 2 inches wide and $3\frac{1}{4}$ inches deep. With maximum extension of the screw, the height of jack would be approximately 40 inches, which will handle the largest size of usual cable reels. The hole for insertion of bar to raise and lower the screw is round and 1 inch in diameter.

List No.		Weight Lbs.	List Price per Pair
760184	W. E. Cable Reel Jack.....	150	\$50.00



No. 760185

Cable Reel Jack

Cable Reel Jack

A pair of these jacks will support cable reels of any size while the cable is being run off. The forked head will hold a $2\frac{1}{2}$ inch diameter shaft and will swivel to any position. The cable may be raised or lowered while it is supported on the jacks. These jacks are fitted with 2 x 16 inch locomotive jack screws braced on oak braces. Furnished with 6 ft. bar.

List No.		Weight Lbs.	List Price per Pair
760185	Cable Reel Jack, with 6 ft. bar.....		\$49.00
761268	Cable Reel Jack, without bar.....		36.00
761269	Bars per foot above 6 ft.....		1.50

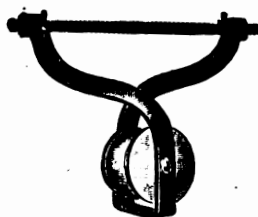
*Delivery F. O. B. Factory, Harvey, Ill. †Delivery F. O. B. Factory, New York, N. Y. For warehouse deliveries write nearest house.

Tools and Construction Appliances

CONSTRUCTION TOOLS



Adjustable



No. 2000-30. Cable Roller

Ratchet Adjustable Cable Reel Stand

In the ratchet reel stands the frame is made of one-inch angle iron, brace of 1 x 1/4 inch steel bars. Size of screw, 2 inches. Length of screw, 12 inches. Height of stand, only 16 inches. Height of stand to bearing point in yoke, 20 inches. Length of base, 27 inches. Width of base, 12 inches. Weight of stand, 58 lbs.

List No.		List Price per Pair
761538	Ratchet adjustable cable reel, without wood base.....	\$60.00

"Matlock" Cable Roller

This cable roller frame is of forged mild steel. The maple roller has a metal bushing extending beyond each end. This prevents the wear on the roller and keeps it in the centre of the frame.

List No.	Mfr. No.	Weight Lbs.	List Price
761119	2000-30	4 1/2	\$3.00

Manhole Skids and Sheaves



A tool for leading the pulling line from the mouth of the duct to the capstan. The skids have pin holes every three inches from top to bottom so that the sheaves can be moved any place desired in the skid. Nine foot sets furnished unless otherwise ordered.

List No.		List Price Each
760174	Nine-foot skids, per set.....	\$52.70
760175	Price for additional lengths, per foot.....	2.64



Empire Duct Rods

Empire Duct Rods

These rods are constructed of malleable iron machined to a perfect fit so that side or end play is avoided. The wooden rod is of the best selected straight-grained well-seasoned hickory, and is expanded in the end of the iron coupling by means of a wedge which makes it impossible to pull out.

The rods are made in two styles, without wheels and with wheels. In the wheel type the wheels are so staggered that if one axle should come in contact with an obstruction on one side of the duct the other side will remain free.

With Wheels			Without Wheels		
List No.	Length	§ List Price per Rod	List No.	Length	§ List Price per Rod
760176	3 ft.	\$2.10	760178	3 ft.	\$1.68
760177	4 ft.	2.27	760179	4 ft.	1.85

*Delivery F. O. B. New York City. †Delivery F. O. B. Factory, Chicago, Ill. ‡Delivery F. O. B. Factory, Harvey, Ill. §Delivery F. O. B. Factory, Garwood, N. J. For warehouse deliveries write nearest house.

CABLE ROLLERS AND CARS



"Bierce" Cable Roller—Closed



"Bierce" Cable Roller—Open

"Bierce" Cable Roller

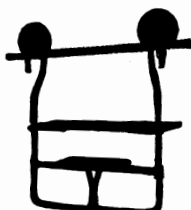
The "Bierce" cable roller is practically non-breakable, the frame being made of forged steel and the roller of cast iron, supported and protected on both sides by pressed steel disks, which insure the roller from injury as well as the cable, and at the same time prevent the cable or rope from catching when being pulled over the roller.

The hinged member, when thrown back, allows ample opening for the easy removal of the frame from the messenger wire and cable after the cable has been drawn and tied up in position.

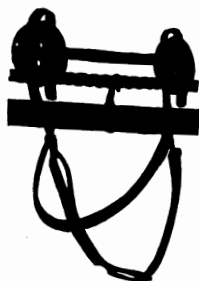
The clamping device, being mounted upon the hinged member, allows the frame to be rigidly clamped in position without placing any side strain upon the messenger wire.

The construction of the frame is so arranged as to allow it to hang safely from the messenger wire before the clamp is tightened. An oil hole is provided in the roller for oiling the axle.

List No.	Weight Lbs.	List Price Each	Each Galvd.
760191 Bierce Cable Roller.....	7½	\$3.50	\$4.00



Cable Car No. 1



Cable Car No. 3

Security Messenger Cable Cars

Cable Car No. 1 is a combined seat and table. The framework of the car is continuous, without joints, except for one elbow at each roller on the hook side, where it carries no weight. The rollers are of malleable iron, thin and light, but very strong. The seat is of wood with dovetail at each end, and its adjustable feature makes it fit any lineman and any kind of work. The table holds tools and materials.

Car No. 3 is not equipped with table, but is intended for use with a lineman's safety belt, which can easily be adjusted for height.

List No.	Mfr. No.	Description	Weight Lbs.	List Price Each
760195	1	With adjustable seat and table.....	53	\$23.00
760196	1	With adjustable seat, no table.....	37	15.00
760197	3	Without safety strap.....	28	7.90

*Delivery F. O. B. Factory, Cincinnati, Ohio. †Delivery F. O. B. Factory, Toledo, Ohio. For warehouse deliveries write nearest house.

Tools and Construction Appliances

BUFFALO GRIPS



Closed



Showing Jaws Locked Open

Western-Electric

Buffalo Grips

Made in the Following Types and Sizes

The jaws may be clamped open at any width, the grip held in one hand and the wire inserted, no matter in what position the lineman may be.

The harder the pull the firmer it grips, yet it does not injure the wire or insulation.

List No.	Grip No.	Description	Grip Only
761272	1	Extreme opening of .22 inch, holding wire from smallest size to No. 6, inclusive.	\$4.00
761273	2	Extreme opening of .35 inch, holding wire from smallest size to No. 0, inclusive.	6.40
761274	3	Extreme opening of .48 inch, holding all sizes of wire from smallest size to No. 0000, inclusive.	9.60
761275	4	Extreme opening of .52 inch, holding O. K. weatherproof wire, sizes No. 6 to No. 1, inclusive.	6.40
761276	5	Extreme opening of .68 inch, holding O. K. weatherproof wire, sizes No. 4 to No. 0000, inclusive.	8.00
761277	6	Extreme opening of .32 inch, holding O. K. weatherproof wire, sizes No. 14 to No. 8, inclusive.	4.00



With Pulley



Lineman's Tool

Buffalo Grips with Pulleys

Made in the Following Types and Sizes

List No.	Grip No.	Description	Grip with Pulley
761278	1	Extreme opening of .22 inch, holding wire from smallest size to No. 6, inclusive. Will accommodate rope $\frac{3}{8}$ inch in diameter.	\$4.80
761279	2	Extreme opening of .35 inch, holding wire from smallest size to No. 0, inclusive. Will accommodate rope $\frac{1}{2}$ inch in diameter.	7.20
761280	3	Extreme opening of .48 inch, holding all sizes of wire from smallest size up to No. 0000, inclusive. Will accommodate rope $\frac{5}{8}$ inch in diameter.	10.40
761281	4	Extreme opening of .52 inch, holding O. K. weatherproof wire, sizes No. 6 to No. 1, inclusive. Will accommodate rope $\frac{3}{4}$ inch in diameter.	7.20
761282	5	Extreme opening of .68 inch, holding O. K. weatherproof wire, sizes No. 4 to No. 0000, inclusive. Will accommodate rope $\frac{7}{8}$ inch in diameter.	8.80

Buffalo Lineman's Tool

List No.	Tool No.	Description	Complete Tool
761283	1	Extreme opening of .22 inch, holding wire from smallest size to No. 6, inclusive.	\$10.00
761284	2	Extreme opening of .35 inch, holding wire from smallest size to No. 0, inclusive.	13.00
761285	4	Extreme opening of .52 inch, holding weatherproof wire sizes No. 6 to No. 1, inclusive.	13.00

LINEMEN'S TOOLS



Quick Samson Grip

Quick Samson Trolley Wire Grip

Strand or Messenger Wire Grips

The grip consists of a body or retaining piece in which two steel wedge shape jaws move longitudinally. These jaws are arranged so as to move in either direction simultaneously, thus opening or closing them in unison. The gripping surface of the jaws is concave, and is provided with a series of milled teeth, spread over their entire length. These teeth grip into the spirals of the strand, and being uniformly distributed over the entire length of the jaw, grip the wire at very many points, thus taking a secure hold with the pressure distributed along the entire length of the gripping surface, so that no amount of strain falls sufficiently at one point to crush or injure the wire. The tackle is attached to the two oblong rings in the body piece; these rings being arranged central, insure a straight pull. The proportions of the various parts are calculated to carry any strain that is necessary to tighten the wire and the jaws are self adjusting. Made in the following sizes:

List No.			Weight Lbs.	List Price
			Each	Each
1618-20	For $\frac{1}{4}$ to $\frac{3}{8}$ in. strand, gripping surface 7 in.....		8	\$16.00
1618-30	For $\frac{3}{8}$ to $\frac{1}{2}$ in. strand, gripping surface 7 in.....		9 $\frac{1}{2}$	17.50
1618-40	For $\frac{1}{2}$ to $\frac{5}{8}$ in. strand, gripping surface 9 in.....		14 $\frac{1}{2}$	19.00

For Strand

For Trolley Wire

A modification of the Quick Samson Grip is available for trolley wire. The jaws are not serrated, but only roughened.

List No.			Weight Lbs.	List Price
			Each	Each
1619-20	For No. 6 to 2-0 B&S wire, gripping surface 7 in.....		8	\$16.00
1619-30	For No. 2 to 4-0 B&S wire, gripping surface 7 in.....		9 $\frac{1}{2}$	17.50
1619-40	For $\frac{1}{4}$ to $\frac{5}{8}$ in. B&S wire, gripping surface 9 in.....		14 $\frac{1}{2}$	19.00



Wire Grip

Klein's Parallel Screw Wire Grip

For Trolley Wire

List No.			Weight Lbs.	List Price
			Each	Each
1608-10	Two grooves for Nos. 0 and 00.....		7	\$3.50
1608-20	Two grooves for Nos. 00 and 000.....		7 $\frac{1}{2}$	4.00
1608-30	Two grooves for Nos. 000 to 0000.....		7 $\frac{1}{2}$	5.00
1608-40	One groove for Nos. 00 and 8.....		7	4.50
1608-50	One groove for Nos. 000 and 8.....		7 $\frac{1}{2}$	5.00
1608-60	One groove for Nos. 0000 and 8.....		7 $\frac{1}{2}$	5.00

Howe's Wire Tool
Single PurchaseHowe's Wire Tool
Double Purchase

Howe's Wire Tools

The frames are malleable, castings galvanized finish, roller made of wood, and brass bushed. The swivel hook is steel with an opening large enough to go over an insulator pin or other convenient object to anchor to. The forward end has a locking device to hold the load at any distance. It is arranged so it can be used with a vise or with a grip.

List No.			Weight	List Price
			Lbs.	per Set
1702-20	Single purchase strap 1 $\frac{1}{2}$ in. wide, 9 ft. long.....		2	\$6.00
1702-30	Double purchase strap 1 $\frac{1}{2}$ in. wide, 10 ft. long.....		2 $\frac{1}{2}$	7.50

Tools and Construction Appliances

PULLEY BLOCKS
Wood Pulley Blocks
Wood Pulley Block with Hook



**Wood Pulley Block
with Becket**

List No.	Size Sheave, Inches	Length Shell	No. of Sheaves	Size of Rope	List Price Each
760335	1 3/4 x 1 3/4 x 3/8	3 ins.	Single	3/8 in.	\$0.70
760336	1 3/4 x 1 3/4 x 3/8	3 ins.	Double	3/8 in.	1.34
760337	1 3/4 x 1 3/4 x 3/8	3 ins.	Triple	3/8 in.	1.74
760338	2 x 1 3/4 x 3/8	3 1/2 ins.	Single	3/8 in.	.74
760339	2 x 1 3/4 x 3/8	3 1/2 ins.	Double	3/8 in.	1.44
760340	2 x 1 3/4 x 3/8	3 1/2 ins.	Triple	3/8 in.	2.00
760341	2 1/4 x 1 3/4 x 3/8	4 ins.	Single	1/2 in.	.84
760342	2 1/4 x 1 3/4 x 3/8	4 ins.	Double	1/2 in.	1.60
760343	2 1/4 x 1 3/4 x 3/8	4 ins.	Triple	1/2 in.	2.14
760344	3 x 1 3/4 x 3/8	5 ins.	Single	5/8 in.	.90
760345	3 x 1 3/4 x 3/8	5 ins.	Double	5/8 in.	1.74
760346	3 x 1 3/4 x 3/8	5 ins.	Triple	5/8 in.	2.24
760347	3 1/2 x 1 x 1/2	6 ins.	Single	3/4 in.	1.10
760348	3 1/2 x 1 x 1/2	6 ins.	Double	3/4 in.	2.00
760349	3 1/2 x 1 x 1/2	6 ins.	Triple	3/4 in.	2.90
760350	4 1/4 x 1 1/8 x 5/8	8 ins.	Single	1 in.	1.64
760351	4 1/4 x 1 1/8 x 5/8	8 ins.	Double	1 in.	2.84
760352	4 1/4 x 1 1/8 x 5/8	8 ins.	Triple	1 in.	4.24

NOTE: State if wanted with or without becket.

Steel Tackle Block

Iron Bushed



**Single with
Becket**



Double with Becket

List No.	Diameter Sheaves	Length Shell	No. of Sheaves	Size of Rope	List Price Each
760353	1 3/4 ins.	3 ins.	Single	3/8 in.	\$0.70
760354	1 3/4 ins.	3 ins.	Double	3/8 in.	1.34
760355	1 3/4 ins.	3 ins.	Triple	3/8 in.	1.74
760356	2 1/4 ins.	4 ins.	Single	1/2 in.	.84
760357	2 1/4 ins.	4 ins.	Double	1/2 in.	1.60
760358	2 1/4 ins.	4 ins.	Triple	1/2 in.	2.14
760359	3 ins.	5 ins.	Single	5/8 in.	.90
760360	3 ins.	5 ins.	Double	5/8 in.	1.74
760361	3 ins.	5 ins.	Triple	5/8 in.	2.24
760362	3 1/2 ins.	6 ins.	Single	3/4 in.	1.10
760363	3 1/2 ins.	6 ins.	Double	3/4 in.	2.00
760364	3 1/2 ins.	6 ins.	Triple	3/4 in.	2.90
760365	4 1/4 ins.	7 ins.	Single	7/8 in.	1.30
760366	4 1/4 ins.	7 ins.	Double	7/8 in.	2.40
760367	4 1/4 ins.	7 ins.	Triple	7/8 in.	3.50
760368	4 1/4 ins.	8 ins.	Single	1 in.	1.64
760369	4 1/4 ins.	8 ins.	Double	1 in.	2.84
760370	4 1/4 ins.	8 ins.	Triple	1 in.	4.24

Hollow Shell Steel Blocks

Improved Roller Bushed



**Single with
Becket**



Double with Becket

List No.	Diameter Sheaves	Length Shell	No. of Sheaves	Size of Rope	List Price Each
760371	1 3/4 ins.	3 ins.	Single	3/8 in.	\$1.80
760372	1 3/4 ins.	3 ins.	Double	3/8 in.	3.52
760373	1 3/4 ins.	3 ins.	Triple	3/8 in.	5.02
760374	2 1/4 ins.	4 ins.	Single	1/2 in.	1.86
760375	2 1/4 ins.	4 ins.	Double	1/2 in.	3.66
760376	2 1/4 ins.	4 ins.	Triple	1/2 in.	5.24
760377	3 ins.	5 ins.	Single	5/8 in.	2.02
760378	3 ins.	5 ins.	Double	5/8 in.	3.90
760379	3 ins.	5 ins.	Triple	5/8 in.	5.46
760380	3 1/2 ins.	6 ins.	Single	3/4 in.	2.46
760381	3 1/2 ins.	6 ins.	Double	3/4 in.	4.56
760382	3 1/2 ins.	6 ins.	Triple	3/4 in.	6.36
760383	4 1/4 ins.	7 ins.	Single	7/8 in.	2.84
760384	4 1/4 ins.	7 ins.	Double	7/8 in.	5.24
760385	4 1/4 ins.	7 ins.	Triple	7/8 in.	7.04
760386	4 1/4 ins.	8 ins.	Single	1 in.	3.66
760387	4 1/4 ins.	8 ins.	Double	1 in.	6.60
760388	4 1/4 ins.	8 ins.	Triple	1 in.	9.30

"YALE" HOIST BLOCKS $\frac{1}{4}$ to 2 tons

3 and 4 tons



5 to 10 tons



12 to 20 tons

Yale Triplex Blocks**"Yale" Triplex Blocks**

From Hook to Hook a Line of Steel

Capacity $\frac{1}{4}$ to 20 Tons

"Yale" Triplex Blocks are rated on a capacity basis of a long ton 2240 lbs. and each block is tested at the factory with a 50 per cent. overload of 3360 lbs. for each rated ton. Every detail in Yale Hoists is the result of careful research in the factory laboratory and the most severe tests under service conditions. Its independent automatic load-sustaining device, operated entirely separate from its lifting mechanism, admits of 80 per cent. of the power exerted by a man pulling on the hand chain being transformed into actual lifting energy.

"Yale" steel safety hooks, steel suspension members and Yale steel chain are some of the exclusive features of these blocks introduced to safeguard operators and loads.

The blocks are so planned that all capacities are made up of the four basic sizes, namely: $\frac{1}{4}$, 1, $1\frac{1}{2}$ and 2 ton. This simplifies the renewal of parts; for example, the 2 ton parts fit all sizes 4 tons and larger.

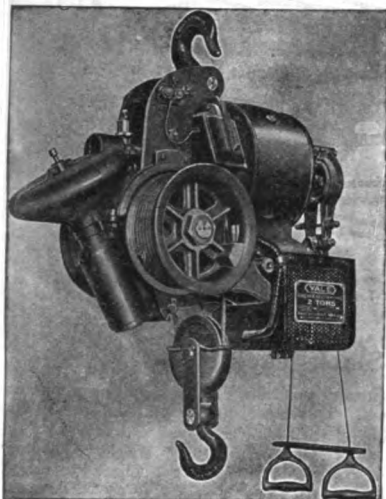
List Prices and Data

List No.	Capacity in Tons	Net Weight	List Price Complete Block with Std. Hoist	Std. Hoist in Feet	List Price Extra Hoist per Foot
761856	$\frac{1}{4}$	58 lbs.	\$56.00	8	\$1.44
761857	$\frac{1}{2}$	58 lbs.	56.00	8	1.44
761858	1	91 lbs.	72.00	8	1.52
761859	$1\frac{1}{2}$	131 lbs.	96.00	8	1.60
761860	2	200 lbs.	112.00	9	1.68
761861	3	206 lbs.	144.00	10	2.40
761862	4	293 lbs.	176.00	10	2.56
761863	5	407 lbs.	224.00	12	3.44
761864	6	407 lbs.	264.00	12	3.44
761875	8	497 lbs.	320.00	12	4.32
761876	10	606 lbs.	384.00	12	5.20
761877	12	898 lbs.	480.00	12	6.88
761878	16	1005 lbs.	576.00	12	8.64
761879	20	1326 lbs.	680.00	12	10.40

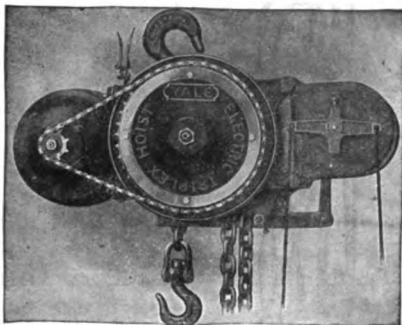
A high speed block with special gearing is made in two sizes: $\frac{1}{4}$ ton, list price \$56.00, $\frac{1}{2}$ ton, list price \$72.00.

Delivery F. O. B. Factory, Stamford, Conn. For warehouse deliveries write nearest house.
Tools and Construction Appliances

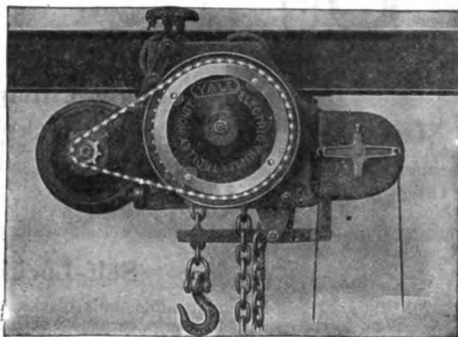
"YALE" ELECTRIC HOISTS



"Yale" Electric Hoist, "KY" Type



"Yale" Electric Triplex Hoist



"Yale" Electric Triplex Trolley Hoist

"Yale" Electric Hoist "KY" Type

Electric hoists give from five to ten times the speed of hand hoists and their cost is only a fractional part of electric traveling cranes. The weight of Yale Hoists is distributed so that each machine balances and swivels on the single top hook. The load is carried by steel suspension plates. Both direct and alternating current hoists can be supplied.

List No.	Capacity in Tons	Size Motors	Parts Hoisting Rope	Lift in Feet		List Price Standard Lift
				Standard	Maximum	
761930	1	3 H. P.	2	15	45	\$640.00
761931	2	3 H. P.	2	15	45	664.00
761932	4	3 H. P.	4	15	22	720.00
761933	5	7 H. P.	2	15	45	1120.00
761934	6	3 H. P.	6	10	15	776.00
761935	10	7 H. P.	4	15	22	1520.00

Above prices for direct current plain control.

"Yale" Electric Triplex Hoist

Where any quantity of material from 50 to 4000 pounds has to be repeatedly lifted and lowered, as in serving machine tools, this is the hoist to use.

Capacity	Dimensions			Standard Lift	Weight	List No.	List Price Hoist with Standard Lift Direct Current	List No.	List Price	
	Min. Dist. between Hooks	Overall Width	Overall Length						Hoist with Standard Lift Alternating Current	Extra Lift per Foot
1/4 ton	20 ins.	16 ins.	33 ins.	10 ft.	250 lbs.	761936	\$360.00	761939	\$400.00	\$1.28
1 ton	25 ins.	20 ins.	36 1/4 ins.	10 ft.	350 lbs.	761937	416.00	761940	464.00	1.44
2 tons	32 ins.	20 ins.	36 1/2 ins.	10 ft.	425 lbs.	761938	488.00	761941	544.00	2.32

The 1 and 2 ton hoist for direct current service can be furnished with a variable speed controller at an additional list price of \$38.40.

"Yale" Electric Triplex Trolley Hoist

This type of hoist is designed for close head room. This hoist is a little wider than the hoist with the top hook, and it is necessary to have wider switches in the overhead track than those with the regular hoist with top hook.

Capacity	Standard Size of I-Beam	Dimensions			Weight	List No.	List Price Hoist with 10-foot Lift Direct Current	List No.	List Price	
		Hook to I-Beam	Overall Width	Overall Length					Hoist with 10-foot Lift Alternating Current	Extra Lift per Foot
1/4 ton	5 ins.	18 1/4 ins.	16 ins.	33 3/4 ins.	260 lbs.	761942	\$448.00	761945	\$576.00	\$1.28
1 ton	6 ins.	20 1/4 ins.	19 1/4 ins.	36 1/2 ins.	475 lbs.	761943	536.00	761946	664.00	1.44
2 tons	8 ins.	26 1/2 ins.	20 ins.	37 ins.	560 lbs.	761944	608.00	761947	736.00	2.32

When hoists are required for larger I-Beams than the standard size indicated in the table, there will be an extra charge.

Delivery F. O. B. Factory, Stamford, Conn. For warehouse deliveries write nearest house.

KLEIN'S LINEMEN'S TOOLS



Lineman's Slack Tackle No. 1801-30



Self-Locking Block Set No. 1802-30



Self-Locking Block Set No. 1803-30

Self-Locking Lineman's Slack Tackle

Light steel shell blocks fitted with snubbing hook to lock in any position, also in handling a vertical load. To lock the load, simply pull the luff rope under the hook. To release, simply pull the rope. The forward block is arranged with a snap hook with spring guard.

List No.	Mfr. No.		Weight Lbs.	List Price per Set
760264	1801-30	Self-locking lineman's slack tackle, galv., furnished with 25 ft. of rope.	2½	\$5.50

Self-Locking Blocks

760265	1802-30	Self-locking troubleman's blocks, galvanized, with snap at end for attaching grip, furnished with 25 ft. ½ in. rope.....	2½	\$5.50
760266	1803-30	Self-locking lineman's eye blocks, galvanized, with eye at each end for attaching grips, furnished with 25 ft. ½ in. rope.....	2	5.00



Lineman's Wood Block

Lineman's Wood Pulley Blocks

With Eye at Ends for Fastening Grips

List No.	Mfr. No.		Weight per Pair	List Price per Pair
761973	180	4 inch block for ½ inch rope.....	4 lbs.	\$5.00

We can furnish rope, but none is included in the prices listed.



Pulley Block With Eccentric Grip

Klein's Pulley Blocks with Eccentric Grips

List No.	Mfr. No.		Weight per Pair	List Price per Pair
761974	182	Galvanized iron 2½ inch blocks, for ½ inch rope.....	2½ lbs.	\$3.50
761975	183	Brass 2½ inch blocks, for No. 12 wire and smaller, for ½ inch rope.	3 lbs.	8.00
761976	184	Galvanized 4 inch blocks, for No. 4 wire and smaller, for ½ inch rope.	6½ lbs.	7.00

Rope extra.

Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.
Tools and Construction Appliances

WIREMEN'S TOOLS



Laurent Cherry Block



No. 300 Dicke Messenger Clamp

Laurent Cherry Pulley Block

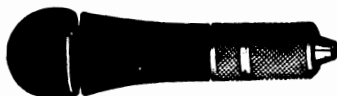
This pulley block is specially recommended where heavy pulling is necessary, drawing cables, tightening guy wires, stretching messenger cable, etc. One man can tighten a heavy back guy with a No. 4, while two men can stretch a heavy messenger cable with a No. 6. It is an ideal tool for the lineman. It never slips, pulls powerfully and is convenient in any position. The No. 6 size pulls or lifts two tons; the No. 4 size pulls or lifts three-quarters of a ton.

List No.	Mfr. No.		List Price Each
761286	2	Laurent cherry pulley block.....	\$8.00
761287	4	Laurent cherry pulley block.....	16.00
761288	6	Laurent cherry pulley block.....	24.00

Dicke Messenger Clamp

760252	300	Dicke Messenger Clamp.....	†\$25.00
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For any wire measuring from $\frac{1}{8}$ to $\frac{3}{4}$ in.



No. 4



No. 600

Hollow Handle Tool Sets

List No.	Mfr. No.		Length of Handle	Length of Tool	List Price
760272	4	Cocobolo wood, jaws and shell nicked 10 tools.....	6 $\frac{1}{4}$ in.	2 $\frac{1}{2}$ in.	\$2.00
761855	600	Combination handle, complete with 20 tools.....	5 in.	2 $\frac{1}{4}$ in.	2.00

*Delivery F. O. B. Factory, Trenton, N. J. †Delivery F. O. B. Factory, Downers Grove, Ill. ‡Delivery F. O. B. Factory, New York City. §Delivery F. O. B. Factory, Miller Falls, Mass. For warehouse deliveries write nearest house.

TREE TRIMMERS
AND SNIPS

Standard Tree Trimmer



New Giant Tree Trimmer



Telephone Tree Trimmer



Little Giant

Standard Tree Trimmer

List No.	Length	Approx. Wt.		*List Price	List No.	Length	Approx. Wt.		*List Price
		lbs.	ozs.	Each			lbs.	ozs.	Each
760275	4-ft. Standard.....	2	8	\$1.00	760278	10-ft. Standard.....	4	4	\$1.26
760276	6-ft. Standard.....	3	2	1.16	760279	12-ft. Standard.....	5	0	1.38
760277	4-ft. Standard.....	4	0	1.26					

New Giant Tree Pruner

List No.	Length	Size	Weight	*List Price
				Each
761655	New Giant Tree Pruner without pole.....	15 ins. high	2 lbs., 4 ozs.	\$4.00

Telephone Tree Trimmer

List No.	Length	Size	Weight	*List Price
				Each
760280	Heads only, without pole and rope.....		1½ lbs.	\$2.00

"Little Giant" Pruning Hook and Saw

List No.	Length	Size	Weight	*List Price
				Each
760281	Hook and saw (without pole), length of blade 12 inches.....			\$3.88
760282	Hook only (without pole).....			1.88

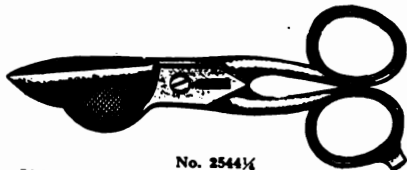
*Delivery F. O. B. Factory, Williamsport, Pa. *Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.



Wire Stretcher

Wire Stretcher

761657	Wire Stretcher, for No. 8 wire and smaller.....	\$3.76
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No. 2544¼

Electrician's Snips

761656	2544¼ Electrician's Snips.....	\$5.40
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Tinner's Snips

List Price
per Dot
\$5.40

Tinner's Snips

List No.	Mfr. No.	Cuts	List Price	List No.	Mfr. No.	Cuts	List Price
761658	6	Tinner's Snips.....	4½ ins. \$4.06	761661	9	Tinner's Snips.....	3 ins. \$2.04
761659	7	Tinner's Snips.....	4 ins. 3.40	761727	10	Tinner's Snips.....	2½ ins. 1.90
761700	8	Tinner's Snips.....	3½ ins. 2.70				

Tools and Construction Appliances

KLEIN'S WIREMEN'S TOOLS

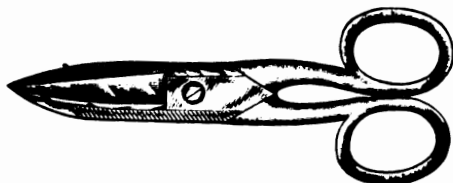


P. & G. Wire Skinner

P. & G. Wire Skinner

This wire skinner does away with the dangerous pocket knife. Skins wire clean at one stroke. Does not nick, mar, or injure the wire. Skins or splits any kind of insulated wire, including weatherproof, rubber covered, cotton covered, braided, lead covered, single and duplex wire, lamp cord, etc.

List No.	Mfr. No.		Weight	List Price Each
760274	2300-10	Wire Skinner.....	4 oz.	\$1.50



Electrician's Scissors



No. 1550-1—Single Blade



No. 1550-2—Double Blade

"Xela" Electrician's Scissors

List No.	Mfr. No.		Finish	Weight Each	Size	List Price Each
761049	2100-5	Electrician's Scissors.....	Nickel Plated	2 3/4 oz.	5 in.	\$1.00

"Xela" Electrician's Knife and Screw Driver

These knives have a screw driver blade which locks when open, thus preventing closing on the hand. The screw driver blade is ground to a knife edge, which makes it suitable for stripping insulated wire. The point of the blade is made for a screw driver and is drawn to a satisfactory temper for setting screws. The handles are made of rosewood with brass rivets. The bolsters are of German silver.

List No.	Mfr. No.		Weight	List Price Each
761050	1550-1	Single Blade Electrician's Knife.....	1 5/8 oz.	\$1.00
761051	1550-2	Double Blade Electrician's Knife.....	2 5/8 oz.	1.50



Needle Point



Blunt Point

Electrician's Wire Tweezers

List No.		Finish	Length	List Price Each
761052	Wire Tweezers, needle point.....	Nickel	4 1/4 in.	\$0.60
761053	Wire Tweezers, blunt point.....	Nickel	3 3/4 in.	.60

KLEIN'S LINEMEN'S PLIERS



Klein's "World Special" Side Cutting Pliers



With Sleeve Twister

Klein's "World Special" Side Cutting Pliers

List No.	Size	Weight per Doz.	List Price Each	List No.	Size	Weight per Doz.	List Price Each
200-5	5 in.	3 lbs.	\$2.00	200-8	8 in.	12 lbs.	\$3.70
200-6	6 in.	5 lbs.	2.60	200-9	9 in.	13 lbs.	4.20
200-7	7 in.	7½ lbs.	3.10	200-10	10 in.	18 lbs.	5.60

With Sleeve Twister

List No.	Size	Weight per Doz.	List Price Each
213-7	7 in. B & S sleeve twister, for No. 12 wire.....	7½ lbs.	\$3.50
213-8	8 in. B & S sleeve twister, for No. 10 wire.....	12 lbs.	4.00
213-9	9 in. B & S sleeve twister, for No. 10 wire.....	13 lbs.	4.50



Klein's "Diamond Special" Side Cutting Pliers



With Sleeve Twister

Klein's "Diamond Special" Side Cutting Pliers

List No.	Size	Weight per Doz.	List Price Each	List No.	Size	Weight per Doz.	List Price Each
201-5	5 in.	3 lbs.	\$2.00	201-8	8 in.	12 lbs.	\$3.70
201-6	6 in.	5 lbs.	2.60	201-9	9 in.	12½ lbs.	4.20
201-7	7 in.	7½ lbs.	3.10	201-10	10 in.	18 lbs.	5.60

With Sleeve Twister

List No.	Size	Weight per Doz.	List Price Each
212-7	7 in. B & S sleeve twister, for No. 12 wire.....	7½ lbs.	\$3.50
212-8	8 in. B & S sleeve twister, for No. 10 wire.....	12 lbs.	4.00
212-9	9 in. B & S sleeve twister, for No. 10 wire.....	13 lbs.	4.50



Klein's Duck Bill Pliers Without Side Cutters



Klein's Duck Bill Side Cutting Pliers

Klein's Extra Long Duck Bill Pliers

List No.	Size Inches	Weight per Doz.	List Price Each	List No.	Size Inches	Weight per Doz.	List Price Each
304-5	5 Without cutter	3 lbs.	\$1.60	205-5	5 With Side Cutter	2½ lbs.	\$1.70
304-6	6 Without cutter	3¼ lbs.	1.70	205-6	6 With Side Cutter	3 lbs.	1.80
304-7	7 Without cutter	3½ lbs.	1.90	205-7	7 With Side Cutter	3½ lbs.	2.00

Tools and Construction Appliances

WIREMEN'S PLIERS



Klein's Extra Long Nose Pliers Without Side Cutters



Klein's Extra Long Nose Pliers (Side Cutting)

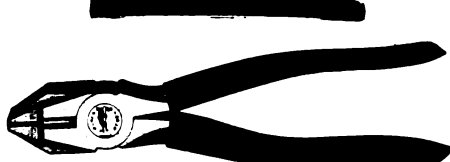
Klein's Extra Long Oval Nose Pliers

List No.	Size Inches		Weight per Doz.	List Price Each
301-5	5	Without Cutter	2½ lbs.	\$1.60
301-6	6	Without Cutter	3 lbs.	1.70
301-7	7	Without Cutter	3¼ lbs.	1.90

List No.	Size Inches		Weight per Doz.	List Price Each
203-5	5	With Side Cutter	2¾ lbs.	\$1.70
203-6	6	With Side Cutter	3 lbs.	1.80
203-7	7	With Side Cutter	3¼ lbs.	2.00



Long Needle Nose Pliers



Rubber Sleeves for Insulating Pliers

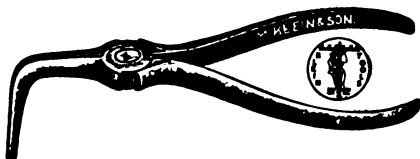
Klein's Extra Long Needle Nose Pliers

List No.	Size Inches		Weight per Doz.	List Price Each
303-5	5	Without Cutter	2½ lbs.	\$1.60
303-6	6	Without Cutter	3 lbs.	1.70
303-7	7	Without Cutter	3¼ lbs.	1.90

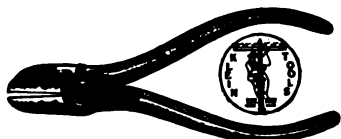
Rubber Sleeves For Insulating Pliers

Made of Pure Gum Soft Rubber

List No.		Weight per Doz.	List Price Each
2400-6	For 6-in. pliers, per pr.	2¾ lbs.	\$1.00
2400-7	For 7-in. pliers, per pr.	3¼ lbs.	1.00
2400-8	For 8-in. pliers, per pr.	3¾ lbs.	1.00



Klein's Extra Long Curved Nose Pliers



Klein's Oblique Diagonal Cutting Pliers

Klein's Extra Long Curved Nose Pliers

List No.		Weight per Doz.	List Price Each
302-6	6 inch extra long curved nose pliers.....	2½ lbs.	\$1.90

Klein's Oblique Diagonal Cutting Pliers

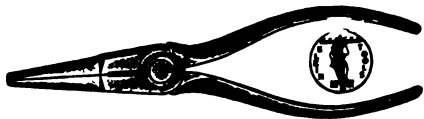
202-5	5 inch diagonal cutting pliers.....	4 lbs.	\$2.00
202-6	6 inch diagonal cutting pliers.....	4¼ lbs.	2.20



Extra Long Flat Nose Pliers Without Side Cutters

Klein's Extra Long Flat Nose Pliers Without Side Cutters

List No.	Size Inches		Weight per Doz.	List Price Each
305-5	5	Without Cutter	3 lbs.	\$1.60
305-6	6	Without Cutter	3¼ lbs.	1.70
305-7	7	Without Cutter	3¾ lbs.	1.90



Extra Long Flat Nose Pliers With Side Cutters

Klein's Extra Long Flat Nose Pliers—Side Cutters

List No.	Mfr. Size Inches		Weight per Doz.	List Price Each
206-5	5	With Side Cutter	3¼ lbs.	\$1.70
206-6	6	With Side Cutter	3½ lbs.	1.80
206-7	7	With Side Cutter	3¾ lbs.	2.00

Tools and Construction Appliances

MISCELLANEOUS TOOLS



Bryant Combination Pliers



Economy Pliers

Insulation Cutting Pliers

BRYANT'S COMBINATION PLIERS

This tool combines a pair of 8 inch side cutting pliers and a tool for stripping the insulation from Nos. 10, 12, and 14 B & S single and duplex wire and all sizes of lamp and portable cord.

List No.	Mfr. No.		Std. Pkg.	List Price Each
760509	400	Combination tool and plier.....	24	\$9.80

ECONOMY PLIERS

Strips insulation from ends and sections of wire and flexible cord; loops ends of wire in a second.

List No.	Mfr. No.	Description	Pkg. Wt., Lbs.	Std. Pkg.	List Price Each
760510	1816	6 in. plain handle.....	10	25	\$2.54



No. 10



Porcelain Tube and Carbon Cutter

Utica Giant

List No.		Weight	List Price Each
760506	4½ in. button pliers.....	3½ lbs.	\$0.60
760507	6 in. button pliers.....	6½ lbs.	.76
760508	8 in. button pliers.....	10½ lbs.	.86
761353	10 in. button pliers.....	17½ lbs.	1.04

Hagstrom Porcelain Tube and Carbon Cutter

This tool is so designed that pressure is applied to the tube equally at four points, thereby causing the tube to snap off at any point where pressure is applied. By using this tool there will be no wasting of tubes.

The Non-Adjustable Porcelain Tube Cutter is the same as the above, with the exception that it will cut only one size porcelain tubes. When ordering specify size.

List No.		List Price Each
760514	Adjustable Cutter for 1/4, 3/8, 1/2 and 5/8 inch porcelain tubes.....	\$5.00
760515	Non-adjustable Cutter.....	2.70



Joint Twisters

Joint Twister

For Double Tube Sleeve

List No.		List Price per Doz.
761537	Joint twister, 10¼ inches long.....	\$30.00

KLEIN'S COMBINATION WIRE AND SLEEVE CLAMPS

For Telephone, Telegraph, Railway, Electric Light and Power Work

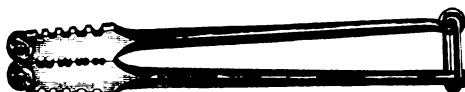


No. 132-2



(No. 132-5

List No.		Length Inches	Wt. Per Doz., Lbs.	List Price Each
132-2	Has 4 round holes for Nos. 8, 10, 12, 14 iron wire, 6, 8, 10, 12 copper wire and 3 double holes for Nos. 10, 12, 14 B&S sleeves, or 12, 14 and 16 B. W. G. sleeves.	9	10¼	\$3.50
132-5	Has six round holes for Nos. 6, 8, 9, 10, 12, 14 and 16 iron wires, or Nos. 4, 6, 8, 9, 10, 11, 12 and 14 copper wires. Five double holes for twisting sleeve joints Nos. 6, 8, 9, 10, 11, 12 and 14 B&S copper sleeves, or Nos. 8, 9, 10, 11, 12, 14 and 16 iron sleeves.	11¼	17¼	4.00



No. 132-3

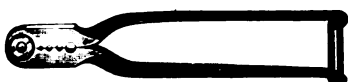


No. 132-4

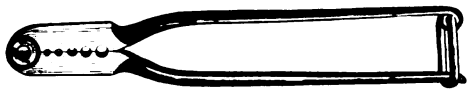
List No.		Length Inches	Wt. Per Doz., Lbs.	List Price Each
132-3	Has 5 round holes and 4 double holes for Nos. 6, 8, 10, 12 and 14 iron wire, 4, 6, 8, 10 and 12 copper wire, and 8, 10, 12 and 14 B&S sleeves, or 10, 12, 14 and 16 B. W. G. sleeves.	10¾	15½	\$3.60
132-4	Same style only arranged for different sleeves. For Nos. 6, 8, 10 and 12 B&S sleeves, or 8, 10, 12 and 14 B. W. G. sleeves, 6 to 14 iron wire, and 4 to 12 copper wire.	10¾	15½	3.60

KLEIN'S SPLICING CLAMPS

The splicing clamp is one of the most important tools in the lineman's kit, and as electrically and mechanically good joints are of the most importance in a line, it is evident that the tools selected to do this work should have careful consideration. The following illustrations show our different styles and the sizes of wire for which they are fitted. The handles have a spring temper and will not bend out of shape after being closed on the wire.



No. 102-1



No. 102-3

Baby Pattern for Telephone Work

List No.		Length Inches	Wt. Per Doz., Lbs.	List Price Each
102-1	For Nos. 10, 12, 14, and 16 copper wire; 12, 14, 16, 18 iron wire.	7	4½	\$2.70
102-3	For Nos. 6, 8, 10, 12 and 14 iron wire, 4, 6, 8, 10 and 12 copper wire	10½	14¾	3.40



No. 102-4



No. 102-2

For Electric Light, Telegraph and Railroad Work

List No.		Length Inches	Wt. Per Doz., Lbs.	List Price Each
102-1	For Nos. 4, 6, 8 and 10 iron wire, or Nos. 2, 4, 6 and 12 copper wire	10½	14¾	\$3.20
102-4	For Nos. 0, 2 and 4 copper wire.	10¾	14¾	3.20



Nos. 105-6 and 105-7

For Telephone, Telegraph, Railway, Light and Power Work

List No.		Length Inches	Wt. Per Doz., Lbs.	List Price Each
105-6	For sleeves Nos. 8, 10, 12 and 14 B&S gauge or 10, 12, 14, 16 B. W. G.	10½	14	\$3.20
105-7	For sleeves Nos. 6, 8, 10 and 12 B&S gauge or 8, 10, 12, 14 B. W. G.	10½	14	3.20

RUBBER GLOVES

Pure Rubber Gloves



Seamless Glove—Unlined

The seamless type gloves are made of red rubber. Only the best selected pure fine Para rubber is used in their manufacture. Being seamless, they have no imperfection on account of laps or joints. They are easily cleaned or dried by turning, as they have no fabric or lining to interfere. They are flexible and serviceable, while the safety is measured by the tests to which each pair is subjected before leaving the factory.

The sizes are standard rubber glove sizes and compare with Nos. 14 and 15 of the coated seam glove. The standard weights are tested for about 4,000 volts, heavy weights about 10,000 volts. The heavy palm have the standard weight gauntlet, but palm of this glove is tested for about 10,000 volts. Length, 11 to 15 inches.

List No.	Size No.	Length Inches
760542	10	12
760548	11	12
760545	10	15
760551	11	15
760543	10	12
760550	11	12
760546	10	14

Style	List Price per Doz. Pairs
Standard	\$45.00
Standard	45.00
Standard	52.50
Standard	60.00
Ex. Heavy Finger & Palm	60.00
Ex. Heavy Finger & Palm	60.00
Ex. Heavy Finger & Palm	75.00



Without Gauntlet



With Gauntlet

Rubber Gloves, Cloth Lined

Palm and Fingers Reinforced

The seam rubber glove is made from selected rubber and is cloth lined. The heavy weight gloves listed below are subjected to a test of 9,000 volts before leaving factory. To determine size required, measure hand around knuckles, and then add 6 inches to measurement; i.e., if hand should measure 8 inches, order size No. 14 for close fit, or No. 15 for loose fit.

List No.	Style	Size	Extra Heavy Weight, Without Gauntlet	List Price per Doz. Pairs
760554	Short	13 to 15	.....	\$50.62
760555	Short	16	.....	55.70
760556	Short	17	.....	65.82

List No.	Style	Length Gauntlet	Size	Extra Heavy Weight, With Gauntlet	List Price per Doz. Pairs
760558	Half Long	4 1/2 inch	13 to 15	.....	\$60.74
760559	Half Long	4 1/2 inch	16	.....	65.82
760560	Half Long	4 1/2 inch	17	.....	70.88

Tools and Construction Appliances

38

MISCELLANEOUS MATERIAL



Hip Boot



Storm King Boot



All Gum Boot

Rubber Boots

Boots. Boots fitted too big will wrinkle badly and prove unsatisfactory.

Boot Linings. As between the felt or wool lining our recommendation is the net for warmth, comfort, and general hygienic reasons, whether the boot is of heavy or light-weight construction.

Milk. Milk left to dry on rubber boots will rot them.

Heat. Heat will ruin any rubber.

Oil. Oil will destroy any rubber.

Sun. Rubber footwear left in the sun will dry up and be ruined.

List
No.

*List Price
per Pair

761532 Men's hip boots heavy, dull finish, wool, net or fusion lining. Widths F, W, sizes 5 to 13.

\$12.00

761533 Men's Storm King, dull finish, wool, net, cotton or fusion lining, light or heavy weight, width F, W, sizes 5 to 13.

10.00

761534 Men's all gum, heavy dull finish, wool, net or fusion lining, width F, W, sizes 5 to 13.

8.00

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.



Linemen's Shield

Marshall's Linemen's Shield

This is a patented device to protect linemen when working on high-tension lines. It is made of rubber varying in thickness from $\frac{3}{4}$ inch, where it is subjected to pressure, to $\frac{1}{4}$ inch along the flaps. Its shape is such that when the shield is in place no "live" part of the circuit is within danger range of the lineman. A hard rubber ring, slotted with an opening sufficiently large to admit the wires, serves to clamp the shield securely to the wire. Each shield is subjected to a submerged test of 30,000 volts before shipment. The shield is applied in a large variety of positions. I.e.: It fits over the insulator. To place it, the lineman grips it by the rubber handle attached to the outside so that the shield is between his hands and the wire. This device is recommended for use on circuits not to exceed 10,000 volts.

List
No.

†List Price
Each

761535 Marshall's Linemen's Shield

\$70.00

†Delivery F. O. B. Factory, Akron, O. For warehouse deliveries write nearest house.

KLEIN'S POCKET TOOL KITS

These tool kits are recommended especially for every electrician, mechanic, repairman, inspector, lineman, signalman and supervisor.



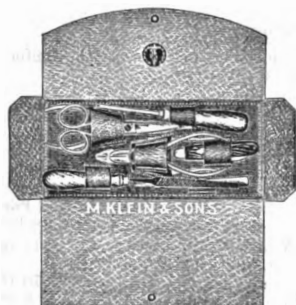
No. 1304-2

List
No.
1304-2

Genuine leather case, contains a selection of Klein tools such as have been found particularly desirable by electricians and wiremen on switchboard and telephone work. It is of convenient pocket-book style, with firm metallic clasp and measures 4 x 9 ins. It contains the following tools: one single blade "Xela" electrician's knife, one 5 in. Klein special side cutting pliers, one 5 in. Klein oblique diagonal pliers, one 6 in. Klein long nose side cutting pliers, one 3 1/2 in. blade nickel-plated screw driver and one pair 5 1/2 in. "Xela" electrician's scissors, and one 3 1/2 in. file and handle.

Wt.
Lbs. List Price
Each

1 3/4 \$10.00



No. 1301-2

1301-2

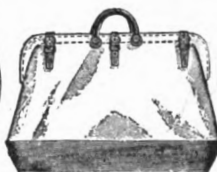
Genuine leather case, durable and compact, 8 ins. long, 3 1/2 ins. in width and 2 ins. high when closed. Furnished in either russet or black leather. The kit contains seven tools, all of which are in constant use. Each one is of superior quality and will give excellent service. They are Klein's 7 in. special side cutting pliers, hand forged, with knives of guaranteed quality; 5 in. nickel-plated "Xela" scissors; double-bladed knife screw driver and wire scraper combined; 3 in. half-round mill file and handle; 2 1/2 in. "Xela" screw driver, 3 1/2 in. nickel-plated tweezer and 2 ft. 4 fold boxwood rule.

1 3/4 \$12.00

LINEMEN'S TOOLS



All Leather Tool Bag



Tool Bag



No. 761013

Lineman's Tool Bags

List No.	Mfr. No.
38	Lineman's bag, 12, 16, or 18 inch length.
39	Lineman's bag, 20 inch length.
42	Tool bags, 18 inches long, 7 inches wide, 8 inches high.
43	Tool bags, 20 inches long, 7 inches wide, 9 inches high.
44	Tool bags, 22 inches long, 7 inches wide, 10 inches high.

	List Price	
Canvas	\$3.50	Leather Split Leather
	3.50	
	\$6.50	\$5.26
	7.16	5.76
	8.16	6.40

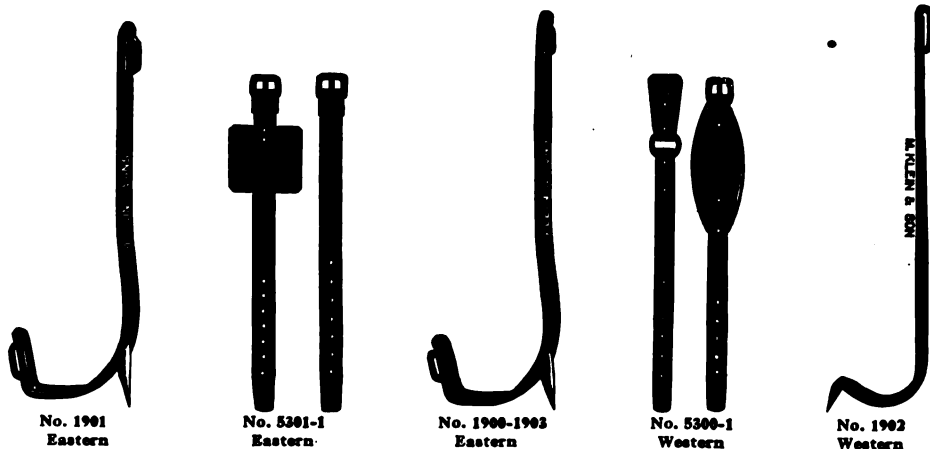
Inspectors' Tool Kits

Telephone Set

List No.	Mfr. No.	List Price
761013	Complete set in morocco case, containing everything necessary for adjusting telephone apparatus and telegraph instruments, etc.	\$9.00
761014	Case only.	1.80

Tools and Construction Appliances

LINEMEN'S TOOLS



Klein's Pole Climbers

List No.		Length	Weight per Pair.	List Price per Pair
1900	Eastern—without straps, riveted strap loops.....	15 to 18 in.	3 3/4 lbs.	\$4.50
1903	Special light weight Eastern riveted loops—without straps	15 to 16 1/2 in.	2 3/4 lbs.	4.50
1901	Eastern—without straps, punched strap loops.....	15 to 18 in.	3 3/8 lbs.	4.00
1902	Western—without straps.....	15 to 18 in.	2 3/8 lbs.	3.50

NOTE: When ordering climbers, always specify length wanted by half inch variation.

The steel in Linemen's Eastern Pattern Climbers is made to special order of a springy, durable quality, forged to the right thicknesses for safety and lightness. The gafts are of tool steel set into the shank and never loosen. When worn down, however, they can be removed and new gafts set in place.

The lines of form make them well fitting and comfortable.

Quality and workmanship is the best in either. The only difference is in the loop through which the straps pass. The No. 381 and No. 381L have the loops riveted into the shank, while in the No. 382 they are punched out of the metal of the shank. No. 381L is the pattern of No. 381, but made lighter than the standard weight.

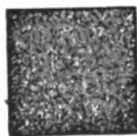
If straps are wanted with climbers, mention it in the order. We never send straps unless it is mentioned.

Climber Straps

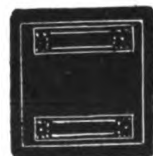
List No.		Weight per Doz. Sets	List Price per Pair
5301-1	Straps for Eastern Climbers, with plain leather pads.....	15 lbs.	\$2.50
5301-2	Straps for Eastern Climbers, with sheep-lined pads.....	16 lbs.	3.00
5301-3	Straps for Eastern Climbers, with felt-lined pads.....	16 lbs.	3.00
5300-1	Straps for Western Climbers, with plain leather pads.....	15 lbs.	2.50
5300-2	Straps for Western Chambers, with sheep-lined pads.....	16 lbs.	3.00
5300-3	Straps for Western Chambers, with felt-lined pads.....	16 lbs.	3.00

Eastern Climber straps set consists of two upper straps with 4 x 4 leather pads and two lower straps as shown in cut.

Western Climber straps set consists of two upper straps with oval plain leather pads and two lower straps as shown in cut.



Soft Pads



Plain Leather Pads

Strap Pads

List No.		Weight per Doz. Sets	List Price per Pair
8200	Strap Pads, sheep lined, 4 x 4 inches.....	3 lbs.	\$1.20
8201	Strap Pads, felt lined, 4 x 4 inches.....	3 lbs.	1.20
8202	Strap Pads, plain leather, 4 x 4 inches.....	3 lbs.	.80

LINEMEN'S STRAPS AND BELTS



No. 5200 Plain Tool Belt



No. 5205 Double Tool Belt, With Rings



No. 5206-1A Belt and Safety Strap



No. 5202 Single Tool Belt, With Rings

List No.	Belt and Safety Strap	Weight Lbs.	List Price Each
5206-1A	2 1/4 in. belt, including safety strap.	3 1/2	\$5.50
The safety strap is 1 1/4 inches wide and 6 feet long, and provided with a snap at each end.			

Belt With Rings

5202	2 1/4 in. belt, with rings for attaching safety strap.	1 5/6 lbs.	\$2.00
5204	3 1/2 in. belt, with rings for attaching safety strap.	1 5/6 lbs.	3.20
5205	2 1/4 in. double belt, with rings for attaching safety strap.	2 lbs.	3.50

Plain Tool Belt

5200	Plain Tool Belt, 2 1/4 in.	1 1/4 lbs.	\$2.00
NOTE: When ordering belts, state if wanted for 38, 40, 42, 44, or 46 inch waist.			



No. 5106 Leather Pouch



No. 5253 Safety Strap



No. 5303-1 Jack or Vise Strap



No. 5308 Combined Safety and Jack Strap

Combined Safety and Jack Strap

List No.	Combined Safety and Jack Strap	Weight Lbs.	List Price Each
5308	1 1/4 in. strap, fixed snap on one end, roller snap at other.	2 1/4	\$3.50

Jack or Vise Strap

5303-1	Regular Jack Strap, for vise, 1 1/4 in. x 5 1/2 ft.	3/4 lbs.	\$2.00
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Safety Strap

5250	1 1/4 in. x 6 ft. Safety Strap, with japanned snaps.	2 1/4 lbs.	\$3.00
5251	1 1/4 in. x 6 1/2 ft. Safety Strap, with roller snaps.	2 1/4 lbs.	3.50
5252	1 1/4 in. x 6 1/2 ft. Safety Strap, with swivel roller snaps.	2 1/4 lbs.	4.00
5253	2 in. x 5 ft. Safety Strap, with roller snaps.	2 1/4 lbs.	3.50

Leather Pouch

5106	Made with loop to slip into belt, for holding screw, etc.	6 3/4 oz.	\$1.10
NOTE: When ordering belts, please state if wanted for 38, 40, 42, 44, or 46 inch waist.			
Tools and Construction Appliances			

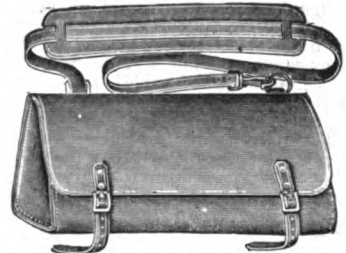
KLEIN'S LINEMAN'S CARBON AND TOOL BAGS



No. 5104-9½. Carbon Bag



No. 5104-13½. Carbon Bag



No. 5108. Leather Tool Bag

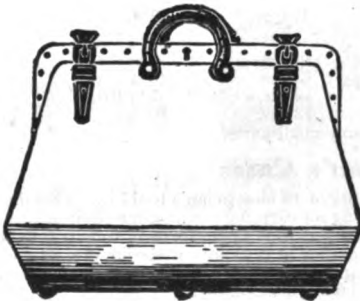
Carbon Bags

List No.		Weight Lbs.	List Price Each
5104-9½	Black leather bag, riveted, 9½ x 8 x ½ ins.	1½	\$4.00
5104-13½	Black leather bag, sewed, 13½ x 17½ x 4½ ins.	1½	4.50

Inspector's Leather Tool Bag, Harness Leather

This bag is a combination of all the good features of the various common leather bags. It is made of harness leather and will stand rough and hard usage and still always look well. It has a shoulder strap combined with a pad and hand strap; also a saw and bit holder. The bottom is three ply and is studded with steel studs. Retaining straps pass clear around the bag so that it may be loaded to the limit of its capacity and be securely held intact. All seams are sewed with hot waxed linen thread, lock stitched. The leather used does not absorb moisture.

List No.		Wgt. Lbs. Each	List Price Each
5108-14	14 x 8 in. harness leather.	3	\$9.00
5108-16	16 x 8 in. harness leather.	4½	9.50
5108-18	18 x 8 in. harness leather.	4½	10.00
5108-20	20 x 8 in. harness leather.	5½	10.50
5108-22	22 x 8 in. harness leather.	6	11.00
5108-24	24 x 8 in. harness leather.	7½	11.70



Canvas Tool Bag



No. 5101-15

Lineman's Canvas Tool Bag, Leather Bottom

List No.	Size Inches	Wgt. Lbs. Each	List Price Each	List No.	Size Inches	Wgt. Lbs. Each	List Price Each
5102-24	24 in.	4½	\$6.50	5102-16	16 in.	3½	\$5.20
5102-22	22 in.	4	6.30	5102-14	14 in.	3	4.80
5102-20	20 in.	3¾	5.80	5102-12	12 in.	2¾	4.50
5102-18	18 in.	3¾	5.40				

Inspector's Black Leather Tool Bag

This bag is made with shoulder straps entirely of leather, tongue and buckle fastenings, convenient for inspector, wireman or lineman.

List No.		Wgt. Lbs. Each	List Price Each
5101-15	15 ins. long, 12 ins. high	3	\$8.00
5101-20	20 ins. long, 12 ins. high	3¾	10.50

KENNEDY ALL-STEEL TOOL KITS

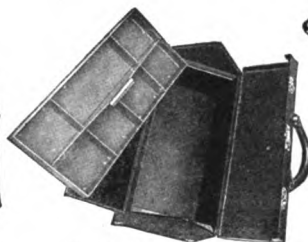
These kits are made of prepared steel, but are no heavier than other bags or tool kits, their average weight being between 5 and 11 pounds, depending on size.

They are built to stand the wear and tear of hardest usage, being reinforced throughout, and fitted with brass side catches, strong two-tumbler Corbin locks, steel leather-covered handles, so riveted that they cannot pull out, and are protected by solid corner irons.

Finished in a durable baked enamel of brown or black, they present an appearance neat and attractive, and look like leather traveling bags or suit cases. Disappearing and waterproof hinges give smooth carrying surface with no rivets showing. Material, special construction, and overlapping features make these kits waterproof, fire, oil and weatherproof. These kits are also thief-proof because they can be locked, chained if desired, and cannot be cut open. Heavy material can be carried without buckling or changing shape of bag. There is no strain on hinges or locks as entire weight is on body of bag. Double seamed, electric welded and reinforced throughout.



Standard Kit with or without Tray



Standard Kit with Tray



Electrician's Case with Tray

Standard Kits

For Electrical Workers, Mechanics, Railroad Men, Construction Men, Installation Men and Contractors

STYLE X

List No.	Style	Dimensions			Weight	*List Price
		Length	Width	Height		
66678	X	14 ins.	7 ins.	9 ins.	4 1/4 lbs.	\$5.80
86676	DD	16 ins.	9 ins.	11 ins.	5 1/4 lbs.	6.18
86680	D	18 ins.	10 ins.	13 ins.	6 1/4 lbs.	6.54
86681	E	20 ins.	11 ins.	13 ins.	7 1/4 lbs.	6.92
86682	F	22 ins.	11 ins.	13 ins.	10 1/2 lbs.	14.30

Price includes tray for bag shape only for screws, nuts and small parts.

Standard Electrician's Cases

These cases are designed for and meet all the requirements of an electrician's tool kit. They have the necessary length, together with compactness and proper spacing for carrying the average equipment. They have a divided spacing at one end for blowtorch and ledge rests at top of grip for tray to carry drills, bits, small parts, etc., if desired. They have ample space at bottom for heavy tools, material, etc. In addition to leather handle, they are fitted with loops at each end for straps to pass under the case and over the shoulder for carrying heavy loads in this manner if desired. Furnished with or without tray.

List No.	Length	Style EN, without Tray			Weight	*List Price
		Dimensions	Width	Height		
86691	19	8	8	9	6 1/2	\$5.48
86692	19	Style EN, with Tray	8	9	7 1/4	6.00
86693	21	Style EO, without Tray	8	9	7 1/4	5.86
86694	21	Style EO, with Tray	8	9	8 1/2	6.38
108212	24 1/2	Style EH, without Tray	6	9	7	6.24
108213	24 1/2	Style EH, with Tray	6	9	8 1/4	6.80

Special cases in steel built on order.

We can furnish other kits for special purposes.

*Delivery F. O. B. Factory, Van Wert, Ohio. For warehouse deliveries write nearest house.

Tools and Construction Appliances

EXTENSION CHUCKS AND SCREW DRIVERS

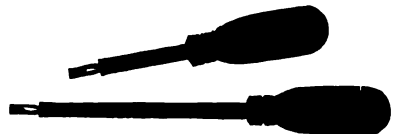


Extension Chuck
Extension Chuck

Extension Chuck	Length	Weight	List Price
Extension Chuck	5 ins.	per Doz. 1 3/4 lbs.	per Doz. \$4.68
Extension Chuck	10 ins.	2 5/8 lbs.	5.46



Friction Drive



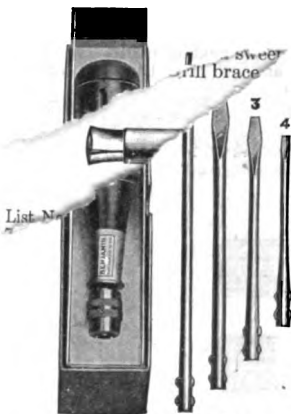
Insulated Blade

FRICITION DRIVE SCREW DRIVERS

List No.	Length of Blade	Diam.	Std. Pkg.	Wt. Lbs. per Doz.	Price per Doz.	List No.	Length of Blade	Diam.	Std. Pkg.	Wt. Lbs. per Doz.	Price per Doz.
A-33	3 ins.	1/8 in.	144	1 1/4	\$3.12	B-46	6 ins.	1/4 in.	144	3 3/8	\$6.24
A-34	4 ins.	1/8 in.	144	2	3.90	B-48	8 ins.	1/4 in.	144	3 3/4	7.02
A-35	5 ins.	1/8 in.	144	2 1/8	4.68	C-53	3 ins.	1/8 in.	144	3 1/2	4.68
A-36	6 ins.	1/8 in.	144	2 1/4	5.46	C-54	4 ins.	1/8 in.	144	3 3/4	5.46
A-38	8 ins.	1/8 in.	144	2 1/2	6.24	C-55	5 ins.	1/8 in.	144	4	6.24
F-43	3 ins.	1/4 in.	144	2 3/4	3.90	C-56	6 ins.	1/8 in.	144	4 1/4	7.02
F-44	4 ins.	1/4 in.	144	2 1/2	4.68	C-58	8 ins.	1/8 in.	144	4 3/4	7.80
B-45	5 ins.	1/4 in.	144	3 1/8	5.46						

INSULATED FRICITION DRIVE SCREW DRIVERS

List No.	Length of Blade	Diameter	Std. Pkg.	Wt. Lbs. per Doz.	Price per Doz.
E-33	3 ins.	1/8 in.	144	3 1/4	\$8.58
E-36	6 ins.	1/8 in.	144	3 3/4	10.92



Screw-driver Set No. 1



**Tool Set No. 4
SCREW-DRIVER SET**



Tool Set No. 7

Set No. 1 consists of one friction drive handle with four-jaw screw chuck and four screw-driver blades put up in a box.

List No.	No. of Blades	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per Doz.
S-1	4	12	6 3/4	\$14.04

AUTO TOOL SETS

Tool Set No. 4 consists of one friction drive handle with four-jaw screw chuck and the five screw-driver blades and six additional tools.

Tool Set No. 7 consists of four screw-driver blades, one three-sided angle screw-driver blade No. 5, one gimlet No. 6, one spark plug scraper No. 7, one sharp-pointed awl No. 8, one counter sink No. 9, one taper reamer No. 10, one broad awl No. 11, one friction drive handle or chuck, one double-ended alligator wrench.

S-4	13	12	10	\$35.10
S-7	12	..	10	35.10
		47		

YANKEE TOOLS



No. 41 Automatic Drill



No. 44 Automatic Drill

Automatic Drills

The No. 41 automatic drill is equipped with eight drill points $\frac{1}{16}$ to $\frac{1}{8}$ inch, which are in plain sight when magazine is open. During the return movement of handle the drill point revolves backward to clear chips, etc. Length of tool, inclusive of drill points, $11\frac{3}{4}$ inches.

The No. 44 automatic drill has spring with adjustable tension. The cap on top of drill has a screw attached to it, by revolving which the spring is made longer or shorter, and as a result weaker or stronger. The spring is held at any desired tension by a small bolt engaging in cap and operated by the small knob on side of handle. The drill has eight drill points, $\frac{1}{16}$ to $\frac{1}{8}$ inch, in magazine in handle. Length of tool, inclusive of drill points, $11\frac{3}{4}$ inches.

List No.	Mfr. No.		*List Price Each
760869	41	Automatic drill, complete with 8 drill points.....	\$2.62
760870	44	Automatic drill, complete with 8 drill points.....	2.90

Ratchet Screw Driver



No. 12 Ratchet Screw Driver

Adjustment for right or left hand is made by slide moved in direction across length of blade. Made for special use of mechanics requiring a strong, substantial screw driver with slide. Blade $\frac{1}{4}$ inch diameter; length over all, $5\frac{3}{4}$ inches.

List No.	Mfr. No.		*List Price
760871	12	Ratchet Screw Driver.....	\$3.75
			6.18
			6.54
			6.92
			14.30

Yankee Plain Screw Drivers



No. 90 Standard Style



No. 95 Cabinet Style

Yankee plain screw drivers are strong, durable, well balanced tools of high quality, material and workmanship. The fastenings of blade and handle are such that they cannot be loosened in use, or even the usual abuse. The blades and ferrules are finely polished, the handle of hard wood finished in dull dead black, making a handsome as well as durable appearance. Each screw driver is subjected to a thorough and hard test at factory.

NO. 90 STANDARD STYLE SCREW DRIVER

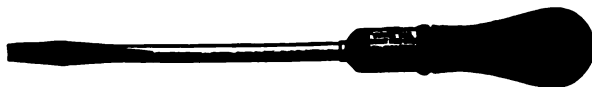
Size, ins.	4	5	6	8	10	12	15
List No.	760872	760873	760874	760875	760876	760877	760878
*List, each	\$0.36	\$0.42	\$0.50	\$0.68	\$0.86	\$1.02	\$1.38

NO. 95 CABINET STYLE SCREW DRIVER

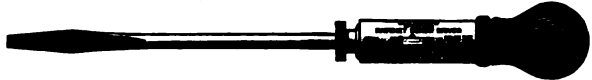
Size, ins.	3 1/4	5 1/4	6 1/4	7 1/4	8 1/4	10 1/4	12 1/4
List No.	760879	760880	760881	760882	760883	760884	760885
*List, each	\$0.30	\$0.40	\$0.44	\$0.52	\$0.58	\$0.68	\$0.80

*Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.
Tools and Construction Appliances

YANKEE RATCHET SCREW DRIVERS



No. 11 Yankee Ratchet Screw Driver



No. 15 Yankee Ratchet Screw Driver

The No. 11 Ratchet Screw Driver is made of the best cast steel, from stock especially imported for that purpose. They are properly tempered, ground and polished, and every single one is tested before leaving factory. Adjustment for right or left hand is made by slide moved in direction across length of blade.

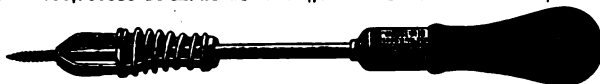
The No. 15 has all of the qualities of the No. 11. Adjustment for right or left hand is made by slide moved in direction of length of blade.

No. 11 Yankee Ratchet Screw Driver

List No.	*List Price Each	List No.	*List Price Each
760886 4 in. blade	\$0.76	760888 8 in. blade	\$1.12
760887 6 in. blade	.98	760889 10 in. blade	1.30

No. 15 Yankee Ratchet Screw Driver

List No.	*List Price Each	List No.	*List Price Each
760890 2 in. blade	\$0.60	760892 4 in. blade	\$0.70
760891 3 in. blade	.66	760893 5 in. blade	.76



No. 111 Ratchet Screw Driver with Screw Holder Attachment

No. 111 Ratchet Screw Driver

This screw driver is the same design as the No. 11, but with screw holder attachment. This attachment consists of two jaws, fastened to a head at one end, a ring to limit speed of jaw at other end, and a spring to operate jaws.

List No.	*List Price Each	List No.	*List Price Each
760894 3 in. blade, with screw holder...	\$1.00	760897 6 in. blade, with screw holder...	\$1.30
760895 4 in. blade, with screw holder...	1.08	760898 8 in. blade, with screw holder...	1.42
760896 5 in. blade, with screw holder...	1.14		



No. 30 Spiral Ratchet Screw Driver



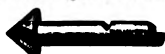
No. 130 Spiral Ratchet Screw Driver

Spiral Ratchet Screw Driver

No. 30 drives or draws screws by pushing on handle or by ratchet movement of handle, and can be made rigid as an ordinary screw driver by an ingenious locking device when closed. Three bits of different width are included with each tool.

No. 130 is the same tool as No. 30, with a spring added in handle as shown in illustration which causes the handle to come back for the next push in drawing screws.

List No.	Mfr. No.	*List Price Each
760899	30	\$2.74
760900	130	3.16



Countersink



Chuck



Bit with Screw Holder



1/8" ACTUAL SIZE/
Drill Points

ATTACHMENTS FOR SPIRAL SCREW DRIVERS

List No.	*List Price
760901 Chuck with 8 drill points, 1/8 to 1/2 in. for Nos. 30 and 130 driver, per doz. sets.....	\$11.24
Countersink for Nos. 30 and 130 drivers, each.....	.62
Bit with screw holder attachment, for Nos. 30 and 130 drivers, each.....	.52

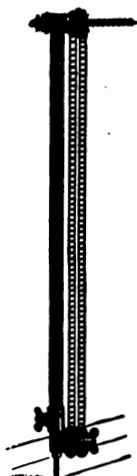
F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

WIREMEN'S TOOLS

Boring Machines



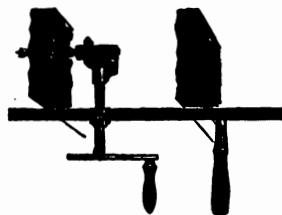
Roberts Boring Machine



Henderson Boring Machine



JONES PAT.



Anthony Boring Tools

ROBERTS BORING MACHINE

List
No. 760566

For overhead drilling. One adjustment for any particular height of ceiling. Full complete with 2 bits. Weighs 12 lbs., and is adjustable from 7 to 16 feet. Polished brass standards, best steel wire cables, working parts of high grade steel. Head polished and fully nicked.

List Price
Each

HENDERSON BORING MACHINE

List
No. 760567

For boring joist for electric light wiring. Made of bicycle tubing, nickel plated, with ball bearing shaft, universal bit. Holder extends to 12 feet, and telescopes to 5 feet.

List Price
Each

JONES CONVERTIBLE BORING MACHINE

List
No. 760568

This machine is adjustable, and may be used for boring under almost any condition met with in wiring. Has standard bit chuck head. Boring machine, complete.

List Price
Each

ANTHONY BORING TOOL

List
No. 760570

Made to take standard 1/4-inch round shank machine bit. But special bits, as listed below, may be furnished, which have a keyway cut in the shank, making it impossible for them to turn in chuck.

List Price
Each

\$12.00



MACHINE BITS

For Anthony Boring Tool

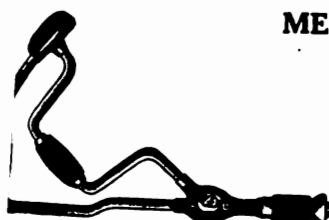
Size.....	1/4	1/2	3/4	1	1 1/2	2	2 1/2	3	3 1/2	4	1
List No....	760571	760572	760573	760574	760575	760576	760577	760578	760579	760580	760580
List, each.	\$0.90	\$0.96	\$1.00	\$1.10	\$1.14	\$1.24	\$1.40	\$1.60	\$1.80	\$2.04	\$2.04

*Delivery F. O. B. Factory, Chicago, Ill. †Delivery F. O. B. Factory, Charlotte, N. C.

‡Delivery F. O. B. Factory, Detroit, Mich. For warehouse deliveries write nearest house.

Tools and Construction Appliances

MECHANICS' TOOLS



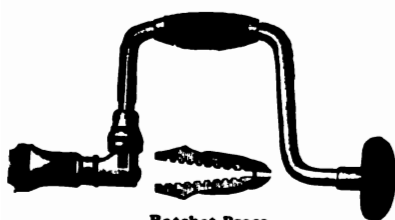
Corner Bit Brace



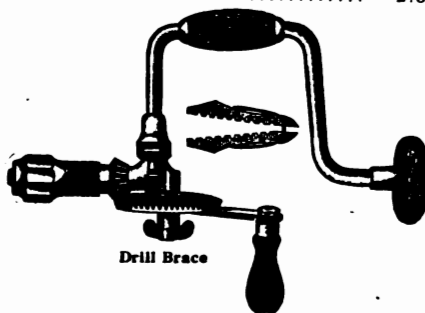
**Angle Boring Bit
Stock**

No.	Mfr. No.		List Price
681	80	8-inch sweep corner brace.....	Each
682	100	10-inch sweep corner brace.....	\$5.50
683	...	Improved angle boring bit stock.....	6.00
			2.50

Bit Braces



Ratchet Brace



Drill Brace

st No.	Mfr. No.		List Price
30584	62	6 inch sweep ratchet brace.....	Each
30585	82	8 inch sweep ratchet brace.....	\$2.00
30586	102	10 inch sweep ratchet brace.....	2.20
30587	122	12 inch sweep ratchet brace.....	2.50
30588	142	14 inch sweep ratchet brace.....	2.70
30589	...	Drill brace with 10 inch sweep.....	3.00
			6.00

Bit Braces

Extension Bit Holder



Extension Bit Holder

This extension will follow a $\frac{5}{8}$ inch hole. Holds bit absolutely straight.

t No.	Mfr. No.		List Price
3590	6120	12 inch length extension bit holder.....	Each
3591	6120	18 inch length extension bit holder.....	\$2.50
3592	6120	24 inch length extension bit holder.....	2.70
			2.90

Bell Hanger Wood Drill Bit



Bell Hanger Wood Drill Bit

The numbers indicate the sizes in 32nds of an inch.

12 In.	No.	18 In.	No.	24 In.	No.	30 In.	No.	36 In.	No.
per Doz.		per Doz.		per Doz.		per Doz.		per Doz.	
\$8.00	6	\$8.40	6	\$10.80	6	\$13.20	6	\$15.60	6
6.00	8	8.40	8	10.80	8	13.20	8	15.60	8
6.60	10	9.00	10	11.40	10	14.40	10	15.60	10
7.20	12	9.60	12	12.00	12	14.40	12	15.60	12
8.40	14	10.80	14	13.20	14	15.60	14	16.80	14
9.60	16	12.00	16	14.40	16	16.80	16	18.00	16
10.80	18	13.20	18	15.60	18	18.00	18	19.20	18
12.00	20	14.40	20	16.80	20	18.00	20	19.20	20
13.20	22	15.70	22	18.00	22	19.20	22	20.40	22
14.40	24	16.80	24	19.20	24	20.40	24	21.60	24
15.60	26	18.00	26	20.40	26	21.60	26	21.60	26
16.80	28	19.20	28	21.60	28	22.80	28	22.80	28
18.00	30	20.40	30	22.80	30	24.00	30	24.00	30
19.20	32	21.60	32	24.00	32	24.00	32	24.00	32
20.40	34	22.80	34	24.00	34	24.00	34	24.00	34
21.60	36	24.00	36	25.20	36	25.20	36	25.20	36

AUGER BITS

Standard Car and Ship Bits



JENNINGS PATTERN

Oil tempered, strictly high grade, full polished, accurate to size.

Size, Inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
List No.	760611	760612	760613	760614	760615	760616	760617	760618
List per Dozen	\$2.84	\$3.20	\$3.56	\$3.90	\$4.26	\$5.00	\$5.00	\$5.70



IRWIN PATTERN

Solid center, perfect temper, and highly polished. Made accurate to size.

Size, Inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
List No.	760622	760623	760624	760625	760626	760627	760628	760629
List per Dozen	\$3.00	\$3.36	\$3.74	\$4.12	\$4.50	\$5.24	\$5.24	\$6.00



IRWIN PATTERN CAR BITS

Total length about 18 inches.

Size, Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
List No.	760633	760634	760635	760636	760637	760638	760639
List per Dozen	\$6.74	\$6.74	\$6.74	\$7.50	\$8.42	\$9.36	\$10.30



JENNINGS PATTERN CAR BITS

Total length about 18 inches.

Size, Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
List No.	760644	760645	760646	760647	760648	760649	760650
List per Dozen	\$8.10	\$8.10	\$8.10	\$9.00	\$10.12	\$11.24	\$12.36



SINGLE TWIST CAR BITS

Total length about 18 inches.

Size, Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
List No.	760655	760656	760657	760658	760659	760660	760661
List per Dozen	\$9.00	\$9.00	\$9.00	\$10.00	\$11.24	\$12.50	\$13.74



SHIP AUGER CAR BITS

12 inch twist.

Size, Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
List No.	760666	760667	760668	760669	760670	760671	760672
List per Dozen	\$9.56	\$10.12	\$10.68	\$11.24	\$11.80	\$12.36	\$12.92



SINGLE TWIST AUGER BITS

Size, Inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
List No.	760677	760678	760679	760680	760681	760682	760683
List per Dozen	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00	\$7.00	\$7.00

Tools and Construction Appliances

MECHANICS' TOOLS

Clark Expansion Bits



List No.		List Price Each
760594	With 2 cutters, one boring from $\frac{1}{2}$ to $\frac{3}{8}$, and the other from $\frac{3}{8}$ to $1\frac{1}{2}$ inches.	\$1.50
760595	With 2 cutters, one boring from $\frac{3}{8}$ to $1\frac{1}{4}$, and the other from $1\frac{1}{4}$ to 3 inches.	2.25



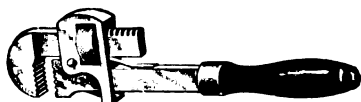
No. 75 Yankee Push Brace

Yankee Push Brace

Is made to hold all the small tools used in a bit brace, but is operated by pushing the handle to revolve the tools in same manner as a spiral ratchet screw driver. It will with little effort bore $\frac{1}{4}$ inch holes in metal, drive $\frac{3}{8}$ inch auger bit in hard wood, or $\frac{1}{2}$ inch to $\frac{3}{8}$ inch bits in white pine. It can be used for tapping holes, and with socket wrench drive in small lag screws, run burrs or nuts on bolts, also used with screw driver bit, etc. Being straight and cylindrical and operated by pushing, it can reach into many places in corners, holes back of obstructions, where a brace can not be operated. The spiral rod is of steel, grooved for both right and left hand with extra long nuts of hard bronze, to secure extra durability. The chuck is made of malleable iron, polished and nickel plated. The jaws are of steel, drop forged and hardened. The chuck will hold squares up to $\frac{1}{2}$ inch wood bit. The handle is $2\frac{3}{8}$ inches in diameter, of hard wood, polished. The entire length of tool, without bit, when closed, is $16\frac{1}{4}$ inches; when extended, $23\frac{1}{2}$ inches.

List No.	Mfr. No.		List Price Each
760593	75	Yankee Push Brace	\$4.74

Standard Wrenches



Stillson Wrench

STILLSON WRENCHES

List No.	Length Inches	Grips Pipe	Wire	List Price Each
760596	6	$\frac{1}{2}$	$\frac{1}{8}$	\$1.00
760597	8	$\frac{3}{4}$	$\frac{1}{8}$	1.00
760598	10	1	$\frac{1}{8}$	1.14
760599	14	$1\frac{1}{2}$	$\frac{1}{8}$	1.50
760600	18	2	$\frac{1}{8}$	2.00
760601	24	$2\frac{1}{2}$	$\frac{1}{8}$	3.00
760602	36	$3\frac{1}{2}$	..	6.00
760603	48	5	..	9.00



Monkey Wrench

MONKEY WRENCHES

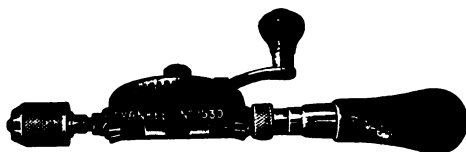
List No.		List Price Each
760604	6 inch monkey wrench	\$0.90
760605	8 inch monkey wrench	1.00
760606	10 inch monkey wrench	1.20
760607	12 inch monkey wrench	1.40
760608	15 inch monkey wrench	2.40
760609	18 inch monkey wrench	3.00
760610	21 inch monkey wrench	3.60

Cochran Pipe Wrench

List No. (Complete)		761326	761327	761328	761329
Mfr. Size		6 ins.	8 ins.	10 ins.	14 ins.
No. Range		$\frac{1}{8}$ to $\frac{1}{2}$	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{3}{8}$ to 1	$\frac{1}{2}$ to $1\frac{1}{2}$
1 Hook Jaws	each.	\$2.00	\$2.00	\$2.26	\$3.00
2 Inserted	each.	.68	.68	.76	1.00
3 Rockers	each.	.26	.26	.34	.50
4 Nuts	each.	.26	.26	.28	.40
5 Springs	each.	.20	.20	.28	.36
		.12	.12	.14	.18
Weight of wrench		6 ins.	8 ins.	10 ins.	14 ins.
Number packed in a box		$\frac{1}{2}$ lb.	$\frac{3}{4}$ lb.	$1\frac{1}{2}$ lbs.	3 lbs.
Weight of box and contents		$\frac{1}{2}$ doz.	$\frac{1}{2}$ doz.	$\frac{1}{2}$ doz.	$\frac{1}{2}$ doz.
		3 lbs.	5 lbs.	10 lbs.	20 lbs.

†Delivery F. O. B. Factory, Philadelphia, Pa. †Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

HAND AND BREAST DRILLS

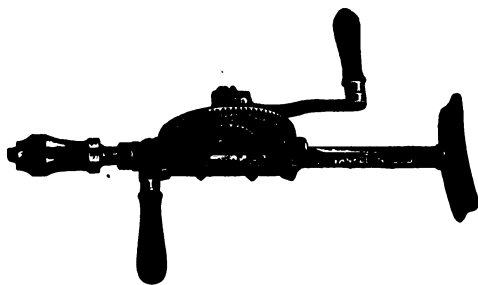


No. 1530 Hand Drill

"Yankee" Hand Drill

The frame is malleable iron, finished in dead black color. The chuck body is steel, polished and nickel plated. The jaws are of steel, drop forged and hardened. The spindle is of steel and gears are cast iron with cut teeth. Particular attention is called to the little slide on cylinder between gears and the notches. With slide in first notch (at top), it is a plain drill; in second, a left-hand ratchet; in third, a right-hand ratchet; in fourth, a double ratchet, where any movement of crank, forward or backward, causes the drill to cut continuously; in fifth (at bottom), gearing, etc., is locked to open or close chuck.

List No.	Mfr. No.		Weight Lbs.	*List Price Each
760688	1530	Yankee Hand Drill.....	1 1/4	\$4.00

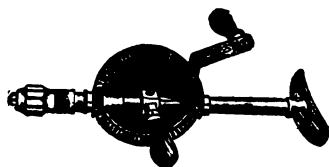


No. 555 Breast Drill

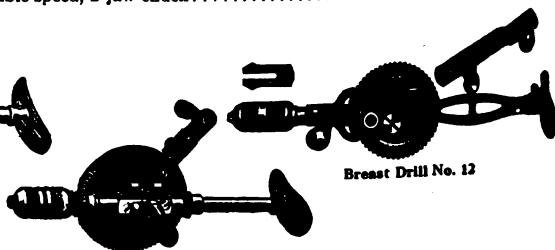
"Yankee" Breast Drill

The frame is malleable iron, the spindle of steel turned and fitted, the gears have the teeth cut from the solid to run smooth and accurately. The tool is finished in a dead black color. Note the little slide on cylinder between gears and notches. With slide in first notch (at top), it is a plain drill; in second, a left-hand ratchet; in third, a right-hand ratchet; in fourth, a double ratchet, where any movement of crank forward or backward causes the drill to cut continuously; in fifth (at bottom), gearing, etc., is locked to open or close chuck.

List No.	Mfr. No.		Weight Lbs.	*List Price Each
760689	555	Breast Drill, double speed, 2-jaw chuck.....	6 1/2	\$8.64



Breast Drill No. 1



Breast Drill No. 12

Breast Drill No. 13

Breast Drill

List No.	Mfr. No.		Weight Lbs.	*List Price Each
760690	1	Breast Drill, nickel plated, cocobolo handles.....	6	\$6.64
760691	13	Breast Drill double gear, 6 inch drive wheel.....	6	6.08
760692	12	Breast Drill, ball-bearing changeable gear.....	6 1/2	4.32

*Delivery F. O. B., Philadelphia, Pa. †Delivery F. O. B., Millers Falls, Mass. For warehouse deliveries write nearest house.

CONCRETE AND STONE DRILLS



Diamond Rapid Fire Drill

This is a hand-operated hammer drill that will greatly reduce the cost of drilling holes in concrete, brick and stones. The construction of the drill is such that no uncomfortable vibration is felt by the operator and a greater amount of work is done with less effort than with hand hammer and drill.

List No. 761539 Diamond "Rapid Fire" drills (without points)..... *List Price Each \$24.00



Rapid Fire Bits

List No. 761540 Complete set (8 sizes) 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 1..... List Price per Set \$6.76

LIST PRICES FOR DRILL POINTS (NOT IN SETS)

List No.	Diameter	Overall Length	Depth of Hole Drilled	List Price per Doz.
761541	1/4 in.	4 1/4 ins.	3 ins.	\$7.66
761542	5/16 in.	4 1/4 ins.	3 ins.	7.66
761543	3/8 in.	4 1/4 ins.	3 ins.	7.66
761544	7/16 in.	4 1/4 ins.	3 ins.	8.10
761545	1/2 in.	6 ins.	4 1/2 ins.	9.00
761546	5/8 in.	6 ins.	4 1/2 ins.	10.80
761547	3/4 in.	6 ins.	4 1/2 ins.	12.60
761548	7/8 in.	6 1/2 ins.	5 ins.	14.40
761549	1 in.	6 1/2 ins.	5 ins.	16.20

EXTRA LENGTH OF DRILL POINTS 12, 18 and 24 INCHES

List Price per Dozen

List No.	Diameter of Drill	Length 12 Ins.	Length 18 Ins.	Length 24 Ins.	List No.	Diameter of Drill	Length 12 Ins.	Length 18 Ins.	Length 24 Ins.
761550	1/4 in.	\$7.66	\$9.90	\$12.16	761557	3/8 in.	\$14.40	\$18.00	\$20.26
761551	5/16 in.	7.66	9.90	12.16	761558	1 in.	16.20	20.26	22.50
761552	3/8 in.	7.66	9.90	12.16	761559	1 1/4 ins.	21.60	25.20	28.80
761553	7/16 in.	8.10	10.36	12.60	761560	1 1/2 ins.	27.00	31.50	36.00
761554	1/2 in.	9.00	11.26	13.50	761561	1 3/4 ins.	36.00	40.50	45.00
761555	5/8 in.	10.80	13.50	15.78	761562	1 1/2 ins.	45.00	50.40	55.80
761556	3/4 in.	12.60	15.76	18.00					

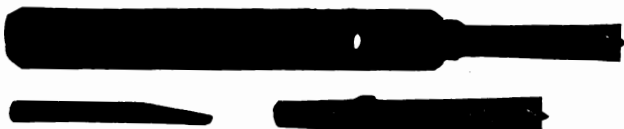


Semi-High Speed Steel Combination Center Drill

List No.	†Number	Diameter of Body	Diameter of Drill Points	Decimal Diameter of Drill Points	List Price per Dozen
761563	S	1/8	No. 67	.043	\$2.82
761564	*H	1/8	†	.0468	2.82
761565	M	1/8	No. 55	.052	2.82
761566	L	1/8	†-No. 45	.0625 .082	2.82
761567	*E	1/8	†	.0625	2.82
761568	O	1/8	No. 49-No. 45	.073 .082	2.82
761569	*D	1/8	†	.078	2.82
761570	*A	1/8	†-1/8	.0938 .125	2.82
761571	*B	1/8	†	.125	2.82
761572	*C	1/8	†	.0938	2.82
761573	*F	1/8	†	.1563	5.64
761574	*G	1/8	†	.1875	5.64
761575	R	1/8	†	.1563 .1875	5.64

*Delivery F. O. B. Garwood, N. J. †Delivery F. O. B. New York, N. Y. For warehouse deliveries write nearest house.

DRILL HOLDERS AND POINTS



Diamond "N" Brand Drills Drill Holder and Points

The taper shank on the drill point is carefully machined to fit the holder. The transverse hole in the handle is to admit a tapered pin which drives out the point when it is to be removed.

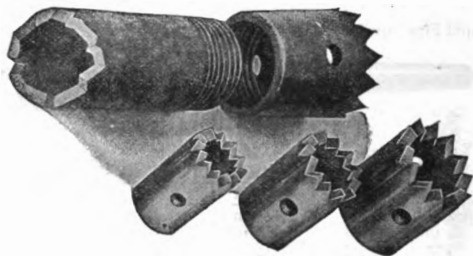
List Price per Dozen

- "Diamond N" Drill Points

Holdings	1/4 In.	1/8 In.	3/8 In.	1/2 In.	3/4 In.	1 In.
\$15.56	\$5.52	\$5.52	\$5.52	\$5.84	\$6.48	\$7.78

	\$6.92	\$6.92	\$6.92	\$6.91	\$6.48	\$7.18
List Price in sets.....						\$4.86

Each set comprises 1 holder, 1 ejector pin and 6 points assorted of any of the following sizes: $\frac{1}{8}$ inch, $\frac{1}{16}$ inch, $\frac{3}{16}$ inch, $\frac{1}{4}$ inch, $\frac{5}{16}$ inch, $\frac{3}{8}$ inch.



Extension Drills "Diexco" Extension Drills

Diexco Drill Heads are not made from steel tubing, but are turned from solid bar of best refined tool steel and carefully tempered so as to give the correct combination of hardness for the cutting edges and sufficient ductility to prevent breaking under hardest blows of the hammer.

List per set..... \$1.60

A set of Dixco Drill Heads is made up of one each, Nos. 2, 3, 4 and 5. Furnished in wooden boxes or on display cards of three sets.

List per Dozen for Each Size

Drill Head No.	Size Pipe for Handle	Diameter of Hole	List Price per Doz.	Drill Head No.	Size Pipe for Handle	Diameter of Hole	List Price per Doz.
2	1/8 in.	1/8 in.	\$4.80	8	1 in.	2 in.	\$21.60
3	3/16 in.	1/8 in.	4.80	9	1 in.	2 1/4 in.	32.40
4	1/4 in.	3/16 in.	4.80	9A	1 in.	2 1/2 in.	39.60
5	5/16 in.	1/4 in.	4.80	10	1 in.	3 in.	48.60
5A	3/8 in.	1 1/8 in.	6.48	10A	1 in.	3 1/4 in.	55.80
6	7/16 in.	1 1/4 in.	7.56	11	1 1/8 in.	3 1/2 in.	64.80
6A	1/2 in.	1 3/8 in.	13.50	11A	1 1/4 in.	3 3/4 in.	72.00
7	5/8 in.	1 1/2 in.	16.20	11B	1 1/2 in.	3 7/8 in.	79.20
7A	1 in.	1 3/4 in.	18.90	12	1 3/4 in.	4 in.	86.40



Four Point Drill

"Diamond N" Four Point Drill

List Price per Dozen

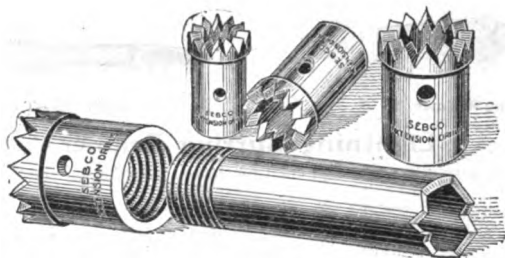
		List Price per Dozen									
Diameter of drill.....		$\frac{1}{4}$ in.	$\frac{7}{16}$ in.	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	$\frac{7}{8}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	1 in.
Length, 8 ins.....	\$6.60	\$6.60	\$6.60	\$6.96	\$7.72	\$9.32	\$10.96	\$12.24	\$13.60		
Length, 12 ins.....	6.80	6.80	6.80	7.20	8.00	9.60	11.20	12.80	14.40		
Length, 18 ins.....	8.80	8.80	8.80	9.20	10.00	12.00	14.00	16.00	18.00		
Length, 24 ins.....	10.80	10.80	10.80	11.20	12.00	14.00	16.00	18.00	20.00		
Diameter of drill. $1\frac{1}{2}$ ins. $1\frac{3}{4}$ ins. $1\frac{1}{2}$ ins.		$1\frac{1}{2}$ ins.	$1\frac{3}{4}$ ins.	$1\frac{1}{2}$ ins.	$1\frac{3}{4}$ ins.	$1\frac{1}{2}$ ins.	$1\frac{3}{4}$ ins.	2 ins.	$2\frac{1}{4}$ ins.	$2\frac{1}{2}$ ins.	
Length, 12 ins.....	\$19.20	\$24.00	\$32.00	\$40.00	\$48.00	\$60.00	\$72.00	\$84.00	\$108.00	\$132.00	
Length, 18 ins.....	22.40	28.00	36.00	44.80	52.80	64.80	77.60	89.60	116.00	140.00	
Length, 24 ins.....	26.60	32.00	40.00	49.60	57.60	69.60	83.20	96.00	132.00	156.00	

Delivery F. O. B. Factory, Garwood, N. J. For warehouse deliveries write nearest house.

Tools and Construction Appliances

56-1

STEEL DRILLS



Extension Drills

SebcO Extension Drills FOR BRICK AND STONE

These drill heads are designed with the view of increasing efficiency and decreasing cost of time and energy. The quicker, neater, and easier a job is done the more satisfactory and cheaper is the cost of the work. For drilling deep holes in brick and plaster they are very convenient to use. The heads are made of best steel, carefully tempered. A piece of gas or water pipe may be used as a handle, making it any length desired. One piece of gas pipe will fit six different sizes of drill heads. When the job is completed, unscrew the head and throw the handle aside. SebcO drills never break nor crumble brick; they drill a hole clean and smooth and do not bind.

List No.	Diameter of Cutting Edge	Size Pipe For Handle	*List Price per Doz.	List No.	Diameter of Cutting Edge	Size Pipe For Handle	*List Price per Doz.
761299	$\frac{5}{8}$ in.	$\frac{1}{8}$ in.	\$3.84	761308	2 ins.	1 in.	\$20.00
761300	$\frac{3}{4}$ in.	$\frac{1}{4}$ in.	3.84	761309	$2\frac{1}{4}$ ins.	1 in.	30.00
761301	$\frac{7}{8}$ in.	$\frac{3}{8}$ in.	3.84	761310	$2\frac{1}{2}$ ins.	1 in.	36.66
761302	1 in.	$\frac{1}{2}$ in.	3.84	761311	$2\frac{3}{4}$ ins.	1 in.	45.00
761303	$1\frac{1}{8}$ ins.	$\frac{1}{2}$ in.	6.00	761312	3 ins.	1 in.	51.66
761304	$1\frac{1}{4}$ ins.	$\frac{3}{4}$ in.	7.00	761313	$3\frac{1}{4}$ ins.	$1\frac{1}{4}$ ins.	60.00
761305	$1\frac{3}{8}$ ins.	$\frac{3}{4}$ in.	12.50	761314	$3\frac{1}{2}$ ins.	$1\frac{1}{4}$ ins.	66.66
761306	$1\frac{1}{2}$ ins.	$\frac{3}{4}$ in.	15.00	761315	$3\frac{3}{4}$ ins.	$1\frac{1}{4}$ ins.	73.32
761307	$1\frac{3}{4}$ ins.	1 in.	17.50	761316	4 ins.	$1\frac{1}{4}$ ins.	80.00



Hammer Drill

$\frac{1}{2}$ x 4" Drill Point

$\frac{1}{2}$ x 6" Drill Point

Peirce Hammer Drill

This tool offers the one quick means of drilling holes easily in brick, stone and concrete. It takes various sizes of drill points, which are quickly removed for sharpening. The guard on chuck has been enlarged to better protect the hand. The collar is welded to rod instead of being brazed. The dumb-bell is made of malleable iron.

List No.	Description	†List Price Each	List No.	Description	†List Price Each
760829	Hammer drill, only for $\frac{1}{4}$ in. bolts.	\$8.16	760832	$\frac{5}{8}$ x 6 in. drill point, for $\frac{3}{8}$ in. bolts.	\$1.62
760830	Hammer drill, only for $\frac{3}{8}$ in. bolts.	8.68	760833	$\frac{5}{8}$ x 12 in. drill point.	2.06
761317	$\frac{3}{4}$ x 4 in. drill point.	1.10	760834	$\frac{3}{4}$ x 6 in. drill point.	1.92
760831	$\frac{1}{2}$ x 4 in. drill point, for $\frac{1}{4}$ in. bolts.	1.10	760835	$\frac{3}{4}$ x 12 in. drill point.	2.30
761318	$\frac{1}{2}$ x 6 in. drill point.	1.24	760836	$\frac{1}{2}$ x 6 in. drill point, for $\frac{1}{2}$ in. bolts.	2.06
761319	$\frac{1}{2}$ x 12 in. drill point.	1.36	760837	$\frac{1}{2}$ x 12 in. drill point.	2.46

*Delivery F. O. B. Factory, Bayonne, N. J. †Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

MECHANICS' TOOLS



Lightning Burring Reamer



Lightning Taper Reamer No. 460

Lightning Burring Reamer

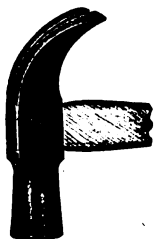
Is made of fine steel, carefully ground to cut iron, brass, wood, etc. Used for pipe, also for counter-sinking.

List No.	Mfr. No.	Diam. at Point Inches	Length of Flute Inches	Burring Pipe Sizes	List Price Each	List No.	Mfr. No.	Diam. at Point Inches	Length of Flute Inches	Burring Pipe Sizes	List Price Each
760729	542	$\frac{3}{16}$	$1\frac{1}{8}$	$\frac{1}{8}$ to $\frac{1}{2}$	\$1.00	761289	554	$\frac{1}{2}$	$1\frac{1}{4}$	$\frac{1}{4}$ to $1\frac{1}{4}$	\$1.50
760730	544	$\frac{7}{16}$	$1\frac{1}{8}$	$\frac{3}{8}$ to 1	1.24	761290	546	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{4}$ to 2	3.50

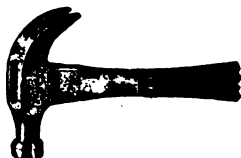
Lightning Taper Reamers

List No.	Diameter	Length of Flute Inches	Total Length Inches	List Price Each	List No.	Diameter	Length of Flute Inches	Total Length Inches	List Price Each
760731	$\frac{3}{8}$	$2\frac{1}{2}$	$5\frac{1}{4}$	\$0.54	760737	$\frac{3}{4}$	3	$7\frac{1}{2}$	\$1.20
760732	$\frac{1}{2}$	$2\frac{1}{2}$	$6\frac{1}{4}$	.60	760738	$\frac{7}{8}$	$3\frac{1}{4}$	$7\frac{3}{4}$	1.40
760733	$\frac{5}{8}$	$2\frac{3}{4}$	$6\frac{3}{4}$	.70	760739	$\frac{1}{2}$	$3\frac{1}{4}$	$7\frac{1}{4}$	1.60
760734	$\frac{3}{4}$	$2\frac{3}{4}$	7	.80	760740	$\frac{1}{4}$	$3\frac{1}{4}$	8	1.80
760735	$\frac{7}{8}$	$2\frac{3}{4}$	7	.90	760741	1	$3\frac{1}{2}$	$8\frac{1}{2}$	2.00
760736	$1\frac{1}{8}$	3	$7\frac{1}{4}$	1.04	760742	$1\frac{1}{8}$	$3\frac{3}{4}$	$8\frac{1}{2}$	2.40

Hammers



Plain Face



Bell Face



Machinist's Ball Pein

ADZE EYE NAIL HAMMERS

Plain and Bell Face

List No.	Size	Weight Ozs.	List Price Each	List No.	Size	Weight Ozs.	List Price Each
760743	0	28	\$1.04	760745	$1\frac{1}{2}$	16	\$0.70
760744	1	20	.74	760746	2	13	.64

MACHINISTS' BALL PEIN

List No.	Size	Weight Ozs.	List Price Each	List No.	Size	Weight Ozs.	List Price Each
760747	000	8	\$1.00	760749	2	24	\$1.24
760748	0	16	1.04	760750	4	32	1.40

Drilling or Striking Hammers

Nevada Pattern

List No.	Mfr. No.	Weight	List Price per Lb.
760751	860	Polished faces, oil finished, under 3 lbs.	\$0.50
760752	860	Polished faces, oil finished, 3 to 5 lbs.	.40
760753	860	Polished faces, oil finished, 5 lbs. and above	.30

Sledge Hammers



Striking Hammer

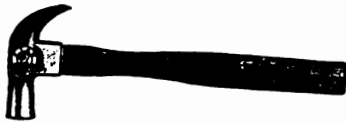


Sledge Hammer

Tools and Construction Appliances

List No.	Mfr. No.	Weight	List Price per Lb.
760754	1030	Sledge Hammer	under 3 lbs. \$0.50
760755	1030	Sledge Hammer	3 to 5 lbs. .... .40
760756	1030	Sledge Hammer	5 lbs. and above .30

MECHANICS' TOOLS



Adze Eye Carpenter's Claw

Adze Eye Carpenter's Claw

These nail hammers are forged from crucible steel, have selected hickory handles, and are finely finished.

Nos.	1	1 1/2	2	3
Weight, each. 1 lb. 4 ozs.	1 lb.	13 ozs.	7 1/2 ozs.	
*Per Doz.	\$12.26	\$11.20	\$10.50	\$9.46



Machinist Ball Pein

Machinist's Ball Pein

These hammers are forged from the same grade of steel as the nail hammers and are finished in the same careful manner.

Nos.	128	125	123	121 1/2
Weight, each 8 ozs.	1 lb.	1 lb. 8 ozs.	2 lbs.	
Per Doz.	\$16.80	\$17.50	\$20.30	\$23.10



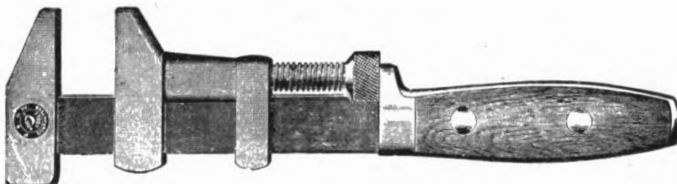
Linemen's Broad Hatchets, Double Bevel

List
No.

11	Width of bit, 4 ins.; weight, 27 lbs.	
12	Width of bit, 4 1/4 ins.; weight, 32 lbs.	
13	Width of bit, 4 3/4 ins.; weight, 33 lbs.	
14	Width of bit, 5 1/4 ins.; weight, 37 lbs.	
15	Width of bit, 5 3/4 ins.; weight, 40 lbs.	

*List Price per Doz.
\$14.70
16.10
18.20
20.30
23.10

In boxes of one-half dozen each. In cases of three dozen each.



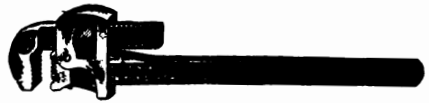
The Solid Handle Wrench

The head, bar shoulder and handle frame are forged solid of one piece case hardened. The wrench is finely finished.

Inches.	6	8	10	12	15	18	21
Will open, inches.	7/8	1 1/4	1 3/4	2 1/8	2 3/4	3 3/8	4
Weight per dozen.	10 lbs.	17 lbs.	28 lbs.	40 lbs.	57 lbs.	84 lbs.	120 lbs.
Weight per case.	70 lbs.	110 lbs.	180 lbs.	260 lbs.	190 lbs.	180 lbs.	150 lbs.
List No. 100. Black, *per doz.	\$10.26	\$10.80	\$13.68	\$15.96	\$27.36	\$34.20	\$41.04
List No. 150. Bright, *per doz.	13.12	14.26	17.10	21.66	34.20	41.04	47.88



Wood Handles 6 to 14 Inches



Steel Handles 6 to 48 Inches

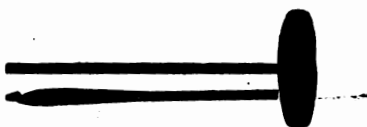
Pipe Wrenches

The wrenches are made from entirely new patterns, and the highest grade material is used in making them. They are finely finished.

Inches.	6	8	10	14	18	24	36	48
Capacity, inches. 1/2 to 1/2	1/2 to 3/4	1/2 to 1	1/2 to 1 1/2	1/2 to 2	1/2 to 2 1/2	1/2 to 3 1/2	1 to 5	
Weight, *per doz. 4 lbs.	8 lbs.	17 lbs.	33 lbs.	55 lbs.	96 lbs.	180 lbs.	300 lbs.	
Each.	\$1.26	\$1.26	\$1.44	\$1.90	\$2.54	\$3.80	\$7.66	\$11.40

*Delivery F. O. B. New York. For warehouse deliveries write nearest house.

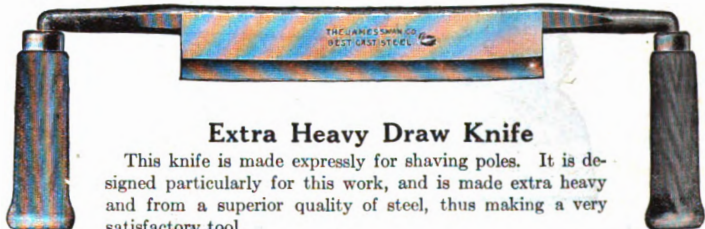
MISCELLANEOUS TOOLS



Bell Hanger's Gimlet Bit

Bell Hanger's Gimlet Bits

List No.	Length Inches	Size Inches	List Price per Doz.	List No.	Length Inches	Size Inches	List Price per Doz.	List No.	Length Inches	Size Inches	List Price per Doz.
760693	12	1/4	\$6.24	760696	18	1/4	\$8.74	760699	24	1/4	\$11.24
760694	12	3/8	6.88	760697	18	3/8	9.36	760700	24	3/8	11.86
760695	12	1/2	7.50	760698	18	1/2	10.00	760701	24	1/2	12.50



Extra Heavy Draw Knife

This knife is made expressly for shaving poles. It is designed particularly for this work, and is made extra heavy and from a superior quality of steel, thus making a very satisfactory tool.

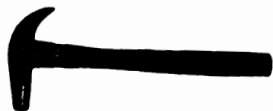
Length of blade, inches.....	8	9	10	11	12	14
List No.....	760702	760703	760704	760705	760706	760707
List per doz.....	\$19.44	\$21.86	\$24.30	\$26.72	\$29.16	\$34.02

Framing Chisels



Bevel Back Framing Chisel

Width of blade, ins.....	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4	2
List No.....	760708	760709	760710	760711	760712	760713	760714	760715	760716	760717
List per doz.....	\$15.00	\$16.22	\$16.66	\$17.50	\$18.32	\$20.00	\$20.00	\$21.66	\$24.16	\$26.66



Electrician's Hammer



Lineman's Axe



Hand Axe

Electrician's Hammer

List No.		List Price Each
760718	9 oz. electrician's tack hammer....	\$0.94

Lineman's Axe

List No.		List Price Each
760719	3 1/2 lb. with handle.....	\$1.86
760720	5 lb. with handle.....	2.08

Tools and Construction Appliances

Hand Axe

List No.	Mfr. No.	Weight	Bit	List Price Each
760721	640	1 lb. 8 oz.	4 ins.	\$1.18
760722	641	1 lb. 12 oz.	4 1/4 ins.	1.30
760723	642	2 lb. 2 oz.	5 ins.	1.40
760724	643	2 lb. 8 oz.	5 1/2 ins.	1.50
760725	644	2 lb. 14 oz.	6 ins.	1.66
760726	645	3 lb. 4 oz.	6 1/2 ins.	1.86
760727	646	3 lb. 12 oz.	7 ins.	2.08
760728	647	4 lb. 4 oz.	7 1/2 ins.	2.50

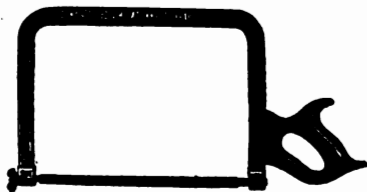
MECHANICS' TOOLS



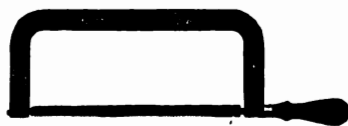
Disston Hand Saws

Crucible steel, patent ground and tempered, grained blade, beech handle.

List No.		†List Price Each	List No.		†List Price Each
760757	16 in. panel saw	\$1.60	760760	22 in. panel saw	\$2.26
760758	18 in. panel saw	1.74	760761	24 in. panel saw	2.36
760759	20 in. panel saw	1.98	760762	26 in. hand saw	2.48



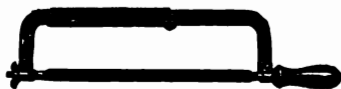
Hack Saw Frame No. 14



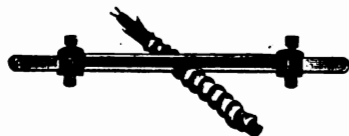
Hack Saw Frame No. 15

Hack Saw Frames

List No.	Mfr. No.	†List Price Each	List No.	Mfr. No.	†List Price Each
760763	14	12 in. inside frame to tooth edge..... \$3.30	760764	15	Polished and nickeled... \$2.00
					Depth, 5¼ inches for 12 inch blade..



Hack Saw Frame No. 26



Hack Saw Depth Gauge No. 53

List No.	Mfr. No.		†List Price Each
760765	26	Steel frame, nickeled, riveted sockets, reversible hack saw frame	\$1.80

HACK SAW FRAME NO. 110

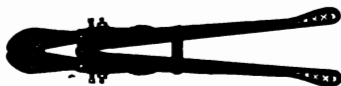
Hack Saw Blades

For power machine or hand frames. 3/4 inch wide, .028 inch thick.

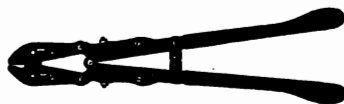
Length, inches	10	11	12	13	14	15	16	17	18
List No.	760766	760767	760768	760769	760770	760771	760772	760773	760774
List, per gross	\$9.10	\$10.26	\$11.34	\$13.50	\$13.50	\$16.74	\$16.74	\$19.98	\$19.98

Hack Saw Depth Gauge No. 53

List No.	Mfr. No.		List Price per Dozen
761713	53	Pressed steel length 7 1/2	\$6.00



Porter Bolt Cutters



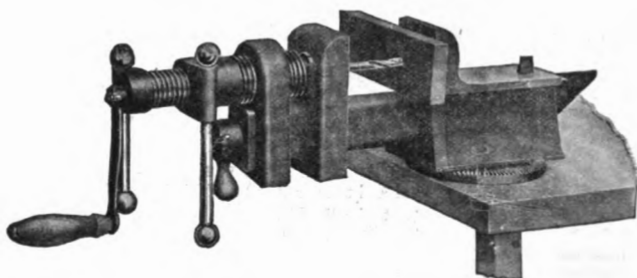
Boston Wire Cutter

Bolt and Wire Cutters

List No.	Mfr. No.	Style	Weight Lbs.	Length Inches	To Cut Bolts Inches	*List Price Each
760775	0	New Easy Bolt Cutter	3	18	1 1/8	\$5.00
760776	1	New Easy Bolt Cutter	5 1/4	24 1/2	3/8	6.50
760777	2	New Easy Bolt Cutter	9	30	1 1/2	7.00
760778	3	New Easy Bolt Cutter	13	36	2 7/8	9.00
760779	0	Boston Wire Cutter	3 1/2	18 1/2	Opening 1 1/8	7.00
760780	1	Boston Wire Cutter	5 1/4	24 1/2	Opening 3/4	9.00
760781	2	Boston Wire Cutter	8 1/4	30 1/2	Opening 1 1/8	11.00
760782	3	Boston Wire Cutter	13 1/2	36 1/2	Opening 1 1/4	14.00

†Delivery F. O. B. Factory, Philadelphia, Pa. *Delivery F. O. B. Factory, Boston, Mass. For warehouse deliveries write nearest house.

MISCELLANEOUS VISES

Diamond Multiple Action Vise
Figure 378 Patent Applied For**"Trident" Drill Press Combination and Multi-Vise**

A combination tool, consisting of a drill press, vise, anvil and cutting hardy, with other special attachments.

Drill Press: Double acting hand power drill press, taking all sizes of standard square tapered shank drills up to 1 inch. The drilling device is independent and entirely removable without interfering with the functions of the vise.

Vise: The vise has an opening of about 8 inches; width of jaws, $3\frac{1}{2}$ inches, and has wrought steel jaws. The extreme top of the jaw is about 8 inches from the bench.

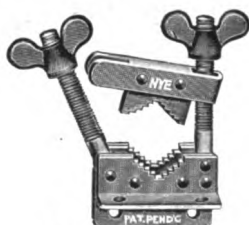
Anvil: Hardened surface, $3\frac{1}{2} \times 6\frac{1}{2}$ inches, 5 inches high, with regulation horn and wrought steel cutting hardy.

Lathe: The opening in the stationary jaw is square and tapered, corresponding to the opening in the revolving socket.

In this combination tool the action of the vise being entirely independent of the drill press, the work to be drilled can be securely held in place between the jaws of the vise while being drilled.

All parts are removable and can be instantly replaced in case of accident.

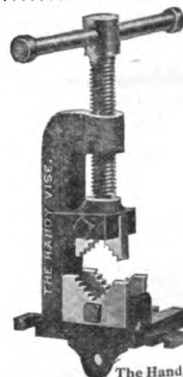
List No.		Approximate Weight	*List Price Each
761291	Diamond Drill Press Combination.....	60 lbs.	\$20.00



Pocket Vise Open



Pocket Vise Closed



The Handy

The frame is made of angle iron, while the jaws are made from high-grade tool steel, hardened and tempered. The long screws are made of cold rolled steel, case-hardened. This vise is just as effective as a vise ten times its weight, and can be easily carried in the coat pocket. It can be fastened securely with four tenpenny nails. Made in two sizes.

List No.	Mfr. No.		Weight Lbs.	*List Price Each
760789	1	Holds pipe from $\frac{1}{4}$ to $1\frac{1}{4}$ ins. inclusive.....	$1\frac{1}{2}$	\$2.50
760790	2	Holds pipe from $\frac{1}{4}$ to 2 ins. inclusive.....	$2\frac{1}{2}$	3.50

Handy Pipe Vise

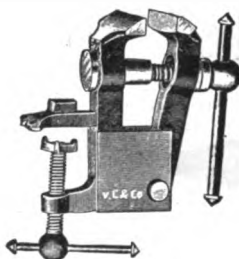
This little Handy Vise is small enough to go into the tool bag. It can be fastened anywhere in two minutes. The jaws are made of tempered crucible tool steel; frame malleable iron. Capacity, $\frac{1}{4}$ to 1 inch.

List No.	Mfr. No.		*List Price Each
761292	1	Handy Pipe Vise.....	\$2.00

*Delivery F. O. B. Factory, Garwood, N. J. †Delivery F. O. B. Factory, Chicago, Ill. ‡Delivery F. O. B. Factory, Bridgeport, Conn. For warehouse deliveries write nearest house.

Tools and Construction Appliances

VICES, CUTTERS AND THREADERS



Bench Vice

No. 171 Bench Vice

BENCH VISES, BEST QUALITY, STEEL FACED

List No.		Weight	Width of Jaws	*List Price per Doz.
171	Bench vise.....	2 lbs.	x	\$29.26
171	Bench vise.....	2½ lbs.	x	29.26
171	Bench vise.....	3 lbs.	2 in.	29.26
171	Bench vise.....	3½ lbs.	2½ in.	29.26
171	Bench vise.....	4 lbs.	2¾ in.	29.26
171	Bench vise.....	5 lbs.	3 in.	32.26
171	Bench vise.....	5 lbs.	3½ in.	39.00



No. 1

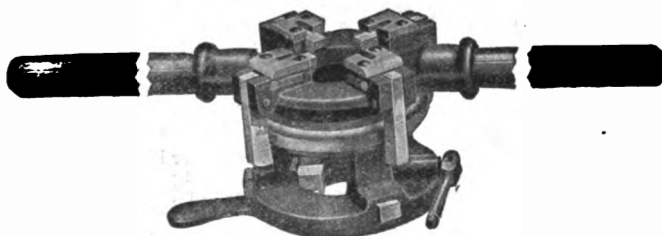


No. 5

Pipe Cutters

The construction of these tools consists of only two principal parts: A heavy frame with a fixed "V" guiding jaw, and a movable block with a "V" guiding jaw. Overhanding each guide jaw is a knife.

List No.		Size	Weight	†List Price Each
1	Complete, with two sets of extra knives.....	½ in. to 1 in.	8 lbs.	\$18.00
5	Complete, with two sets of extra knives.....	½ in. to 2 in.	13 lbs.	20.00
1	Extra set knives.....			1.20
5	Extra set knives.....			1.50



Pipe Threader

Becker-Receding Pipe Threader

The dies of this tool have two leading teeth that are tapered, and these insure easy cutting at the beginning of the cut. Quick adjusting. No screws to loosen or adjust. Pull out the dies with your finger and insert another set in the same way and you are ready to thread pipe.

List No.		Threads	†List Price Each
51	Becker-Receding pipe threader.....	1 in. to 2 in.	\$24.00
761617	Extra dies, single set of 4 pieces.....		2.00

*Delivery F. O. B. Factory, New York City. †Delivery F. O. B. Factory, Warren, O. ‡Delivery F. O. B. Factory, Bridgeport, Conn. For warehouse delivery write nearest house.

CONDUIT TOOLS



Conduit Elbow Former



Star Pipe Bender

Standard Conduit Elbow Former

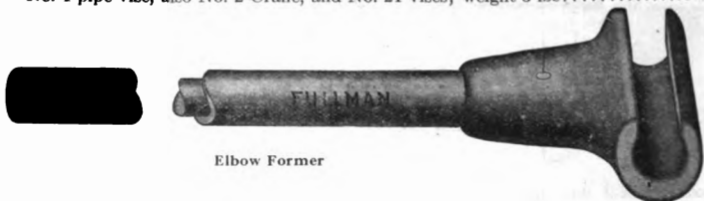
This is not merely a pipe bender; it is a practical conduit elbow former, which forms standard shaped elbows perfectly and accurately exactly where you want them. It saves time over the old method and saves material by eliminating the waste pipe.

List
No.*List Price
Each760783 For $\frac{1}{2}$ in. and $\frac{3}{4}$ in. conduit..... \$37.50

Star Pipe Bender

List
No.†List Price
Each

760784 Will bend pipe or conduit up to one in. without splitting or kinking. Will fit a Crane No. 1 pipe vise, also No. 2 Crane, and No. 21 vises; weight 3 lbs..... \$2.50



Elbow Former

Fullman Elbow Former

Instead of carrying the work back and forth to a bench for slight changes, the bender is applied to the spot as the work progresses. Is advantageous in fitting conduits neatly around other work—making offsets, curves, etc., after conduits are in place. The two forms enable the workmen to reach any part of the work—the 45° form being especially useful for reaching under walls and out-of-the-way places.

Unlike the old style gas "T" form of bender, this tool can be applied anywhere without having to slide it over the pipe from one end.

List No.	†List Price Each	List No.	†List Price Each
760785 $\frac{1}{2}$ in. 45° form.....	\$2.40	760787 $\frac{3}{4}$ in. 45° form.....	\$3.22
760786 $\frac{1}{2}$ in. 90° form.....	2.40	760788 $\frac{3}{4}$ in. 90° form.....	3.22

Rittenhouse Conduit Bender

This bender will not crush or kink the conduit. It is portable and you don't have to carry all your work to it. It will bend an offset or an L on any desired radius. It can be placed on the pipe at any point and does not slide on over the end.



Conduit Bender

List No.	Mfr. No.	†List Price Each
761293	1	Bender complete, for $\frac{1}{2}$ in. pipe..... \$4.12
761294	1	Bender head only, tapped for $\frac{1}{2}$ in. pipe handle..... 3.00
761295	2	Bender complete, for $\frac{3}{4}$ in. pipe..... 4.50
761296	2	Bender head only, tapped for $\frac{3}{4}$ in. pipe handle..... 3.36
761297	5A	Adjustable bender, for $\frac{1}{2}$ and $\frac{3}{4}$ in. pipe.. 5.62
761298	5A	Adjustable bender, head only..... 4.50

*Delivery F. O. B. Factory, New York City. †Delivery F. O. B. Factory, Chicago, Ill. ‡Delivery F. O. B. Factory, Pittsburgh, Pa. ††Delivery F. O. B. Factory, Honeoye Falls. For warehouse deliveries write nearest house.

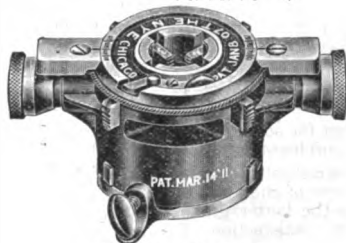


The Handy Die Stock

The Handy Die Stock is a substantially built, long-lived, economical pipe threading tool. It is very light in weight, easy to carry, and takes very little room in tool chest or kit. It is regularly furnished with right-hand dies. Left-hand dies can be furnished for all sizes; these sets are self-contained, threading with one set of dies sizes given below. They are self-locking, and quickly released, one turn back to clean the thread, throw off the lever and remove the die stock. The cutting bits are all made from the best crucible steel adapted to pipe threading.

For Threading Rigid Iron Conduit

List No.	Mfr. No.	Threading	Stock and set of Dies	Pkg. Wt.	*List per Set	Pkg. Wt.	*Extra Set of Dies
760791	1B	$\frac{1}{2}$, $\frac{3}{4}$ in.	Stock and set of Dies	9 lbs.	\$9.50	10 ozs.	\$3.00
760792	11A	$\frac{1}{2}$, $\frac{3}{4}$, 1 in.	Stock and set of Dies	13 lbs.	12.00	12 ozs.	3.00
760793	2	$\frac{1}{2}$, $\frac{3}{4}$, 1, 1 $\frac{1}{4}$ in.	Stock and set of Dies	17 lbs.	14.00	20 ozs.	4.00
760794	3	1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$, 2 in.	Stock and set of Dies	24 lbs.	18.00	21 ozs.	4.00
760795	33	$\frac{1}{2}$, $\frac{3}{4}$, 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$, 2 in.	Stock and set of Dies	25 lbs.	20.00	28 ozs.	6.00
Gas and Electric Fixture Set							
760796	1A	$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$ in.	Stock and set of Dies	8 lbs.	11.00	10 ozs.	\$3.00



No. 25 Nye Die Stock

No. 25 Nye Die Stock

This is an adjustable die stock equipped with two sets of chasers which thread sizes from one-eighth to one inch inclusive. The chasers are tapped on both ends and can readily be changed in the stock. They cannot work loose or recede while in operation. An important feature of this die stock is after the thread is cut the chasers can be instantly released, thereby avoiding the necessity of backing off over the work. Absolutely no bearing or parts to wear out. It is also equipped with adjustable bushings, which can be opened wide enough to go over a coupling. Cuts over and under size or a running thread.

List No.		*List Price Each
760797	With one set of chasers threading from $\frac{1}{8}$ to $\frac{3}{4}$ inch inclusive.....	\$18.00
760798	With two sets of chasers threading from $\frac{1}{8}$ to 1 inch inclusive.....	23.00
760799	Extra chasers cutting $\frac{1}{8}$ to $\frac{3}{4}$ inch inclusive, per set.....	5.00
760800	Extra chasers cutting $\frac{1}{8}$ to 1 inch inclusive, per set.....	5.00

Pipe Cutters



BARNES' THREE-WHEEL PIPE CUTTER

List No.	Mfr. No.		Weight Lbs.	*List Price Each
760801	1	$\frac{1}{8}$ to 1 inch.....	3	\$2.06
760802	2	$\frac{1}{2}$ to 2 inches.....	5	2.70
760803	3	1 $\frac{1}{2}$ to 3 inches.....	9	4.50

SAUNDERS' PIPE CUTTER, ONE WHEEL AND ROLLER

List No.		*List Price Each
760804	$\frac{1}{8}$ to 1 inch pipe.....	\$1.10
760805	1 to 2 inch pipe.....	2.56
760806	2 to 3 inch pipe.....	6.20

Malleable Iron Pipe Vises

List No.		*List Price Each
760807	Holds pipe from $\frac{1}{8}$ to 2 inches.....	\$3.14
760808	Extra jaws, per set.....	1.50
760809	Holds pipe from $\frac{1}{8}$ to 3 inches.....	4.38
760810	Extra jaws, per set.....	2.26
762019	Holds pipe from $\frac{1}{8}$ to 1 inch.....	*2.00



No. 762019



No. 760807

*Delivery F. O. B. Factory, Bridgeport, Conn. †Delivery F. O. B. Factory, Chicago, Ill. ‡Delivery F. O. B. Factory, New York City. ††Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

C. & L. TORCHES

FOR GASOLINE AND KEROSENE

Nos. 32 and 31 Gasoline Torches (Qt. Size)



No. 32 Torch



No. 31 Torch

List No.	Shpg. Wt.	Price Each
32 With hook and support for soldering copper	5 lbs.	\$7.34
31 Without hook and support for soldering copper	5 lbs.	7.00

The burner is made of special generator metal which holds the heat longer. The gas is super-heated before it is burned, producing a perfect fire indoors or out, in wind or extreme cold. A steady, perfect blue flame is generated by this powerful burner, using very little gasoline.



No. 17 Torch



No. 29 Torch

Nos. 17 and 16 Gasoline Torches (Qt. Size)

17 With hook and support for soldering copper	5 1/4 lbs.	\$7.00
16 Without hook and support for soldering copper	5 lbs.	6.68

A good pump in handle torch. Fitted with patented brass automatic pump with double springs on check valve. An air tube leads from bottom of pump to top of tank which prevents gasoline escaping through the pump should check valve refuse to work. The burner produces an ideal blue flame of intense heat.



No. 108 Torch



No. 107 Torch

Nos. 30 and 29 Gasoline Torches (Qt. Size)

30 With hook and support for soldering copper	4 1/4 lbs.	\$6.34
29 Without hook and support for soldering copper	4 1/4 lbs.	6.00

Has automatic pump in handle. Burner is of the open type and the gas is super-heated before it is burned, producing an intensely hot, well-controlled flame. An excellent torch for indoor work.

Nos. 108 & 107 Gasoline Torches (Qt. Size)

108 With hook and support for soldering copper	5 1/4 lbs.	\$5.68
107 Without hook and support for soldering copper	5 lbs.	5.34

This meets the demand for a cheaper quart torch. It has a good burner mounted in the center of the tank, and while it will not produce as much heat as the better grade torches, it is well worth the price and will give satisfaction.



No. 104 Torch



No. 103 Torch

Nos. 104 & 103 Gasoline Torches (Qt. Size)

104 With hook and support for soldering copper	5 1/4 lbs.	\$6.00
103 Without hook and support for soldering copper	5 lbs.	5.68

Patented automatic pump with double spring automatic check valve is fitted in the tank.



No. 96 Torch



No. 95 Torch

No. 96 Torch for Kerosene (Quart Size)

96 Without soldering copper attachment	6 1/4 lbs.	\$6.68
--	------------	--------

A strictly high-grade kerosene torch, producing an intensely hot blue flame about six inches long. All parts are easily accessible and can be cleaned. The improved construction of the burner and perfect combustion of the fuel practically eliminates carbon deposit. The ideal torch where insurance restrictions forbid the use of gasoline. Not affected by severe weather conditions.

No. 95 Torch for Kerosene (Pint Size)

95 Without soldering copper attachment	5 1/4 lbs.	\$6.00
--	------------	--------

No. 95 torch is exactly like No. 96, but pint size.

No. 112 Torch for Gasoline (Quart Size)

112 With detachable soldering copper holder	5 lbs.	\$5.00
---	--------	--------

A very good torch for the price. The burner is made of bronze metal, with metal wheel handle and heavy stuffing box on needle, which prevents leakage. The tank is made of heavy brass and produces a steady flame of intense heat.

No. 114 Torch for Gasoline (Pint Size)

114 With detachable soldering copper holder	3 3/4 lbs.	\$4.40
---	------------	--------

The No. 114 is similar to No. 112, except pint size. Same style of pump and detachable soldering iron attachment as shown in cut.



No. 112 Torch



No. 114 Torch

Tools and Construction Appliances

**C. & L. TORCHES
FOR GASOLINE AND ALCOHOL**

Nos. 38 and 37 Gasoline Torches (Pt. Size)



No. 38 Torch



No. 37 Torch

List No.	Shpg. Wt.	Price Each
38 With hook and support for soldering copper	3 3/4 lbs.	\$6.48
37 Without hook and support for soldering copper	3 1/4 lbs.	6.14

A high-grade pint size torch with an improved burner of special generator metal which produces a perfect blue flame of intense heat indoors or out. Hook and support for holding soldering copper is a great convenience for repair work. Heavy gauge seamless drawn brass tank is fitted with automatic brass pump with automatic check valve, insuring ample air pressure.

Nos. 19 and 18 Gasoline Torches (Pt. Size)



No. 19 Torch



No. 18 Torch

19 With hook and support for soldering copper	3 3/4 lbs.	\$6.00
18 Without hook and support for soldering copper	3 1/4 lbs.	5.68

Equipped with patented automatic brass air pump in handle and special generator metal burner. Light, but strong, and easily handled in close work. An air tube is attached to the inside of the lower handle casting through which the air pressure is taken to the top of the tank. A very popular pint torch.

Nos. 102 & 101 Gasoline Torches (Pt. Size)



No. 102 Torch



No. 101 Torch

102 With hook and support for soldering copper	3 3/4 lbs.	\$6.00
101 Without hook and support for soldering copper	3 1/4 lbs.	5.68

One of the best pint size torches, strictly first-class in construction, material and workmanship. Fitted with open type burner made of high-grade generator metal, producing a perfect blue flame of intense heat, using very little gasoline. Tank is fitted with automatic brass pump with double springs.

No. 106 Torch for Gasoline (Pint Size)



No. 106 Torch



No. 110 Torch

106 With detachable soldering copper holder...	3 3/4 lbs.	\$5.34
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A high-grade torch that will give good satisfaction. The burner is made of generator metal, producing a steady blue flame of intense heat and will work well indoors or outside. It is fitted with automatic brass pump with double spring check valve which easily and quickly supplies all needed air pressure.

No. 110 Torch for Gasoline (Pint Size)



No. 48 Torch



No. 47 Torch

110 With detachable soldering copper holder...	3 3/4 lbs.	\$5.68
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The No. 110 is similar to No. 106 with the exception of pump, which is in the tank, and metal wheel on needle.

Nos. 48 and 47 Gasoline Torches (Pt. Size)

48 With soldering copper attachment.....	5 1/4 lbs.	\$7.54
47 Without soldering copper attachment.....	4 3/4 lbs.	7.20

Fitted with a special burner which is light, yet sufficient / powerful to generate a flame for all requirements. The pump, which forms part of the handle is automatic.

No. 10 Torch for Alcohol

10 Torch. Size, 1 1/4 x 6 inches.....	1 lb.	\$3.00
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The No. 10 is a blow-pipe torch. Air blast produces a hot blue flame. Evaporation of fuel prevented by screw-cap over wick. Air blast tube is adjustable. Nickeled.

No. 14 Torch for Alcohol or Gasoline

14 Torch. Size, 1 1/4 x 6 1/2 inches.....	1 lb.	\$3.54
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The No. 14 burns alcohol or gasoline. Air blast through full chambers makes hotter flame than other methods. Nickeled.

No. 28 Torch for Alcohol

28 Torch. Size 1 1/4 x 7 1/4 inches.....	1 lb.	\$2.00
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A torch or blow pipe for electricians for producing a fine concentrated flame. Finish brass, nickeled.



No. 10

No. 28

Alcohol Torches



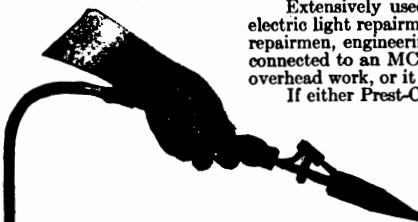
No. 14

ACETYLENE SOLDERING AND BRAZING OUTFITS

In the electrical trade, the uses for the Prest-O-Soldering Iron and the Prest-O-Torch are almost without number.

For soldering wire connections on switchboards, all kinds of shop work, overhead wire work, etc., the Prest-O-Soldering Iron saves valuable time, labor and operating costs as well. The heating flame burns inside the copper head of the iron, maintaining an even temperature, and will not blow out in high winds. Ideal for work in cramped quarters.

The Prest-O-Torch (Style A, B and C) is a blow torch, providing an intense heat in a concentrated flame. Very handy, instantly available and also economical.



Prest-O-Soldering Iron

Extensively used for soldering and brazing work by telephone and electric light repairmen, plumbers and tinnerns, automobile and motorcycle repairmen, engineering houses, etc. The Style A Prest-O-Torch may be connected to an MC Prest-O-Lite and fitted with bands and a handle for overhead work, or it may be fitted with a hook for hanging on a crossarm.

If either Prest-O-Soldering Iron or Prest-O-Torch is used with a large size tank, a shut-off may be provided at the torch by using an automatic pressure regulator at the tank, regarding which information will be furnished on request.

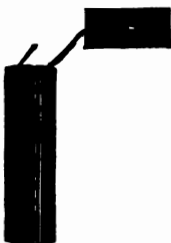
Prest-O-Lite is a system furnishing pure, ready-made acetylene gas in steel cylinders of convenient size. A Prest-O-Lite, when empty, may be taken to any Prest-O-Lite dealer and exchanged for a full one upon payment of a small exchange fee.

Prest-O-Lites are manufactured under a special formula of The Prest-O-Lite Co., Inc., and are backed by a universal exchange system which includes practically all large cities and towns and most villages throughout the country.

Prest-O-Soldering Iron

Prest-O-Soldering Iron as ordered is fitted with a 1 lb. or 2 lb. soldering head of highest quality drop forged copper. Each outfit includes 6 feet of rubber hose and a union for attaching to either Style MC or to Style B and E Prest-O-Lites, as specified.

List No.		List Price Each
330935	Prest-O-Lite Soldering Iron, 1 lb. size.....	\$6.00
330936	Prest-O-Lite Soldering Iron, 2 lb. size.....	6.50

Prest-O-Torch, Style A,
With MC CylinderPrest-O-Torch, Style C,
With E, B, or A Cylinder

Prest-O-Torch

Style A torch has a heat sufficient for brazing steel up to $\frac{3}{8}$ inch diameter. Style B torch gives a flame with an intense heat ideal for work of jewelers, dentists, etc. Style C provides a flame about three times as large as Style A and successfully brazes solid steel bars up to 2 inches diameter.

Style	List Price Each	Style	List Price Each
A Torch.....	\$1.00	C Torch.....	\$3.00
B Torch.....	3.00		



Style MC



Styles A, B, E

Prest-O-Lites

Style	Contains	Dimensions	List Price Complete	List Price Less Band
MC Motorcycle size.....	10 cubic ft. gas	13½ ins. long, 4 ins. diam.	\$12.00	\$11.50
E Tank.....	30 cubic ft. gas	16 ins. long, 6 ins. diam.	21.00	20.50
B Tank.....	40 cubic ft. gas	20 ins. long, 6 ins. diam.	26.00	25.50
A Tank.....	70 cubic ft. gas	22 ins. long, 7¼ ins. diam.	35.00	34.30

Tools and Construction Appliances

TURNER GASOLINE TORCHES



No. 12



No. 20



No. 21



No. 232

Quart Torches Polished Brass

List No.	Mfr. No.	Description	Shipping Wt. Lbs.	List Price Each
760965	12	"Old Reliable." Filled from the top. Positively the best torch of its type made.	5	\$7.50
761696	20	Powerful and very hot flame produced by patent coil burner.	6	8.50
761697	21	Efficient and exceptionally serviceable. Very hot.	5½	8.00
761695	232	Highest grade. Hot blue flame, with little fuel.	5½	7.50



No. 212



No. 215



No. 222



No. 226

Quart Torches Polished Brass

760968	212	Medium priced, strong, durable and very hot.	5½	\$6.50
760967	215	Strictly high grade, low priced torch. Automatic pump in handle.	5	4.70
760966	222	Popular priced and strictly high grade. Gives service that satisfies.	5	7.00
760969	226	Burns kerosene or gasoline without odor or carbon deposit; intense hot fire.	5½	9.00



No. 92



No. 96



No. 97



Soldering copper attachments included without extra charge. Packed loose with all torches except No. 20 and Double Jet Torches.

Double Jet Torches Quart Sizes

760972	92	Double jet. Produces nearly double the heat of single jet torches.	5	\$10.00
760973	96	Double jet burner on swivel for brazing heavy electrical cables.	5½	12.00
760974	97	Double jet. Large burner is protected for outdoor work by wind shield.	6¾	15.00



No. 312



No. 315



No. 332

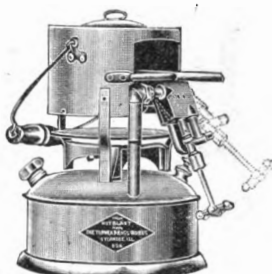


No. 481

Pint Torches Polished Brass

760970	312	Same type as No. 212. Efficient and medium priced.	3½	\$5.50
760971	315	Same type as No. 215. Meeting demand for a low-priced tool.	3½	4.00
761698	332	Same type as Nos. 31-32. Closed under generator back flow burner.	4	6.50
761699	481	Auto torch, powerful hot flame, improved under generator burner.	3½	7.50

MISCELLANEOUS SUPPLIES

No. 73
For GasolineNo. 83
For Kerosene

Nos. 34 and 36

No. 66
For Gasoline

Turner Fire Pots

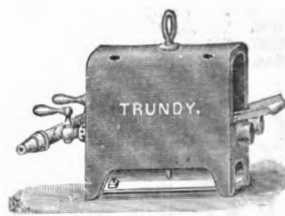
List No.	Mfr. No.	Description	Shipping Wt., Lbs.	List Price Each
760941	73	Seven Pints, "Hot Blast," coil furnace, drawn steel tank.....	15¾	\$10.00
761853	83	Seven Pints, "Hot Blast," with improved burner for kerosene....	16½	14.00
760943	34	Seven Pints, "Hot Blast," galvanized steel tank.....	17	12.00
760944	36	Five Pints, "Hot Blast," galvanized steel tank.....	14	9.00
761854	66	Seven Pints, drawn steel tank with automatic pump.....	14¾	8.00



Lineman's Torch



Ritter Soldering Coppers



Trundy Soldering Furnace

Staysalite Lineman's Torch

This lineman's torch stays lit in a wind. It is light and small. It is lit and extinguished in a moment as wanted. It has no adjusting parts, therefore it cannot get out of order. It is hung directly on the wire under the joint to be soldered and is provided with a cup for holding soldering paste.

List No.	Mfr. No.	Weight per Doz.	*List Price Each
761325	3420	1¼ lbs.	\$6.00

Staysalite Lineman's Torch.....

Ritter Soldering Copper

List No.	*List Price Each
760924	\$3.00

Soldering Coppers, for wiremen's and linemen's use.....

Trundy Soldering Iron Furnace

Made of wrought iron, with a false bottom, which makes danger or damage from downward heat impossible. 15 inches long, 9 inches high, and 7¼ inches wide. Designed to be packed in the tool chest along with other tools.

List No.	Weight Lbs.	*List Price Each
760976	19	\$16.90

Trundy Furnace, New York and Chicago style.....

*Delivery F. O. B. Factory, Chicago, Ill. †Delivery F. O. B. Factory, New York City. For warehouse deliveries, write nearest house.

Tools and Construction Appliances

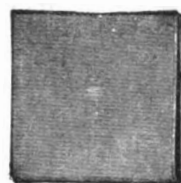
SOLDERING ACCESSORIES



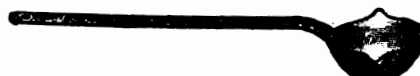
Soldering Furnace



Melting Pot



Wiping Cloth



Pouring Ladle

Charcoal Soldering Furnace, Galvanized Iron

For melting solder and heating soldering irons. Opening in top admits 6 inch melting pot. Furnace is provided with grate.

List No.	Mfr. No.		Weight	List Price Each
760975	3550-6	With removable cast iron top.....	12 lbs.	\$7.00

Melting Pots

List No.		List Price Each	List No.		List Price Each
761124	5 in. cast iron pot.....	\$0.80	761126	8 in. cast iron pot.....	\$1.50
761125	6 in. cast iron pot.....	1.00			

Wiping Cloths

For Wiping Lead Joints, Etc.

761127	Moleskin.....	\$0.50	761128	Ticking.....	\$0.30
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Double Lip Pouring Ladles

761129	2½ in. bowl.....	\$0.50	761131	4 in. bowl.....	\$0.80
761130	3 in. bowl.....	.60	761132	5 in. bowl.....	1.00



Pony Soldering Coppers

Fitted with Black Lacquered Handles

Specially adapted for electrical work. Made of pure copper, tinned.

List No.	Mfr. No.	Size	Length of Handle, Inches	Weight	List Price Each	List No.	Mfr. No.	Size	Length of Handle, Inches	Weight	List Price Each
760919	51	No. 1 copper..	12½	5½ oz.	\$1.20	760922	54	No. 4 copper..	8¾	1 oz.	\$0.60
760920	52	No. 2 copper..	11½	3 oz.	1.00	760923	55	No. 5 copper..	8¾	¾ oz.	.40
760921	53	No. 3 copper..	9½	1¾ oz.	.80						

CABLE TOOLS



Oval



Triangle

Plumber's Scrapers

For scraping lead sleeves, lead pipe, lead-covered cable ends of potheads, etc.

List No.		List Price Each
760989	Oval head lead scraper	\$0.60
760990	Triangle-shaped lead scraper .....	.60



No. 1515-1



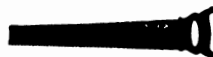
No. 1515-2

Cable Splitting Knives

List No.		Weight per Doz.	List Price Each
1515-1	Cable splitting knife, with leather handle	6 3/4 lbs.	\$2.00
1515-2	Cable splitting knife, solid steel, polished	5 1/2 lbs.	1.50



Cable Stripper Knife No. 1560-1



Cableman's Saw

Cable Stripper and Cable Saw

List No.		Weight per Doz.	List Price Each
1560-1	Cable stripper knife, polished	3 1/2 lbs.	\$2.30

Klein's Cableman's Saw

This saw is particularly recommended for use on cable work. One side has coarse teeth for cutting through lead cable sheath, while the other has finer teeth for cutting through the wire core. The saw is made of silver steel, with apple handle fastened by three brass screws passing through the blade and into brass flush nuts on the other side. Length of blade, 14 inches. Length over all, 18 inches.

		Weight Each	List Price
906-14	Double-edged cableman's saw	7/8 lb.	\$2.00



Boxwood Dresser



Boxwood Turning Pin



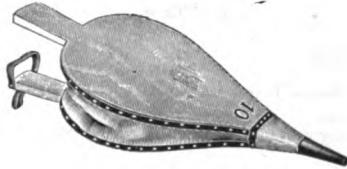
Boxwood Bossing Stick

Shaping Tools

List No.		List Price Each
760995	Boxwood dresser for shaping lead sleeves, lead pipe, etc.	\$1.80
760996	Boxwood bossing stick, for shaping lead sleeves, lead pipe, etc.	1.80
760997	Boxwood turn pin, size 1 .....	.60
760998	Boxwood turn pin, size 2 .....	.60
760999	Boxwood turn pin, size 3 .....	.60

NOTE: Boxwood turn pins are for expanding ends of lead pipe, lead sleeves, potheads, etc.

BELLOWS, WASTE CANS AND COUNTERS



Hand Bellows



Galvanized Waste Can

Hand Bellows

List No.		*List Price Each	List No.		*List Price Each
760983	9 inch Hand Bellows	\$2.74	760985	12 inch Hand Bellows	\$4.38
760984	10 inch Hand Bellows	3.62	760986	14 inch Hand Bellows	5.62

Galvanized Waste Cans

Self-closing Cover with Improved Spring Attachment

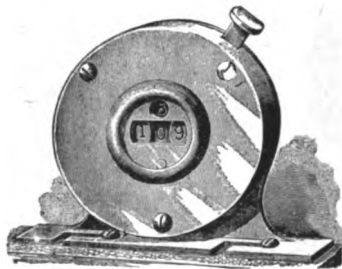
These cans are made without the use of solder, and are galvanized after being put together. They are recommended by the leading insurance companies.

List No.		*List Price Each
760987	11¼ x 15 inch round Waste Can	\$3.38
760988	15¼ x 20 inch round Waste Can	6.24

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.



Hand Tally Counter



No. 1 Tally Register



Pole Counter

Veeder Set Back Hand Tally Counter

This counter is useful for many purposes. The case is small in size, with rounded corners so as not to irritate the hand of the user.

List No.		List Price Each
762016	Set Back Hand Tally Counter	\$6.00

List No.	Mfr. No.		List Price Each
761702	0	With bracket	\$4.00
761703	1	With bracket	5.34
761704	0	With safety pin	4.00
761705	1	With safety pin	5.34

No. 1 Tally Register

List No.	Mfr. No.		List Price Each
760933	0	Pole counter, records 1 to 1000	\$3.34
760934	1	Pole counter, records 1 to 10,000	4.00

Pole Counter

MEASURING TAPES



Enameled Steel Case



Star Steel Tape

Cotton Tape

Enameled Steel Case with Brass Trimmings

These tapes are half inch in width, enclosed in an enameled steel case, brass bound. They are the cheapest tape made, and are only adapted to the most ordinary work; although printed from a standard, they are liable to variations in use.

List No.	Mfr. No.		List Price per Doz.
760904	30	25 feet $\frac{1}{2}$ inch cotton ass' skin.....	\$5.90
760905	33	50 feet $\frac{1}{2}$ inch cotton ass' skin.....	7.86
760906	35	75 feet $\frac{1}{2}$ inch cotton ass' skin.....	11.80
760907	37	100 feet $\frac{1}{2}$ inch cotton ass' skin.....	14.16

Star Steel Tape

This tape is $\frac{3}{8}$ inch wide and the case is made of steel, nickel plated, and fitted with flush handle. It is one of the most popular tapes on the market for the reason that it is strongly made, winds easily, is compact in form, and although cheap is very durable.

List No.	Mfr. No.		List Price Each
760908	497	25 feet $\frac{3}{8}$ inch steel tape.....	\$4.44
760909	500	50 feet $\frac{3}{8}$ inch steel tape.....	5.34
760910	502	75 feet $\frac{3}{8}$ inch steel tape.....	7.12
760911	503	100 feet $\frac{3}{8}$ inch steel tape.....	9.50

Steel tape lines will be coppered or nickel plated to prevent rusting when so ordered, at an advance in price.



Metallic Warp Tape



Enameled Linen Tape

Metallic Warp Tape

This tape is $\frac{5}{8}$ inch in width, and contains metal threads to prevent stretching. Nicely finished and reinforced on the first end with leather to prevent breaking, and is as near waterproof as possible. The cases are of heavy russet leather, fitted with flush handles, and all metal work is nickel plated.

List No.	Mfr. No.		List Price per Doz.
760912	137	25 feet $\frac{5}{8}$ inch metallic warp tape.....	\$349.0
760913	140	50 feet $\frac{5}{8}$ inch metallic warp tape.....	498.6
760914	142	75 feet $\frac{5}{8}$ inch metallic warp tape.....	698.2
760915	143	100 feet $\frac{5}{8}$ inch metallic warp tape.....	798.0

Enameled Linen Tape

Russet Leather Case

Enameled linen tape is made of corded linen tape $\frac{5}{8}$ inch wide and coated with a durable enamel, making it as nearly watertight as possible. These tapes are preferred by many to the metallic warp tape. The case is of russet leather, with nickel-plated trimmings.

List No.	Mfr. No.		List Price per Doz.
760916	124	50 feet $\frac{5}{8}$ inch enameled linen tape.....	\$39.40
760917	126	75 feet $\frac{5}{8}$ inch enameled linen tape.....	46.54
760918	127	100 feet $\frac{5}{8}$ inch enameled linen tape.....	49.86

MEASURING TOOLS



No. 4801

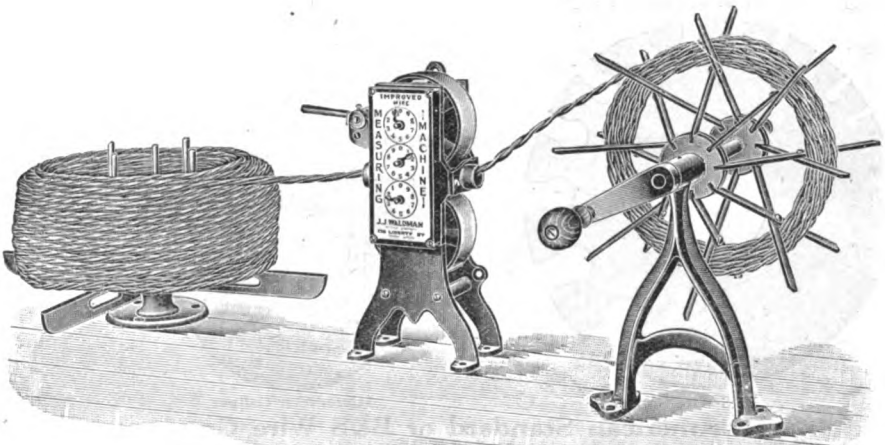
Self-Registering Wire Gauge

This is an accurate, quick reading wire gauge. It will register instantly the B. & S. standard size of any wire from Nos. 0000 to 18, inclusive. Made of hardened finished steel. Size $2\frac{1}{4}$ inches long by $1\frac{1}{4}$ inches wide. Weighs less than one ounce.

Can be carried on the key ring or small safety chain, or in the vest pocket.

Electricians and every person handling wire should have a wire gauge for protection against errors.

List No.	Mfr. No.		List Price Each
761805	4801	Self-Registering Wire Gauge.....	\$0.38



Folding Reel

Measuring Machine

Wire Winder

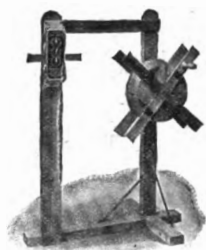
Wire Measuring Outfit

This measuring outfit measures quickly and accurately all wires from No. 0 to No. 40, inclusive. It can also be used for measuring lamp cord, rope, tape, etc. It is made so that it may be fastened to either the counter or side wall and occupies but little space. It is indestructible and very neat in appearance. The winder and reel are so arranged that they may be closed when not in use, therefore occupying but little space.

List No.		*List Price Each
761806	Folding reel.....	\$6.48
761807	Measuring machine.....	22.50
761808	Wire winder.....	10.80

*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

MEASURING TOOLS



Wire Measuring Machine



Wire Meter



High Speed Indicator

Reels and Meters

A most efficient device for measuring and reeling wire and cordage of various sizes.

List No.	Description	*List Price Each	List No.	Description	*List Price Each
761000	Wire meter with reel	\$50.00	761002	Counter meter	\$32.90
761001	Meter only	32.00	761003	Cable meter only	50.00

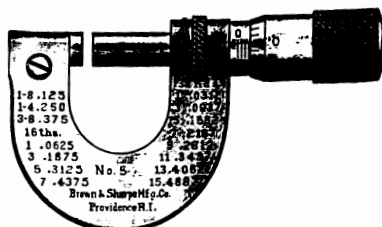
High Speed Indicator

This indicator may be run at highest speed required without heating, and this on account of the frictionless bearing against which the inner end of the spindle revolves. The dial plate has two rows of figures, reading right or left, as the shaft may run.

List No.	Mfr. No.	Description	†List Price Each
761004	104	Complete with rubber tips	\$1.86
761005	106	Improved indicator, same as 104, with rubber handle and tips complete	2.80
761006	109	Surface speed attachments for speed indicators	.92
761007	109-A	Leather case for speed indicator	.92



B&S Wire Gauge



Micrometer Caliper

American Standard or B&S Wire Gauge

These gauges are manufactured from the best steel, and are tempered, adjusted, and warranted accurate. Size $3\frac{1}{4}$ inches in diameter and $\frac{1}{8}$ inch thick. In order to be familiar with the usage of these gauges with the decimal equivalents of the gauge numbers, we furnish both sizes with these decimal equivalents expressed in thousandths on the back, opposite to the regular gauge numbers.

List No.	Mfr. No.	Description	†List Price Each
761008	688	Size wire B&S gauge, 0 to 36	\$4.16
761334	688	Size wire B&S gauge, 5 to 36	3.32
761335	690	Size wire B&S gauge, 1 to 36	3.32
761009	690	Size wire B&S gauge, 6 to 36	2.50

Micrometer Caliper No. 2

English or Metric Measure

Measures all sizes less than one-half inch by one-thousandths of an inch. It is also made to measure all sizes less than 13 millimeters by hundredths of a millimeter. When so made the table of decimal equivalents is omitted.

List No.	Description	†List Price Each
761010	2 Range 0 to $\frac{1}{2}$ inch, or 0 to 13 mm	\$7.50
761011	.. Same, with ratchet stop	8.32
761012	.. Morocco case	.82

* Delivery F. O. B. Factory, Minneapolis, Minn. † Delivery F. O. B. Factory, Athol, Mass. † Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries write nearest house.

OILERS

Detachable Spout Copperized Pump Oilers



List No.	Mfr. No.		List Price per Doz.
761500	400	½ pint, 3 in. diameter, 6 in. spout, 6 pounds	\$20.70
761501	401	1 pint, 3 in. diameter, 7 in. spout, 7½ pounds	22.50
761502	402	1 pint, 3 in. diameter, 10 in. spout, 7½ pounds	22.74
761503	403	1½ pint, 4 in. diameter, 12 in. spout, 11 pounds	26.56
761504	404	2 pint, 4 in. diameter, 12 in. spout, 12 pounds	28.80
761505	405	2 pint, 4 in. diameter, 16 in. spout, 12 pounds	29.04

Copperized Steel Oilers



761506	12	¼ pint, 2¾ in. diameter, 2½ in. spout	\$1.84
761507	13	½ pint, 3 in. diameter, 3 in. spout	2.24
761508	13A	½ pint, 3 in. diameter, 5 in. spout	2.44
761509	14	½ pint, 3 in. diameter, 9 in. spout	2.64
761510	14A	½ pint, 3 in. diameter, 3 in. spout	3.04
761511	14AA	½ pint, 3 in. diameter, 5 in. spout	3.24
761512	14B	½ pint, 3 in. diameter, 9 in. spout	3.46
761513	15	1 pint, 4 in. diameter, 3 in. spout	3.76
761514	15A	1 pint, 4 in. diameter, 5 in. spout	3.96
761515	16	1 pint, 4 in. diameter, 9 in. spout	4.26

Oil-tight Oilers



761516	012	¼ pint, 2¾ in. diameter, 2½ in. spout	\$3.38
761517	013	½ pint, 3 in. diameter, 3 in. spout	4.14
761518	013A	½ pint, 3 in. diameter, 5 in. spout	4.50
761519	014	½ pint, 3 in. diameter, 9 in. spout	4.88
761520	014A	½ pint, 3 in. diameter, 3 in. spout	5.64
761521	014AA	½ pint, 3 in. diameter, 5 in. spout	6.00
761522	014B	½ pint, 3 in. diameter, 9 in. spout	6.38
761523	015	1 pint, 4 in. diameter, 3 in. spout	6.94
761524	015A	1 pint, 4 in. diameter, 5 in. spout	7.32
761525	016	1 pint, 4 in. diameter, 9 in. spout	7.88

Copperized Steel Engineer's Fillers



List No.	Mfr. No.		List Price per Doz.
761526	19	1 pint, 4½ in. diameter, 3½ in. high	\$10.50
761527	19A	1½ pint, 4½ in. diameter, 4 in. high	12.76
761528	210	1 quart, 5 in. diameter, 5 in. high	15.00
761529	211	2 quart, 6 in. diameter, 6 in. high	18.00

Engineers' Sets

**Steel, Copper Plated
With Round Tray**



List No.	Mfr. No.		List Price per Set
761530	C30	Five pieces, copperized steel (including tray)	\$5.00
761531	C40	Six pieces, copperized steel (including tray)	7.00

DU PONT BLASTING MACHINES AND ACCESSORIES



Blasting Machine



Rheostat



Galvanometer

"Du Pont" Blasting Machines

Blasting machines are being used with greater frequency as their advantages become known. Simple in design, carefully assembled and thoroughly tested before shipment, Du Pont Blasting Machines are certain to perform effectively and insure maximum results with explosives. Electrical blasting saves time in detonation. Liability to accidents caused by "hang-fires" is also eliminated.

"Du Pont" Machines are made in five sizes as listed below.

List No.	No. of Posts	Type	Dimensions	Capacity in	Weight Each	*List Price Each
				Electric Blasting Caps		
Pocket	2	Twist	2 1/8 x 3 5/8 x 3 5/8 ins.	3	4 1/2 lbs.	\$17.00
2	2	Push Down	5 1/2 x 7 3/4 x 9 3/4 ins.	1 to 10	20 lbs.	20.00
3	12	Push Down	5 3/4 x 8 1/4 x 13 3/4 ins.	1 to 30	25 lbs.	30.00
5	2	Push Down	8 1/2 x 10 3/4 x 16 1/2 ins.	1 to 100	56 lbs.	120.00
6	2	Push Down	8 1/2 x 10 3/4 x 13 1/2 ins.	1 to 150	38 lbs.	150.00

13 posts furnished in special order.

Rheostat

This rheostat is used as a cheap and effective way of determining the capacity of a blasting machine. These instruments are constructed and tested under the direction of experts. They are compact and convenient, and blasters will find them especially useful on many occasions where the capacity of the blasting machine is in doubt.

List No.	Description	Dimensions	Weight Each	*List Price Each
761027	Rheostat	3/4 x 1 3/4 x 4 1/4 ins.	5 oz.	\$10.00

Galvanometer

Especial care and attention have been given to designing this instrument with a view to producing one which would promptly detect imperfections in the blasting circuit. The galvanometer is simply constructed and has a battery cell noted for long life and constancy. The instrument is enclosed in a leather case provided with a carrying strap. The simplicity of construction, the value of its service and portability are features which make this galvanometer an invaluable aid to any blaster.

List No.	Description	Weight Each	*List Price Each
761028	Galvanometer	1 lb.	\$30.00
762015	Carrying case and shoulder strap		5.50

Du Pont Delay Electric Ignitors

These are manufactured in six delays: "First Delay," "Second Delay," etc. They can be used in tunnel work, shaft sinking and any place where it is desired to have the charges of explosives detonate with a distinct period of time between each charge. They can be used in the same series with the instantaneous electric blasting caps.

When used to detonate dynamite, it is necessary to crimp a blasting cap to the fuse. When used in wet work, cover the entire ignitor with a tarry preparation to protect them from water.

	List Prices per 100					
	4 Ft.	6 Ft.	8 Ft.	10 Ft.	12 Ft.	20 Ft.
1st Delay	\$9.00	\$10.20	\$11.40	\$12.60	\$13.80	\$18.60
2d Delay	9.34	10.54	11.74	12.94	14.14	18.94
3d Delay	9.68	10.88	12.08	13.28	14.48	19.28
4th Delay	10.02	11.22	12.42	13.62	14.82	19.62
5th Delay	10.36	11.56	12.76	13.96	15.16	19.96
6th Delay	10.70	11.90	13.10	14.30	15.50	20.30

*Delivery F. O. B. Factory, Pompton Lakes, N. J. For warehouse deliveries write nearest house.

DU PONT BLASTING SUPPLIES



Du Pont Electric Blasting Caps

Especial attention is given in the selection of materials for Du Pont Electric Blasting Caps to insure satisfaction. They are carefully assembled and packed. These electric blasting caps are packed in cartons containing 25 or 50, depending on length of wires. Special insulation provided for electric blasting caps for submarine and very wet work. Prices given are for electric blasting caps with 4 foot wires.

List No.	Color of Label	Length of Shell	Caliber of Shell	Weight of Charge Grains	Grams	*List Price per 100
6	Red	1 1/2	.273	15.4	1.	\$9.60
8	Green	2	.273	30.8	2.	12.10

Longer lengths in multiples of 2 feet, add \$1.08 list per 100 electric blasting caps for each two feet up to 20 foot wires.

Electric Squibs

For Use With Blasting Powder Only

These squibs are similar in general appearance to Du Pont Electric Blasting Caps, but have a heavy paper cap instead of a copper one. Electric squibs are advantageous to use for the following reasons:

Ignition of blasting powder in center of charge giving a quicker and stronger action; more production from given amount of powder; instantaneous firing; absence of fumes caused by burning fuse; small quantity of smoke emitted by blasting powder.

Electric Squibs are made with 4, 5, 6, 8, 10 and 12 foot copper wires. Those having iron wires longer than 8 feet are not recommended. They are packed 50 to the carton and 10 cartons to the case.

List No.	Length of Wires	Gross Weight per Case	*List Price per 100—	
			With Copper Wires	With Iron Wires
761032	4 feet	24 lbs.	\$7.50	\$6.50
761034	6 feet	30 lbs.	8.70	7.30
761035	8 feet	36 lbs.	9.90	8.10
761036	10 feet	41 lbs.	11.10	....
761037	12 feet	51 lbs.	12.30	....

When ordering specify whether copper or iron wires are desired.

Du Pont Delay Electric Blasting Caps

By employing these detonators, a distinct period of time elapses between the explosion of the "Instantaneous" "First Delays" and the "Second Delays." They are advantageous for use in tunnel work, as much time is saved in detonation of charges.

Distinction between the three types of Delay Electric Blasting Caps is made apparent by observing that "Instantaneous" have black wires, "First Delays" red wires, and "Second Delays" white wires. Electric blasting caps are made in grade No. 6 only.

List No.	Length of Wires	*List Prices per 100—		List No.	Length of Wires	*List Prices per 100—	
		Red Wires First Delay	White Wires Second Delay			Red Wires First Delay	White Wires Second Delay
761038	4-foot	\$22.70	\$23.36	761042	12-foot	\$27.50	\$28.16
761039	6-foot	23.90	24.56	761044	16-foot	29.90	30.56
761040	8-foot	25.10	25.76	761046	20-foot	32.30	32.96
761041	10-foot	26.30	26.96				

When ordering specify whether "First Delay" or "Second Delay" Electric Blasting Caps are desired.

Du Pont Cap Crimper

This inexpensive and efficient tool should be included in every blasting equipment. It enables a blaster to make a secure, waterproof, and effective connection of blasting cap and fuse. A fuse cutter, pointed handle for punching holes in cartridge, and provision for chain attachment complete this practical device for insuring proper detonation of explosives.

List No.	Description	*List Price	
		Each	Per Doz.
761047	Cap Crimper	\$0.60	\$6.00

Leading and Connecting Wires

Leading Wire

Leading wire is for connecting electric blasting caps with the blasting machine. It consists of a No. 14 B. & S. copper conductor, insulated with a round of saturated cotton, over which is placed a paraffined outer braid, to repel moisture. The construction of this wire corresponds to dampproof office wire. It may be furnished also in the Duplex, or two conductor, type.

Connecting Wire

Connecting wires used to connect electric blasting caps in series where the wires are not long enough to reach the adjoining bore holes; each end of this series circuit is then connected to the leading wire. The wire consists of either a No. 20 or No. 21 gauge copper conductor with a paraffined outer braid over all. The construction of this wire corresponds to that of ordinary annunciator wire.

*Delivery F. O. B. Factory, Pompton Lakes, N. J. For warehouse deliveries write nearest house.

USEFUL TABLES

Machine Bolts

Approximate Weight in pounds of 100 bolts of sizes enumerated below

Length Inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
1½	3.7	6.0	9.0	15.2	19.6	27.5	34.3	54.3
2	4.2	7.0	10.5	17.2	22.2	31.0	38.4	60.0
2½	4.8	8.0	12.0	19.2	24.8	34.5	42.5	65.7
3	5.5	9.0	13.5	21.2	27.5	38.0	46.7	71.4
3½	6.1	10.0	15.0	23.2	30.1	41.5	50.8	77.1
4	6.8	11.0	16.5	25.2	32.8	45.0	55.0	82.8
4½	7.4	12.0	18.0	27.2	35.4	48.5	59.1	88.9
5	8.1	13.0	19.5	29.2	38.1	52.0	63.3	95.0
5½	8.7	14.0	21.0	31.2	40.7	55.5	67.4	101.1
6	9.4	15.0	22.5	33.2	43.4	59.0	71.6	107.2
6½	10.1	16.0	24.1	35.2	46.0	62.5	75.7	113.3
7	10.8	17.0	25.7	37.2	48.7	66.0	79.9	119.4
7½	11.5	18.0	27.3	39.2	51.3	69.5	84.0	125.5
8	12.2	19.0	28.9	41.2	54.0	73.0	88.2	131.6
9	.....	.....	32.1	45.2	59.5	80.0	96.5	143.8
10	.....	.....	35.3	49.2	65.0	87.0	104.8	156.0
11	.....	.....	38.5	53.2	70.5	94.0	113.1	168.2
12	.....	.....	41.7	57.2	76.0	101.0	121.4	180.4
13	.....	.....	.....	.....	81.5	108.0	129.7	192.6
14	.....	.....	.....	.....	87.0	115.0	138.0	204.8
15	.....	.....	.....	.....	92.5	122.0	146.3	217.0
16	.....	.....	.....	.....	98.0	129.0	154.6	229.2
17	.....	.....	.....	.....	103.5	136.0	162.9	241.4
18	.....	.....	.....	.....	109.0	143.0	171.2	253.6
19	.....	.....	.....	.....	114.5	150.0	179.5	265.8
20	.....	.....	.....	.....	120.0	157.0	187.8	278.0

Carriage Bolts

Approximate Weight in pounds of 100 bolts of sizes enumerated below

Length Inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
1	2.8	4.8	6.9	9.4	14.5	28.0
1¼	3.1	5.2	7.6	10.4	15.9	30.0
1½	3.4	5.7	8.3	11.4	17.3	32.0
1¾	3.7	6.1	9.0	12.4	18.6	34.0
2	4.0	6.6	9.7	13.3	20.0	36.0
2¼	4.4	7.0	10.4	14.3	21.4	38.0
2½	4.7	7.5	11.1	15.3	22.8	40.0
2¾	5.0	7.9	11.8	16.3	24.2	42.0
3	5.3	8.4	12.5	17.3	25.5	44.0
3½	5.9	9.3	13.9	19.3	28.3	48.0
4	6.6	10.2	15.3	21.3	31.0	52.0
4½	7.2	11.1	16.7	23.3	33.8	56.0
5	7.8	12.0	18.0	25.3	36.5	60.0
5½	8.4	12.9	19.4	27.3	39.3	64.0
6	9.0	13.8	20.8	29.3	42.0	68.0
6½	9.7	14.7	21.2	31.2	44.8	72.0
7	10.3	15.6	23.6	33.2	47.5	76.0
7½	10.9	16.5	25.0	35.2	50.3	80.0
8	11.6	17.4	26.4	37.2	53.0	84.0
8½	.....	18.4	27.8	39.2	55.8	88.0
9	.....	19.3	29.2	41.2	58.5	92.0
9½	.....	20.2	30.6	43.1	61.3	96.0
10	.....	21.0	32.0	45.1	64.0	100.0
10½	.....	.....	33.4	47.1	66.8	104.0
11	.....	.....	34.8	49.1	69.5	108.0
11½	.....	.....	36.2	51.0	72.3	112.0
12	.....	.....	37.5	53.0	75.0	116.0

USEFUL TABLES

Weatherproof Wires

Solid Conductors

Size B. & S.	Weatherproof Wire			Slow-Burning Weatherproof Wire			Slow-Burning Wire		
	Wt. per 1000 Ft.	Wt. per Mile	Diameter Over All	Wt. per 1000 Ft.	Wt. per Mile	Diameter Over All	Wt. per 1000 Ft.	Wt. per Mile	Diameter Over All
0000	767	4050	25/32	862	4550	3/4	925	4890	3/4
000	630	3220	47/64	710	3750	45/64	760	4020	45/64
00	502	2650	39/64	562	2970	37/64	600	3170	37/64
0	407	2150	9/16	462	2440	17/32	495	2610	17/32
1	316	1670	1/2	340	1800	15/32	365	1930	15/32
2	260	1370	15/32	280	1480	7/16	320	1690	7/16
3	204	1050	27/64	230	1220	13/32	270	1425	13/32
4	164	865	25/64	190	1000	3/8	220	1160	3/8
5	134	710	11/32	155	820	11/32	190	1000	11/32
6	112	590	5/16	127	670	5/16	160	845	5/16
8	75	395	17/64	85	450	7/64	100	530	17/64
10	53	280	1/4	60	315	1/4	80	420	1/4
12	35	185	7/32	42	220	7/32	55	290	7/32
14	25	130	3/16	30	160	3/16	40	210	3/16
16	14	75	5/32	15	80	5/32	18	95	5/32
18	11	58	1/8	12	63	1/8	14	75	1/8

Rubber Covered Wire

Solid Conductors

Size B. & S.	Diameter of Conductors, Mils	Capacity Circular Mils	Single Braid		Double Braid	
			Diameter Over All	Weight per 1000 Ft.	Diameter Over All	Weight per 1000 Ft.
0000	460	211600	47/64	809	55/64	832
000	410	167803	11/16	666	13/16	690
00	365	133079	5/8	546	47/64	568
0	325	105524	19/32	453	45/64	476
1	289	83695	33/64	355	5/8	376
2	258	66373	29/64	275	9/16	295
3	230	52634	27/64	227	33/64	245
4	204	41743	25/64	186	15/32	200
5	182	33102	23/64	160	7/16	170
6	162	26250	5/16	128	25/64	135
8	129	16510	17/64	80	11/32	86
10	102	10382	15/64	58	19/64	64
12	81	6530	7/32	43	9/32	48
14	64	4107	13/64	32	1/4	37
16	51	2583	3/16	20	.....	...
18	40	1624	11/64	16	.....	...
19	36	1288	5/32	15	.....	...
20	32	1022	9/64	14	.....	...

Rubber Covered

Duplex

Size, B. & S.	Solid		Stranded	
	Diameter Over All	Weight per 1000 Ft.	Diameter Over All	Weight per 1000 Ft.
1	.....	...	1 1/4	810
2	.....	...	1 1/8	638
3	.....	...	1 1/32	528
4	.....	...	31/32	442
5	.....	...	29/32	375
6	.....	...	53/64	307
8	11/16	170	49/64	203
10	37/64	125	5/8	143
12	1/2	94	9/16	107
14	27/64	73	15/32	78

All weights are approximate, but are exact enough for all practical purposes.

USEFUL TABLES

STANDARD SYMBOLS FOR WIRING PLANS

AS ADOPTED AND RECOMMENDED BY

THE NATIONAL ELECTRICAL CONTRACTORS' ASSOCIATION OF THE UNITED STATES AND THE AMERICAN INSTITUTE OF ARCHITECTS,

Copies may be had on application to the Sec'y of The Nat. Elec. Cont. Assn't'n, Union, N. Y., and the Sec'y of The American Inst. of Architects, Washington, D. C.

	Ceiling outlet; Electric only. Numeral in center indicates number of Standard 16 C. P. Incandescent Lamps.	
	Ceiling Outlet; Combination. ‡ indicates 4-16 C. P. Standard Incandescent Lamps and 2 Gas Burners. If gas only	
	Bracket Outlet; Electric only. Numeral in center indicates number of Standard 16 C. P. Incandescent Lamps.	
	Bracket Outlet; Combination. ‡ indicates 4-16 C. P. Standard Incandescent Lamps and 2 Gas Burners. If gas only	
	Wall or Baseboard Receptacle Outlet. Numeral in center indicates number of Standard 16 C. P. Incandescent Lamps.	
	Floor Outlet. Numeral in center indicates number of Standard 16 C. P. Incandescent Lamps.	
	Outlet for Outdoor Standard or Pedestal; Electric only. Numeral indicates number of Stand. 16 C. P. Lamps.	
	Outlet for Outdoor Standard or Pedestal; Combination. ‡ indicates 4-16 C. P. Stand. Incan. Lamps; ‡ Gas Burners.	
	Drop Cord Outlet.	
	One Light Outlet, for Lamp Receptacle.	
	Arc Lamp Outlet.	
	Special Outlet, for Lighting, Heating and Power Current, as described in Specifications.	
	Ceiling Fan Outlet.	
	S. P. Switch Outlet.	Show as many Symbols as there are Switches. Or in case of a very large group of Switches, indicate number of Switches by a Roman numeral, thus: <i>S XII</i> , meaning 12 Single Pole Switches. Describe Type of Switch in Specifications, that is, <i>Flush or Surface, Push Button or Snap</i> .
	D. P. Switch Outlet.	
	3-Way Switch Outlet.	
	4-Way Switch Outlet.	
	Automatic Door Switch Outlet.	
	Electrolux Switch Outlet.	
	Meter Outlet.	
	Distribution Panel.	
	Junction or Pull Box.	
	Motor Outlet; Numeral in center indicates Horse Power.	
	Motor Control Outlet.	
	Transformer.	
	Main or Feeder run concealed under Floor.	
	Main or Feeder run concealed under Floor above.	
	Main or Feeder run exposed.	
	Branch Circuit run concealed under Floor.	
	Branch Circuit run concealed under Floor above.	
	Branch Circuit run exposed.	
	Pole Line.	
	Riser.	
	Telephone Outlet; Private Service.	
	Telephone Outlet; Public Service.	
	Bell Outlet.	
	Buzzer Outlet.	
	Push Button Outlet; Numeral indicates number of Pushes.	
	Annunciator; Numeral indicates number of Points.	
	Speaking Tube.	
	Watchman Clock Outlet.	
	Watchman Station Outlet.	
	Master Time Clock Outlet.	
	Secondary Time Clock Outlet.	
	Door Opener.	
	Special Outlet; for Signal Systems, as described in Specifications.	
	Battery Outlet.	

SUGGESTIONS IN CONNECTION WITH STANDARD SYMBOLS FOR WIRING PLANS

It is important that ample space be allowed for the installation of mains, feeders, branches and distribution panels.

It is desirable that a key to the symbols used accompany all plans.

If mains, feeders, branches and distribution panels are shown on the plans, it is desirable that they be designated by letters or numbers.

Heights of Centre of Wall Outlets (unless otherwise specified)

Living Rooms	8' 6"
Chambers	5' 0"
Offices	6' 0"
Corridors	6' 3"

Height of Switches (unless otherwise specified)

4' 0"

NOTE—If other than Standard 16 C. P. Incandescent lamps are desired, Specifications should describe capacity of Lamp to be used.

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